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Preface

The 10th International Scientific Conference on Knowledge-Based Sustainable Development (ERAZ 2024) once again brought together a wide range of peer-reviewed scholarly contributions addressing the multidimensional challenges and opportunities of sustainable development. This second part of the conference series reflects the conference's interdisciplinary character, covering economics, finance, law, public administration, education, technology, tourism, and other related fields.

The papers presented here emphasize the critical intersections between sustainability, governance, innovation, and societal well-being. Contributions explore urgent issues such as financial stability in emerging markets, the adoption of green finance, and the transformative role of fintech in shaping the global financial system. Other studies examine structural economic concerns, including the evolution of trade openness, fiscal autonomy of local governments, debt dynamics, and the impact of crises such as the COVID-19 pandemic on sectors ranging from agri-food to tourism.

Technological change and digital transformation emerge as recurring themes. Authors analyze the application of artificial intelligence to pricing, whistleblowing, and corporate governance; the adoption of digital tools in auditing and higher education; and the role of smart cities and innovation in public administration. Case studies demonstrate how the adoption of technology, particularly in agriculture, energy, and sustainability research, can establish tangible pathways toward achieving the Sustainable Development Goals (SDGs).

The proceedings also underline the social and cultural dimensions of sustainable development. Papers address leadership, organizational culture, human resources, well-being management, and education for sustainable development. Tourism, as a field deeply connected with local economies and cultural heritage, receives extensive attention, ranging from sustainable food and gastronomy to rural and religious tourism, sports tourism, and the digital transformation of tourist experiences.

Legal scholarship is likewise well represented, with analyses of the rule of law, corruption, human rights, corporate accountability, EU law, digital contracts, and content regulation. These studies highlight the crucial role of legal frameworks in ensuring that sustainable development is underpinned by justice, equity, and accountability.

Taken together, the contributions in this volume provide a comprehensive view of how economic, legal, technological, social, and environmental dimensions of knowledge-based development interact in an increasingly complex global environment. They reflect the conference's mission to integrate diverse perspectives, foster academic and professional dialogue, and offer actionable insights for policy-makers, practitioners, and scholars alike.

The ERAZ 2024 Conference Proceedings thus stand as a valuable record of contemporary debates and research on knowledge-based sustainable development. By addressing pressing global and regional issues, these contributions inspire future research and practice aimed at building more resilient, inclusive, and sustainable societies.

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The Green Political Thought and Sustainability from the Perspective of Postmodern Theories of the State

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Abstract: *The problem of sustainability is one of the most important and pressing problems of postmodern theories of the state. Although the history of the so-called green movement that is linked to the emergence of industrial society in the modern age, (to industrialism), in its contemporary form it is existing also a social movement, and a political ideology - see, among others, green parties - and a state (international) obligations. What distinguishes the green movement today from the earlier conservation movement is its emphasis on science and research. The main aim of this study is to examine how democratic political systems are dealing with the new challenges of sustainability and how they are finding political solutions to the demands of civil society. However, the problem of sustainability is a global issue, the governmental responses and/or the lack of response varies widely. It addresses the climate crisis primarily to the younger generation but also draws attention to the ability of social activism to influence public policy. In addition to social rights, fundamental values such as the right to a healthy environment or the right to ensure the integrity of the environment must be recognized. There are several philosophical approaches to the interdependence of man and nature. What distinguishes the green movement from the earlier one is its emphasis on science and research.*

1. INTRODUCTION

Sustainability is a social-nature relation in general and has material and moral connotations, which is to be distinguished from sustainable development. (Barry, 1996. p. 115). In moral terms supposes a particular ethical attitude to the future, what kind of duties has the current generation to preserve the World's ecosystem. However, the diversity and complexity of the concept of sustainability is illustrated by the fact that the *right behaviour* can be about animal welfare, a commitment to the use of natural resources (see green energy), averting climate disaster, or even reducing wasteful consumption. What do these behaviours have in common? They presuppose conscious individual behaviour. At the individual level, prior to political decision-making process, we see primarily ethical citizenship (Bourban, 2023), personal ethical relationship to the world, i.e. from the individual's side, active self-responsibility such as conscious participation in recycling or energy conservation. On the political level, on the system level in the Habermas thinking it means participation in political decision-making, political organizations (green parties), or political movements. Democracies are based on the primacy of the representative principle and fundamentally, nation-state democracies face two major obstacles. One is the global nature of sustainability; the other is the strong link to social activism. The individual and the political level operate in a mutually reinforcing or weakening way, with serious feedback. The theory of the separation of civil society and political state, rooted in the eighteenth century, needs to be reframed. The paper aims to analyse how sustainability is embodied in participatory democracy as a decisive type of postmodern state. To do this, it is first necessary to examine the paradigm shift inherent in the term sustainability, which is transforming the relationship between society and the state/political system. Why green thinking can be effectively linked to this type of democracy?

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2. THEORY: PARADIGM SHIFT IN ECO PHILOSOPHY AND THE SOCIAL ACTIVISM

The theoretical foundation of the birth of the modern state is the theory of the social contract, which became the dominant theory of political philosophy from the 16th century onwards, and despite its fictitious nature, it explained the distribution of rights and duties between governors and governed and focused on the political power's legitimacy. The source of the exercise of power is therefore the consensus of the governed. One of the most important consequences of the concept of contract is that members of the political community obey decisions taken by legitimate authority - laws -. Because of the political development in Europe, liberal values and the idea of popular sovereignty have been combined to create liberal democracy, which is a plurality whose functioning is guaranteed by the will of the electorate on the one hand and by institutionalised and guaranteed limits on state arbitrariness on the other. This political construct, however, seeks to safeguard the socio-economic interests of political communities, which, if we want to link it to the current problem of sustainability, is faced with two major obstacles in particular. Sustainability is a global problem; at the nation-state level, it can be a serious obstacle to finding a legal and political solution to the problem. Above the nation-state, there are international organizations and institutions such as the UN or the European Union, which have many conventions and action plans. It is enough to refer to two relevant documents. The 2030 Agenda for Sustainable Development as the part of United Nation's Sustainable Development Goals (SDGs) adopted by the General Assembly of the UN in 2015 undertook to address the global challenges of: eradicating poverty; finding sustainable and inclusive development solutions; ensuring human rights for all; and making sure that no one is left behind (European Commission, n. d.). The Green Deal (European Commission, n. d.) that covers the European Commission's proposals for action contains many policy areas: clean energy, sustainable industry; building and renovating; sustainable mobility biodiversity; from farm to fork; eliminating pollution; climate action, which need to be seriously addressed by 2030.

The other major obstacle is that the vast majority of states are not liberal democracies or are not democracies, so neither of these obstacles is overcome in terms of the effectiveness of policy-making. In contrast to the overconsumption of the developed Western democratic countries in the global economic system, the inequality between underdeveloped or poor regions in most parts of the world is increasing because of the unequal distribution of global goods and responsibilities. Beyond the international and state level of political decisions, sustainability requires strong social activism, which will not lead to results without a change of mindset. The arguments from sustainability usually propose wide-ranging changes in the present organization of society. Sustainability as an issue involves the translation from a political and ethical concept to a regulative-social principle expressed in law and politics, so requires deliberation, consent and actions.

The paradigm shift is about rethinking the relationship - the social contract - between humans and humans, concerning humans and ecosystems. Society and nature require a holistic approach, one possible approach being the natural contract of the French philosopher Michel Serres. As bizarre as the idea of Serres about a contract with nature, it points to the essence of a change of perspective. Serres offers a curious vision of Francisco Goya's famous painting. In The Duel with a Stick two men are fighting each other with clubs, knee-deep in a quagmire of mud. The outcome seems clear both antagonists will perish. Looking at the foreground and background of the scheme, you can/should see the difference. The armed conflict that is the engine of history is happening before our eyes, while nature is in the background. The foreground and background are swept up in reinforcing feedback mechanisms. According to Serres (2021), we must decide on peace amongst ourselves to

protect the world, and peace with the world to protect ourselves. Translated into the language of social norms, an ethical system needs to be developed at the global level that focuses not on man's dominance over nature, but on the relationship between man and nature, of which man is only a part. To work, and to exist in harmony with nature is a fundamental normative requirement of social activism. The risk to the survival of humanity and the survival of nature on earth. We have a crisis in which, while man has completely mastered the nature of the earth, his relationship with it is still based on the old principles that he developed thousands of years ago. The Brundtland Report of 1987 (Brundtland, 1987) was already the first to deal in detail with the issue of sustainability, and a new holistic approach is a very important part of this. This means, in a narrow sense, looking at the economic system as an emphatically integrated part of a larger whole, which aims to improve the quality of human life within the carrying capacity of the underlying ecosphere. In doing so, all forms of action are to be included within the framework of a social structure understood in conjunction with culture, the social dimension, the economy and technology.

Hans Jonas emphasizes that changes in the field of technology must be followed by changes in the field of ethics, the basic principles of which can be briefly summarized as follows. Therefore, in relation to these entities, each individual actor must consider the consequences of his behaviour. Jonas believed that "Humanity has no right to commit suicide" (Jonas, 1984, in Tóth, 1984, p. 403). The first condition for achieving harmony is to acknowledge the multidimensional embeddedness of the individual and to mobilize our conscious and mental energies. The individual is part of several micro-communities, cultural communities, the community of humanity, the whole ecological system of the Earth, and the living world. The first principle is the ontological primacy of nature, that nature can exist without man, but man cannot exist without nature. Some ancient philosophies (especially Stoicism and Epicureanism) were dominated by the proclamation of a life following nature. Later, in the teachings and lifestyle of St Francis of Assisi, Giordano Bruno, Rousseau, the German Romantics, Husserl, the critical philosophy of the 1960s, anarchism and feminism, among others, we find elements integrated by green philosophies. In addition, Eastern philosophies (religions), most notably Buddhism, have a very significant influence on ecological thinking. The second principle of ecological values is related to needs. The anthropocentric ethics are based on the dualistic worldview that has dominated since Descartes, with its main characteristic being the rigid separation of object and subject, of things and persons. Anthropocentric ethics often emphasise the privileged position of man, who is embedded in an economy that seeks to subordinate nature. Instead of a man-centred vision, bio centric ethics offers a new approach. The essence of bio centric ethics is that the environment is not to be protected for man, but for the environment itself. The environment is an intrinsic value, a system where changes are not an end in themselves, but are directed towards a state of equilibrium. Jonas translated Kant's categorical imperative for eco-ethics: "Act so that the effects of your action are compatible with the permanence of genuine human life or expressed negatively „Act so that the effects of your action are not destructive of the future possibility of such life (Jonas, 1984, p. 11).

The evolution of natural systems, while maintaining an initial state of self-organisation and self-regulation, is always characterised by the restoration of equilibrium through the principles of cooperation and coexistence of living beings. Moltmann (1990) argues that classical liberties, socio-cultural rights and the rights of the living environment can be integrated into a coherent system. Man's privileged position in the natural competition of species, largely due to technology, must be reintegrated into the harmonious order, without which we can become victims of our own power, by acknowledging the embeddedness of our activity and renouncing the arrogant belief in man's omnipotence.

3. METHODS: CONCEPTUALIZING THE RELATIONSHIP BETWEEN PARADIGM SHIFT AND THE POLITICAL DECISION-MAKING PROCESS

The theorization of the relationship between man and nature, in particular the transformation of anthropocentric ethics into bio centric ethics, is an important prerequisite for the analysis of the dimensions of social activism. The following features essentially characterize green political ideals, despite ideological differences: communitarianism (communitarian ethical approach), the need for global justice in the sharing of resources, non-violence with some extreme exceptions, since peace is a prerequisite for harmony with nature, and the need for sustainable economic development. While classical liberalism emphasizes the protection of self-interests and freedom, the liberal state does not dictate the moral goals its citizens are to achieve. (Dobson, 2007, p. 151). The fundamental principle is that anyone can do anything, provided he does not harm others. The economic liberalism of Adam Smith, and within it the concept of the invisible hand, clearly calls on all actors to seek only their own benefit, assuming that competition and the 'invisible hand' of the market will ultimately lead to the common good. In our time, economic liberalism (see neoliberalism), which is becoming not only increasingly influential but also increasingly doctrinaire, stresses that the individual is responsible at most only for himself, for the pursuit of his own interests, i.e. it denies the responsibility of the actor towards others. In this way, a behavior can only be morally restricted if it clearly harms others. The question arises as to how we interpret the concept of "others". The currently prevailing understanding of 'others' predominantly refers to concrete people living in the 'here and now', i.e. members of a particular community. Hans Jonas pointed out that the problem of harming 'others' who live far away from us in space (e.g. third world populations) and time (future generations) is becoming increasingly relevant. If we include in the concept of 'others' the whole humanity as it exists today, as well as members of future generations, we take a significant step towards an anthropocentric environmental philosophy. Such an interpretation, of course, significantly narrows the range of morally acceptable behavior for members of a given community. Consequently, liberalism may be compatible with a moderate environmental philosophy. Moreover, if we include natural beings in the notion of 'others', we arrive at the platform of a radical (non-anthropocentric) environmental philosophy.

The green political philosophy contains an eco-authoritarian conception. The authoritarian solution is that authoritarian coercive measures are needed to avoid environmental catastrophe. At higher levels (national, supranational), democracy would be confined within ecological limits, for example, a competent elite would be responsible for the allocation of dwindling resources. At the local level, however, the most direct possible grassroots democracy is advocated, i.e. each small community could decide through direct participatory decision-making. The eco radicalism argues for the implementation of direct participatory decision-making through the consistent decentralization of political centers. Eco-radicalism has its theoretical roots in Marxist social philosophy. Marx observed the process of human alienation in the exploitation and inequality characters of the capitalist economy, in which the profit-oriented behavior of the capitalist class leads to the increase of the pauperization of the working class. Wallerstein's theory of the world system, which was based on Marxism, projected the phenomena into global capitalism, the center-states of the Western countries, whose economic development is ensured by exploiting the periphery and semi-periphery states. What both ideological approaches have in common is their emphasis on citizen participation, but while the former is at the local level, the latter is also at the state level. In contrast to the ethical norms that govern individual behavior, political will seeks to respond to the challenge of allocating the global resources that are still available. Political ideals are motivated by ethical norms and values, but political decision-making involves the resolution of conflicts of interest.

4. RESULTS

A change in moral outlook also requires a new style of political leadership, one that does not seek to satisfy short-term interests, but recognizes that timely austerity (e.g. in energy use) will provide greater freedom for all in the long term. According to Caldwell modern man must somehow become better than he is; this is not utopian idealistic advice, but advice necessary for survival (Caldwell in Lányi, 2021, p. 135). In this long-term policy-making process, the participatory democracy model can provide a solution at the national level. One of the greatest failures of twentieth-century democratic political systems was the growth of voter passivity. Is successful cooperation sustainable in a society whose members are bound together by civic obligations, law and self-interest, asks Michael Sandel, a prominent figure of communitarian ethics (Sandel, 2002). The liberal, representative democracies of Western Europe mobilized voters primarily through national elections. The problem of sustainability, on the other hand, requires the promotion of activity between electoral cycles, which undoubtedly has to be carried out at the local level.

At the local level, it is also easier to convince the local population to support a particular issue, and local NGOs, citizens' forums, and professional organizations can get involved in local decision-making processes.

It should also be highlighted that many forms of social activity are possible and that they can promote each other.

1) Improving own life (quality of life), either individually or in a small community (e.g. a residential or workplace community at the level of daily routines) / micro-level,
2) Promoting changes in a particular area, e.g. animal welfare or the preference for renewable green energy sources. This requires a greater degree of social cohesion. Involving NGOs and professional organizations can improve water quality or animal welfare at local and regional level /micro-level,
3) It is possible to raise awareness and sensitize society and policy-makers in a particular area /micro and macro-level,
4) 2-3 influences the state legislative process / macro-level.

Citizen's choices can play an important role in improving the environment and quality of life, but the complexity of environmental problems, the distance of goals and the different perceptions of the good life mean that the willingness to participate in decision-making is lower at national (state) level.

At the same time, sustainability is a global issue, closely linked to the problem of equitable distribution of goods and burdens, but its recognition can be achieved through a range of actions at local level.

Think globally, act locally and immediately could be a call to action, creating micro-communities of citizens and then engaging in the decision-making process at local level. At the level of state legislation, this requires professional and social reconciliation of interests, which varies greatly from one political culture to another. It is hard for people to give up their freedom to consume according to their desires, and it is hard for them to change, because it is against their short-term self-interest. According to the economist David Korten, one of the defining elements of the American mentality is the cultural experience of the abundance of free land at the beginning of their history, which led to the so-called frontier or cowboy mentality or ethic. (Korten, 1996).

The citoyen, in the Rousseauian sense, (Rousseau, 2001) is capable of weighing the perceived long-term good of the community alongside his short-term self-interest. To do so, however, he must have sufficient information and, if necessary, expertise in the matter to be decided. Awareness of environmental risks is more than a difficult task when it comes to the trade-off between convenience, job preservation and the present versus the unforeseen future. Not to mention interpreting complex concepts such as biodiversity or sustainable development for the average citizen. On the other hand, it also means that the public, when it comes to their own immediate environment, can easily become hysterical in a political environment where they distrust decision-makers and public information. Environmental justice is still a rather weightless value in the world of politics, so the principle that 'doing good pays' is politically false. A parliamentary election, a referendum or an action of civil disobedience offers an opportunity to change the legislation acts. It follows that the creation of a single global environmental law seems essential. In particular, it is important to regulate fairly the use of scarce natural resources and natural capital, and to protect endangered species and areas more effectively. In addition, it is essential to establish strict rules that are commensurate with the environmental pressures on production/service provision and that are binding on all competing economic operators. Such regulation would certainly appear to be a restriction on the market, but on closer examination, it is merely a means of ensuring a more environmentally fair playing field.

Another point of debate relates to the undemocratic political systems in underdeveloped and poor countries. They are vulnerable to the global economy and suffer from global crises. More effective international actions are needed. To get a clearer picture, we need to start by comparing two currently competing ethical concepts.

a) The so-called lifeboat ethic (Hardin in Lányi, 2021, p. 116) assumes that resources are finite, and therefore that each geographical area, like a lifeboat, has a proposed maximum number of passengers. However, there are few lifeboats, not enough room for everyone, and the distribution of resources becomes unequal on a force-by-force basis.
b) The so-called 'spaceship ethic' (Shrader-Frechette in Lányi, 2021. pp. 130-131) requires a shift in consciousness from individual ethics to community ethics, and from a society of rights to a society of duties. The Earth itself is a spaceship, of which every single geographical area and state is a part. The community is not only the human world but also, the entire ecosystem. On this spaceship, participants who have little or no share in the resources - think water shortages, droughts and other natural disasters - do not want to travel, while others on the spaceship enjoy and use many services and goods.

A more equitable distribution between the unequal/disadvantaged regions requires a more solidarity-based and consumption-reducing approach in developed regions. The solution must therefore come from the developed countries, and the group of these countries should be the driving force behind the solution. From the state and political actors, we are back to the starting point for a change of perception for a paradigm shift, which is essential for understanding and managing sustainability.

5. CONCLUSION

The global problem of sustainability has challenged both the social mentality and the political decision-making process. Western individual values, coupled with consumerism have become the norm in liberal Western democracies. The capitalist economy, also globalizing behind the political system, has reached the limits of its expansion. The solution is an environmentally friendly

policy based on the protection of nature and ecosystems, which puts the economy at the service of sustainable development. Its success is highly doubtful. What is needed is a holistic approach to the nature-society relation, an increase in (civil) social activism, and a reduction in inequalities in the global world. Sustainability calls attention to the need for a complex policy-making process that involves both sub-state and supranational levels. Effective state legislation will not be possible if society does not wake up to the challenge of sustainability. Effective state legislation is not possible without consciously coordinated legislation on a global scale and across states. There are many arguments in favor of participatory democracy. Unlike traditional liberal democracy, it can mobilize citizens at the local level and involve them in decision-making. This is particularly important because sustainability seems a distant and abstract goal, in contrast to the interests of the individual in the present and the consumer's desires for immediate satisfaction. For the moment, the global mindset is not working. Being in solidarity and active for humanity is a much bigger challenge than being active for our local environment. Increasing the willingness to participate in local decision-making can have a positive impact on the macro-level of state legislation. This of course requires a community-centered, solidarity-based approach. Community spirit and social/political participation are mutually reinforcing.

References

Barry, J. (1996). *Green Politics, Democracy and Political Judgement*. In B. Doherty, &M. De Geus (Eds.) *Democracy and Green Political Thought*, Routledge.

Bourban, M. (2023). *Ecological cosmopolitan citizenship.* In Future Humanities, Wiley, DOI: 10.1002/fh.u2.5

Brundtland, G. H. (1987). *Our Common Future: Report of the World Commission on Environment and Development*. Geneva, UN-Dokument A/42/427.

Dobson, A. (2007). *Green Political Thought*. 4. Edition, Routledge.

European Commission. (n.d.). A European Green Deal: Striving to be the first climate-neutral continent. Retrieved from https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/european-green-deal_en

European Commission. (n.d.). Sustainable development goals. Retrieved from https://commission.europa.eu/strategy-and-policy/sustainable-development-goals_en

Jonas, H. (1984). *The Imperative of Responsibility*. In. *Search of an Ethics for the Technological Age*, University of Chicago Press, Chicago,& London.

Korten, D. C. (1996). *A tőkés társaságok világuralma*. Magyar Kapu Alapítvány EKF Hálózat. Budapest.

Lányi, A. J. B. (Eds.). (2021). *Környezet és etika*. L'Harmattan, Budapest.

Moltmann, J. (1990). *Az ember, az emberiség és a Föld joga.* In: *Világosság,* n. 30. pp. 635-643.

Rousseau, J. J. (2001). *A társadalmi szerződés*, TÉKA, Kolozsvár.

Sandel, M. (2002). *Elégedetlen demokrácia*. in. *Közösségelvű politikai filozófia*, Horkay-Hörcher, F (Ed.) Századvég, Budapest.

Serres, M. (2021). *The Natural Contract*, Atlantisz, Budapest.

Tóth, I. J. (1984). *Technológiai kor etikai kérdései*. https://acta.bibl.u-szeged.hu/49109/1/platon-hoz_005_396-406.pdf

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Effects of Trade Openness on Economic Growth in the Western Balkans Countries in Time of Crises – Empirical Evidence

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Abstract: *This research aims to analyze the effects of trade openness on economic growth in Western Balkans Countries. The empirical analysis of this study consists on 22-year frame using panel data for the period from 2000-2022. Due to this period, the world faced several crises among which the biggest crises in the last 100 years: The Global Financial Crisis of 2007-2009, and the Pandemic COVID -19. The empirical model provides control variables such as the initial level of income per capita, human capital, gross capital formation, FDI, and unemployment rate. Economic growth is a dependent variable on trade openness. The estimation results indicate that the positive effects of trade openness on growth towards regional cooperation and with the EU countries are conditioned by the initial income per capita and other explanatory variables. Moreover, trade openness is more beneficial to countries with higher levels of initial income per capita, lower fiscal deficit, and higher FDI. The financial crisis indicated a significant decline in GDP per capita, along with the negative impacts on trade openness and FDI. The COVID crisis indicated a higher deficit and lower GDP and smaller trade openness.*

1. INTRODUCTION

The Western Balkans is a region that faced multiple economic challenges from 2000 to 2022. These challenges were a reflection of the internal political and economic instabilities of the region, as well as significant global and regional upheavals. The most significant crises in this period were the Global Financial Crisis of 2007-2009 and the unprecedented COVID-19 pandemic that began in 2019. Each of these crises had direct and indirect effects on the economy of the Western Balkans countries. The global financial and economic crisis (2007 – 2009 Great Recession) reduced the foreign direct investment (FDI) in the Western Balkans Countries and impacted the export-oriented sectors, that are heavily reliant on exports to the European Union. The decline in exports directly influenced production and employment, leading to broader economic downturns. After the Global financial and economic crisis in 2019, we have faced a new severe crisis – The Covid 19 that caught the world by surprise with its speed of spreading and its scale, as well as its specificities. Initially, the outbreak was identified as a public health crisis, quickly transforming into an economic and social crisis. Due to the speed of virus transmission, the first thing that was introduced was a rapid reduction to complete closure of many economic activities in most of the states globally. Unlike at the time of the 2007 global financial crisis, when the countries had much larger fiscal rooms available, today globally, this room is much smaller or does not exist at all. The trade openness suffered as well due to border closing, which has led governments to impose restrictive measures on society to limit the spread of the virus. The economic consequences in the first half of 2020 were production collapse, disruption of supply chains and the temporary closure of several industries. Many FDI projects were put on ice. Earnings

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from previous years were channeled back to the home countries. Taking into account that international trade stimulates long-term growth, and serves as a catalyst of productivity, this paper analyses the effects of trade openness on economic growth in Western Balkans Countries in the period from 2000 to 2022, emphasizing the period of these two crises. Theoretical literature and empirical studies have established a positive relationship between these two variables. In the first part of the paper, we provided the theoretical literature review. After that, in section 3 we provided a general overview of the economic growth and trade in the Western Balkans countries between 2000 and 2022, pointing out that the region's GDP demonstrated a positive trend over the past two decades, and the openness index shows a tendency of increase for the most of WB countries. Section 4 presents the empirical analysis of this study, which consists of regression analysis developed by dynamic models, Pooled Ordinary Least Squares (OLS), and the Effects regression models. In the next section, the empirical results are presented, and in the end, we discuss the findings and some policy implications and conclude.

2. THEORETICAL BACKGROUND

The relationship between trade openness and economic growth has been a central theme in economic research for decades. The Classical economist David Ricardo (1817) posited that countries benefit from specializing in the production of goods for which they have relative efficiency and trading for other goods, leading to more efficient resource allocation and higher productivity. Solow (1956) emphasizes the critical role of capital accumulation, labor, and technological progress in driving economic growth, with trade openness acting as a catalyst by facilitating access to larger markets, advanced technologies, and foreign direct investment (FDI). Increased openness to international trade is one of the most obvious aspects of globalization, and indeed one of its defining characteristics. Theoretically, there seems to be little doubt that long-run economic growth should be positively influenced by openness. Most theoretical models generate this relationship through transfers in technology and innovation which are facilitated by openness and trade. The more open the economy is, the easier it becomes to adopt technological innovations from higher-productivity trading partners, and thus the higher the growth rate (Baldwin, 2003). Given this significance, both developed and developing countries have started to focus on increasing their output. For example, output improves the level of productivity; it can meet the demand for goods and services, and this can increase with trade openness. Given this background, the emerging market economies would then become the world's principal "engine of new demand growth and spending power" in the world (Wilson & Purushothaman, 2003). Recent developments in endogenous development theory begin to provide a more convincing and rigorous theoretical basis for the positive relationship between international trade and long-term economic development (Romer, 1986; Lucas, 1988). In particular, the new theory of endogenous economic development requires that the reduction of trade barriers accelerates the pace of economic development in the long run.

Empirical studies on the impact of trade openness on economic growth have yielded diverse findings, particularly when examining different regions and periods. For developing countries, including those in the Western Balkans (WB), trade openness has generally been associated with positive growth outcomes due to the influx of technology and capital, enhanced competition, and greater market access (Edwards, 1998; Sachs & Warner, 1995). However, these benefits are often contingent upon complementary factors such as human capital, institutional quality, and sound economic policies (Rodrik, 1999; Dollar & Kraay, 2003). In the context of the Western Balkans, the transition from centrally planned to market economies since the 1990s has involved significant trade liberalization efforts. Studies specific to this region indicate mixed results, with some highlighting the positive impacts of trade openness on economic growth and others pointing to challenges such as weak institutions and inadequate infrastructure that may mitigate these benefits (Bartlett & Prica, 2011;

Estrin & Uvalic, 2014). Moreover, the COVID-19 pandemic introduced unprecedented economic disruptions globally, affecting trade flows, investment, and growth trajectories (Baldwin & Tomiura, 2020). For the WB countries, the pandemic exacerbated existing vulnerabilities, reducing trade openness and contributing to economic contractions (IMF, 2021). However, earlier theorizing was much more common and less rigorous. The new theory of endogenous development looks deeper and requires more rigorous and detailed presentations of the actual channels or ways through which lower trade barriers can stimulate long-term development. Despite the progress made by the new theory of endogenous development in theoretically deciphering the channels through which free trade leads to faster economic development in the long run, it has still been difficult to test these links explicitly in the real world, due to the lack of more detailed data. In fact, most empirical tests to date have been based on general cross-sectional data for a few groups of countries and are not much more difficult than the empirical studies done earlier (Edwards, 1993). These new empirical studies have generally shown that openness helps rapid development, but they have not been able to specifically test the specific channels through which trade is hypothesized to lead to rapid development in the long run—which is the main theoretical contribution of endogenous development theory. Trade liberalization in WB countries has been strongly promoted by the European Union (EU) in recent years, as part of its initiatives aimed at stimulating regional cooperation among the WB countries. Although regional cooperation in WB has been a declared objective of the EU since as early as 1996, due to adverse political conditions in the region very little progress has been achieved. More recently, the Stabilization and Association Process (SAP) launched in mid-1999 for the five countries - Albania, Bosnia and Herzegovina, Croatia, North Macedonia and Serbia and Montenegro, explicitly requires the implementation of regional cooperation by SEE countries in various areas. In the first decade of the new century, WB countries have been focused on undertaking measures towards reforms that lead to improvements in the trade liberalization process, WB countries have made considerable progress in their integration into the European and global economy, as well as in strengthening their mutual regional trade connection. However, these countries have been characterized by a relatively low level of trade in world markets. The WB countries have recently engaged in a regional integration process, through the establishment of free trade agreements between themselves and with the European Union (EU). The International Institutions have assisted most South East European countries (especially WBs), to enhance trade collaboration within them and to form a good basis for sustainable economic growth.[4]

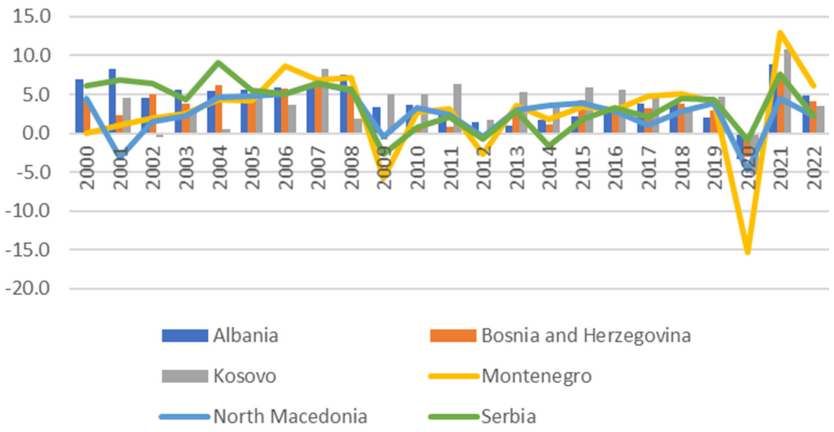
3. A GENERAL OVERVIEW OF ECONOMIC GROWTH AND TRADE IN WB COUNTRIES

Between 2000 and 2022, the Gross Domestic Product (GDP) growth in the Western Balkans underwent significant fluctuations, shaped by a mix of external and internal influences, such as global economic downturns, regional conflicts, and the efforts towards EU accession. Overall, the region's GDP demonstrated a positive trend over the past two decades. However, it faced sharp declines during the Global Financial Crisis, with reductions ranging from -1% to -5.8%, and during the COVID-19 pandemic, where GDP fell between -3% and -15%. During these periods, all Western Balkan countries experienced substantial drops in their economic output.

Observing Figure 2, the openness index, measured as a ratio of the value of trade flows (exports plus imports) with the nominal GDP, shows a tendency of increase for most of WB countries starting from the year 2000 but from 2009 shows downs in almost all countries due to effects of

[4] SEE stability pact of 2005. Part of the Stabilization and Association process is the establishment of a free trade area among SEE countries, this process aims to create a regional free trade area, which is also well integrated financially, politically and institutionally.

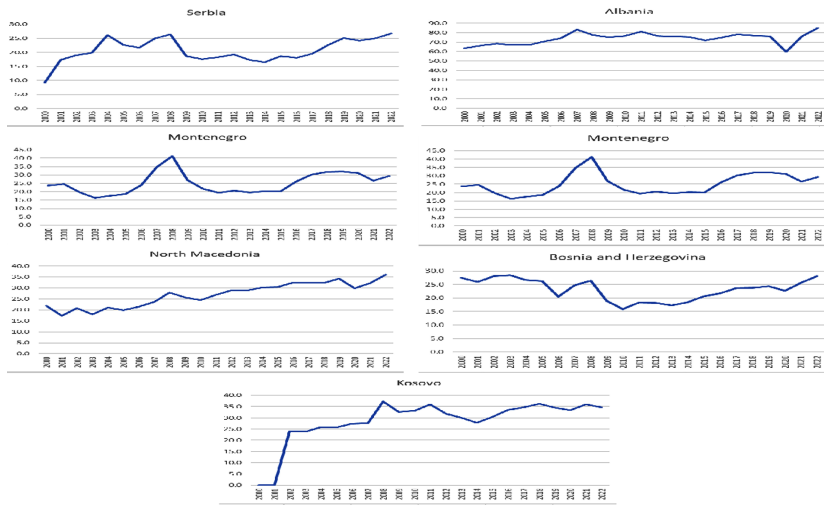
global financial crisis, but higher decrease especially in 2020 due to effect from the lockdown from COVID -19. After this year the trends started to increase moderately due to 2022. Looking at the trend of the trade openness index from 2000 to 2022, the most open countries are Montenegro, Serbia, North Macedonia, Bosnia and Herzegovina, Albania and Kosovo*. The effect of trade openness on economic growth remains a highly debatable issue since theory is ambiguous regarding the effect trade openness has on economic development (see Miller & Upadhyay, 2000, for more). Trade as a share of GDP in WB Countries increased from 21 % up to 40 % between 2000-2022.



* Kosovo – Under the UN Resolution 1244.

Figure 1. GDP in Western Balkan Countries 2000-2022

Source: IMF (2023)



* Kosovo – Under the UN Resolution 1244.

Figure 2. Trade openness in Western Balkan Countries 2000-2022

Source: World Bank (n.d.)

Foreign Direct Investment (FDI) has also an important role as a catalyst for economic development through enhancing productivity, job creation and trade growth and promotes forward and backward linkages. In light of market liberalizations, many WB countries established free trade agreements between themselves and the European Union (EU) in the late 1990s. The main destinations for inflows were Serbia and Albania, as well as Montenegro. Serbia continued to attract manufacturing subsidiaries, while Albania received mainly investments in mining and the energy sector. Figure 3 presents the FDI as % of GDP in WB Countries.

* Under the UN Resolution 1244.

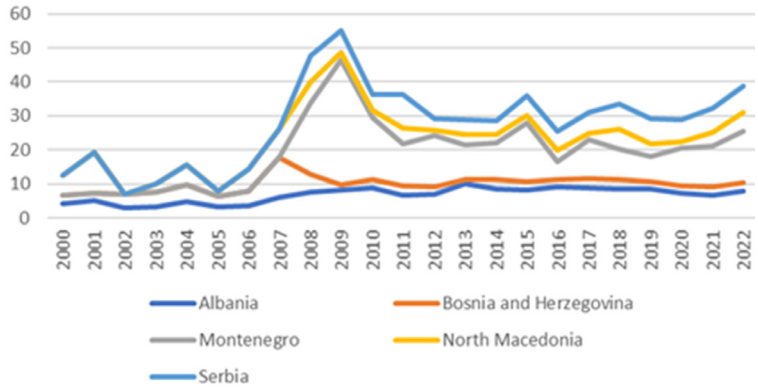


Figure 3. FDI as % of GDP in WB Countries
Source: UNCTAD (n.d.)

4. RESEARCH METHODOLOGY AND DATA

The empirical analysis of the study is conducted by using the Pooled Ordinary Least Squares (OLS) and Fixed Effects regression models, as methods that address various econometric challenges. Economic growth is a dependent variable on trade openness. The Pooled OLS model provides a general overview by treating the dataset as a single cross-sectional sample, while the Fixed effects model offers a more refined analysis by controlling for unobserved, time-invariant characteristics specific to each country. By comparing the results from these models, we aim to uncover the underlying factors driving economic growth in the region, particularly during times of crisis. The statistical significance and explanatory power of the models are assessed through metrics such as the R-squared, Adjusted R-squared, and F-statistic, providing robust evidence of the relationships between the independent variables and GDP per capita. The empirical models provide control variables such as the initial level of income per capita, human capital, gross capital formation, FDI, and unemployment rate.

The data were extracted from the International Monetary Fund and World Bank and they cover the period from 2000 to 2022 for WB Countries. The data is for GDP per capita, BDP real growth, Human Capital Index, Gross capital information, Unemployment rate FDI, and Trade openness. The model to analyze the effects of trade openness on economic growth is specified based on a growth equation introduced by Solow (1956) and Mankiw et al. (1992) and it is as follows:

$$\begin{aligned} \ln Y_{it} = {} & \beta_0 + \beta_1 \ln Y_{it-1} + \beta_2 \text{Openness}_{it} + \beta_3 \text{Openness}_{it}^2 + \beta_4 \ln \text{HumanCapital}_{it} + \\ & + \beta_5 \ln \text{InitialIncomePerCapita}_{it} + \beta_6 \ln \text{GrossCapitalFormation}_{it} + \beta_7 \ln \text{FDI}_{it} + \\ & + \beta_8 \ln \text{UnenploymentRate}_{it} + \lambda_i + \mu_t + \epsilon_{it} \end{aligned}$$

where:

- $\ln Y_{it}$ is the natural logarithm of GDP per capita for country i at time t.
- $\ln Y_{it-1}$ is the lagged natural logarithm of GDP per capita (initial income).
- Openness_{it} is the trade openness indicator.
- Openness_{it}^2 is the square of the trade openness indicator to capture non-linear effects.
- $\ln \text{HumanCapital}_{it}$ represents human capital by proxy variable Gross enrolment ratio, primary, gender parity index (GPI)).
- $\ln \text{InitialIncomePerCapita}_{it}$ is the natural logarithm of initial income per capita, that serves as a control for convergence effects, where poorer countries might grow faster than richer ones, all else being equal.

- $\ln GrossCapitalFormation_{it}$ is the natural logarithm of gross capital formation and measures the investment level in the economy, which is crucial for growth. (investment).
- $\ln FDI_{it}$ is the natural logarithm of foreign direct investment. FDI captures the impact of foreign investments on growth, which can bring in capital, technology, and know-how
- $\ln Unemployment\ Rate_{it}$ measures the percentage of the labor force that is unemployed and actively seeking employment.
- λ_i represents country-specific fixed effects.
- μ_t captures time-specific effects.
- ϵ_{it} is the error term.

5. EMPIRICAL RESULTS

In this section, we present the empirical findings from our analysis of the economic determinants of GDP per capita in the Western Balkan countries. The analysis employs both Pooled ordinary least squares (OLS) and Fixed effects regression models to examine the impact of key economic variables, including trade openness, human capital, gross fixed capital formation, unemployment rate, and foreign direct investment, on economic growth. The findings from this analysis offer important insights into the economic resilience and vulnerabilities of the Western Balkan countries, highlighting the role of trade openness and foreign direct investment in supporting growth, as well as the challenges related to human capital and labor market efficiency. These results have significant implications for policymakers aiming to foster sustainable economic growth and enhance resilience to future economic shocks.

5.1. Pooled OLS Results

The Pooled OLS regression treats the data as a single cross-sectional dataset, ignoring the panel structure. This model estimates the average effect of each independent variable on GDP per capita, treating all observations equally regardless of their country or time.

Table 1. Pooled OLS Results

Variable	Coefficient	Std. Error	t-statistic	P-value
ln_GDP_per_capita_lag1	0.8188	0.038	21.503	0.000
ln_Openness	0.1772	0.069	2.577	0.010
ln_Human_capital	-1.4538	0.735	-1.978	0.048
ln_GFCF	-0.0137	0.049	-0.279	0.780
ln_Unemployment_rate	-0.0929	0.029	-3.183	0.001
ln_FDI	0.0439	0.019	2.326	0.020

Source: Author's calculations

5.2. Fixed Effects Results

The Fixed effects regression accounts for unobserved heterogeneity by allowing each country to have its intercept, thus controlling for country-specific factors that do not vary over time. This model estimates the effect of each independent variable on GDP per capita while controlling for country-specific characteristics that are constant over time.

Both the Pooled OLS and Fixed effects models indicate a strong positive relationship between lagged GDP per capita and current GDP per capita. The coefficients are approximately 0.818,

suggesting a high degree of persistence in economic growth. The persistence in GDP per capita over time is consistent with the predictions of the Solow-Swan neoclassical growth model. In this model, the economy converges to a steady state where the growth rate of per capita income depends on the rates of population growth, technological progress, and savings. The positive and significant lagged GDP per capita coefficient reflects this convergence process, where past economic performance heavily influences current performance.

Table 2. Fixed Effects Results

Variable	Coefficient	Std. Error	t-statistic	P-value
ln_GDP_per_capita_lag1	0.8181	0.039	20.934	0.000
ln_Openness	0.1747	0.069	2.518	0.012
ln_Human_capital	-1.4257	0.736	-1.938	0.053
ln_GFCF	-0.0137	0.050	-0.275	0.783
ln_Unemployment rate	-0.0892	0.032	-2.752	0.006
ln_FDI	0.0442	0.019	2.308	0.021

Source: Author's calculations

The positive and statistically significant coefficients for trade openness (0.1772 in Pooled OLS and 0.1747 in Fixed effects) indicate that greater openness to international trade is associated with higher GDP per capita in the WB countries. According to classical trade theories, such as Ricardo's theory of comparative advantage, countries benefit from specializing in the production of goods and services in which they have relative efficiency. This specialization leads to gains from trade, which can enhance overall economic welfare and growth. The positive impact of trade openness on GDP per capita in this study is consistent with this theory. Developed by economists like Paul Krugman, the New Trade Theory emphasizes the role of economies of scale and network effects in international trade. Larger markets (through trade openness) allow firms to exploit economies of scale, leading to lower costs and increased economic growth. This theory supports that trade openness is beneficial for GDP per capita.

Surprisingly, the results show a negative and statistically significant relationship between human capital by the proxy variable Gross enrolment ratio, primary, gender parity index (GPI and GDP per capita). This finding is counterintuitive, as human capital is generally expected to have a positive effect on economic growth.

The coefficients for gross fixed capital formation (GFCF) are close to zero and not statistically significant in both models, suggesting that investment in physical capital does not have a meaningful impact on GDP per capita in this dataset. In the Solow model, capital accumulation is a key driver of growth. However, the diminishing returns to capital imply that as the capital stock increases, each additional unit of capital contributes less to output, eventually leading to a steady state where growth is driven by technological progress rather than capital accumulation. The insignificant coefficient might indicate that the WB countries are near this steady state, where further increases in capital do not significantly boost growth. Another possible explanation could be a mismatch between the rate of capital accumulation and the labor force's ability to use this capital productively. If the labor force is not adequately skilled or if there are other structural issues in the economy (e.g., poor infrastructure, weak institutions), the expected positive impact of capital formation might not materialize.

The negative and statistically significant coefficient for the unemployment rate (-0.0929 in Pooled OLS and -0.0892 in Fixed Effects) indicates that higher unemployment rates are associated with lower GDP per capita. This empirical relationship between unemployment and economic growth

is well-documented in economic literature, particularly in Okun's Law, which states that higher unemployment leads to lower output. The negative coefficient in the model aligns with this theory, suggesting that higher unemployment in the WB countries results in lower economic output and reduced GDP per capita. From a Keynesian perspective, high unemployment is a symptom of insufficient aggregate demand. When people are unemployed, they have less income to spend, leading to lower demand for goods and services, which in turn reduces GDP.

The positive and statistically significant coefficients for FDI (0.0439 in Pooled OLS and 0.0442 in Fixed Effects) indicate that higher levels of FDI are associated with higher GDP per capita. FDI is seen as a key driver of economic growth in endogenous growth models, where it contributes to the accumulation of knowledge and technology transfer. By bringing in capital, technology, and managerial expertise, FDI can lead to higher productivity and economic growth. The findings in the paper support this theory, demonstrating the positive impact of FDI on economic growth in the WB countries. While FDI is generally viewed positively in growth models, some dependency theorists argue that it can lead to economic dependency and inequality. However, the results suggest that, at least in the context of the WB countries, the benefits of FDI outweigh the potential downsides, contributing to economic growth.

The results from both the Pooled OLS and Fixed Effects models are consistent, particularly for the lagged GDP per capita, trade openness, and FDI variables. This consistency adds robustness to the findings of the paper. Both models suggest a positive and significant impact of trade openness on GDP per capita, supporting the hypothesis that greater integration into international markets boosts economic growth in the WB countries. The negative and significant coefficient for human capital is counterintuitive and suggests a need for further investigation. This could be due to issues with the proxy used for human capital. The positive and significant relationship between FDI and GDP per capita highlights the importance of foreign investment in driving economic growth in the region.

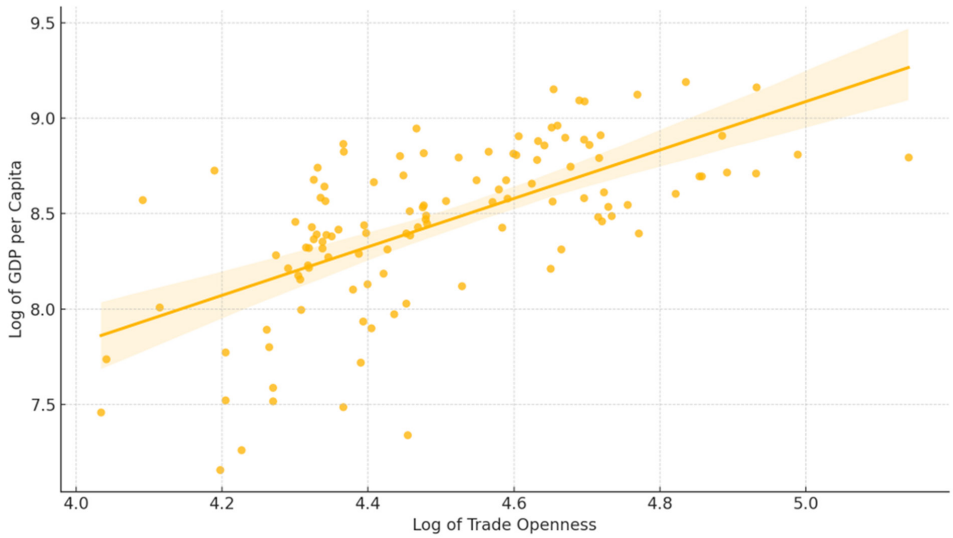


Figure 4. Relationship between trade openness and economic growth in the WB countries
Source: Author's calculations

Figure 4 presents the relationship between trade openness and economic growth in the WB countries, specifically focusing on the logarithm of trade openness and the logarithm of GDP per capita. The results suggest that higher trade openness is associated with higher GDP per capita in the WB countries. This aligns with economic theories suggesting that greater integration into the global economy can lead to economic benefits, such as access to larger markets, technology transfer, and more efficient

resource allocation. For the WB countries, which have been transitioning economies with aspirations for closer integration with the European Union (EU) and global markets, this positive relationship is particularly significant. It supports the idea that policies promoting trade openness could be a driver of economic growth in the region. The graph illustrates a key finding of our study: that trade openness is positively correlated with economic growth in WB countries. This supports the hypothesis that more open economies tend to grow faster, which is consistent with the economic literature.

6. CONCLUSION

The objective of this research was to analyze the effects of trade openness on economic growth in Western Balkans Countries, using the empirical analysis of this study consisting on 22- year frame using panel data for the period from 2000-2022. Due to this time, the world faced several crises among which the biggest crises in the last 100 years: The Global Financial Crisis of 2007-2009 and the Pandemic COVID -19. The empirical estimation results indicate that the positive effects of trade openness on growth towards regional cooperation and with the EU countries are conditioned by the initial income per capita and other explanatory variables. Moreover, trade openness is more beneficial to countries with higher levels of initial income per capita, lower fiscal deficit, and higher FDI (see tables above). The financial crisis indicated a significant decline in GDP per capita, along with the negative impacts on trade openness and FDI. The COVID crisis indicated a higher deficit and lower GDP and smaller trade openness.

This study's results are comparable and also observed positive relationships between trade openness and economic growth using a cross-country regression model. Based on the conclusions, the following recommendations are made:

- Western Balkan Countries' governments should encourage policies that increase the participation in importing and exporting of goods. This will foster trade openness which is known to positively contribute to GDP growth in WB countries.
- Policies that encourage floating exchange rates should be used. A floating exchange rate helps to improve the balance of payment and also aids in attracting foreign investments.
- Western Balkan Countries should put in place policies (not often changes in tax issues and predictable business environment) that will make their economies attractive to foreign investors.

References

Baldwin, R. E. (2003). Openness and Growth: Whats the Empirical Relationship? In R.E.Baldwin and L.A.Winters (eds.) International Seminar on International Trade: Challenges to Globalization, University of Chicago Press.

Baldwin, R., & Tomiura, E. (2020). "Thinking Ahead about the Trade Impact of COVID-19". Economics in the Time of COVID-19. CEPR Press.

Bartlett, W., & Prica, I. (2011). "The Variable Impact of the Global Economic Crisis in South East Europe". LSEE Papers.

Dollar, D., & Kraay, A. (2003). "Institutions, Trade, and Growth". Journal of Monetary Economics.

Edwards, S. (1993). "Openness, Trade Liberalization, and Growth in Developing Countries", Journal of Economic Literature, September, vol XXXI, p 1358-1393.

Edwards, S. (1998). "Openness, Productivity and Growth: What Do We Really Know?". Economic Journal.

Estrin, S., & Uvalic, M. (2014). "FDI into Transition Economies: Are the Balkans Different?". Economics of Transition.

IMF. (2021). "Western Balkans: Economic Outlook and Policy Challenges".
IMF. (2023). World Economic Outlook Database, October 2023.
Lucas Jr, R. E. (1988). On the mechanics of economic development. *Journal of Monetary Economics, 22*(1), 3-42.
Mankiw, N. G., Romer, D., & Weil, D. N. (1992). A contribution to the empirics of economic growth. The quarterly journal of economics, 107(2), 407-437.
Miller, S. M., & Upadhyay, M. P. (2000). The effects of openness, trade orientation, and human capital on total factor productivity. *Journal of Development Economics,* p.399-423.
Ricardo, D. (1817). On the Principles of Political Economy and Taxation.
Rodrik, D. (1999). "The New Global Economy and Developing Countries: Making Openness Work". Policy Essay.
Romer, P. M. (1986). Increasing returns and long-run growth. Journal of political economy, 94(5), 1002-1037.
Sachs, J. D., & Warner, A. M. (1995). "Economic Reform and the Process of Global Integration". Brookings Papers on Economic Activity.
Sachs, J. D., & Warner, A. M. (1995). *Natural resource abundance and economic growth* (NBER Working Paper No. 5398). National Bureau of Economic Research.
Solow, R. M. (1956). A contribution to the theory of economic growth. *Quarterly Journal of Economics, 70*(1), 65-94.
UNCTAD. (n.d.). *UNCTADstat*.
Wilson, D., & Purushothaman, R. (2003). Dreaming with BRICs: The path to 2050. *Goldman Sachs Global Economics Paper No. 99*, 1–2.
World Bank. (n.d.). Various annual reports and datasets on trade, education, and health indicators.

Additional reading

Crespo-Cuaresma, J., Ritzberger-Grünwald, D., & Silgoner, M. A. (2014). "Growth, Convergence and EU Membership". Applied Economics.
Elezi, S. (2021). Ekonomskite merki za spravuvanje so COVID-19 vo zemjite vo regionot-novi rešenija? Makedonska akademija na naukite i umetnostite, Zbornik na trudovi od naučnata konferencija - Skopje, 137-158. ISBN 978-608-203-332-7.
Elezi, S., & Boshkoska Klisaroski, M. (2022). Relation of GDP with economic measures taken by North Macedonia to deal with pandemic COVID-19. *International Conference, 3R4SED, University of Tirana FEUT, June 2022*.
Elezi, S., Petkovska, M. M., & Boshkoska, M. (2021). The impact of COVID-19 on the companies in North Macedonia. *IBANESS Congresses Series on Economics, Business and Management*, May 2021, 389-397. ISBN: 978-619-203-308-8.
Grossman, G. M., & Helpman, E. (1991). Innovation and Growth in the Global Economy. MIT Press.
Howard, P. (1994). "Endogenous Growth Theory: Intellectual Appeal and Empirical Shortcomings," Journal of Economic Perspectives, American Economic Association, vol. 8(1), pages 55-72.
Romer, P. M. (1990). "Endogenous Technological Change". Journal of Political Economy.
Romer, P. M. (1994). The Origins of Endogenous Growth. *The Journal of Economic Perspectives,Vol. 8*, No. 1 (Winter, 1994), pp. 3-22
Sharma, S., & Arora, R. (2023). Macroeconomic determinants of India's participation in global value chains: An empirical evidence. *Journal of Asian Economic Integration, 5*(1), 7–28.
Shiret, E. (2020). COVID and its impact on North Macedonia's economy. *International Journal of Scientific Engineering and Research (IJSER), 8*(12), 12-25. ISSN 2347-3878.

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Silver Economy as an Opportunity for SME Growth

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Abstract: *The aging population presents challenges and opportunities for the modern economy. One such opportunity is the thriving "silver economy," which caters to the needs of elderly individuals. This market is characterized by a sizable consumer group with relatively stable purchasing power, specific needs, and requirements. The EU predicts that 2025 the silver economy will be worth €5.7 trillion and represent 22% of the world's population by 2050. The paper examines the smart senior business model as a new approach of SMEs toward elders and identifies the differences between the traditional and smart senior business models.*

The paper aims to explore the potential of the silver economy for creating new business models and identifying sectors that cater to the needs of older people. To succeed in this growing and emerging market, businesses must be aware of and deeply understand the characteristics and opportunities of the silver economy.

1. INTRODUCTION

Global aging represents one of the most important demographic trends of the contemporary economy. According to the UN projections (UN, 2022), the number of older persons will increase to 994 million by 2030 and over 1.6 billion by 2050, so by 2030, one in six people worldwide will be older persons. The demographic shift towards an older population brings a mix of hurdles and prospects for today's economy. Among these prospects is the growing silver economy, which serves the elderly demographic. This sector is marked by a large group of consumers with stable buying power and distinct demands. The European Union forecasts that the silver economy will reach €5.7 trillion by 2025 and account for 22% of the global population by 2050 (McGuirk et al., 2022). By innovating and offering new products and services tailored to the elderly, small and medium-sized businesses have the potential to stimulate economic expansion. Nonetheless, developing products aimed at the senior market represents a considerable challenge for these businesses. Since the older generation is getting healthier and more active, they are emerging as a significant market segment and economic force.

To succeed in this growing and emerging market, businesses must be aware of and deeply understand the characteristics and opportunities of the silver economy. This paper aims to explore the potential of the silver economy as a unique market segment that deserves a unique approach. Thus, the paper identifies specific characteristics as proposed values that new business models must propose and meet to align with the needs of the elderly population.

The paper is structured into five sections. After the introductory remarks, section two offers some highlights for the aging population as a sizable consumer group with relatively stable purchasing

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power, specific needs and requirements. Section three examines the challenges posed by the aging population for business growth, followed by section four, which researches the concept of the senior business model and compares the traditional and smart senior business models as the primary research focus of the paper. The paper concludes with a summary and recommendations for further research.

2. INSIGHT THE PHENOMENA

The aging population presents significant economic potential. By implementing appropriate strategies, population aging can be transformed into an opportunity to create new market products and drive innovation towards the Silver Economy. The Silver Economy encompasses economic activities catering to individuals aged fifty and above, including their purchases of products and services and the additional economic activity these expenditures generate. Varnai et al. (2018) found that the Silver Economy is vital in supporting diverse sectors across the EU and creates business opportunities for EU and non-EU firms. Moreover, they revealed that the Silver Economy heavily impacts healthcare services and influences spending on recreation, culture, furnishing, and household items. This suggests that the Silver Economy holds increasing influence as a source of demand across the EU, with consumption expected to grow by approximately 5% annually up to 2025.

The potential of the Silver Economy underscores the importance of recognizing its economic value for enterprises. According to McGuirk et al. (2022), small enterprises can gain a competitive advantage by catering to the increasing demand for specific goods and services driven by an aging population, commonly known as the silver economy.

Recognizing the need for a new and innovative model tailored to the requirements of the aging population is acknowledged across various sectors of the economy. In their study, Lange and Velamuri (2014) explored business model innovation in the German retail landscape, explicitly focusing on adjustments made to the sales floor to meet the needs of the silver generation segment. Through a multiple case study, the analysis highlighted that the five firms under scrutiny prioritized three specific areas: 1) store layout and physical environment, 2) enhanced customer service, and 3) expansion of 'senior-friendly' product offerings. Enhancements in these areas help retail firms enhance their value proposition, strengthen customer relationships, and boost revenues. In summary, the research underscores how retailers can adapt their business models better to serve the needs of the growing silver generation segment. The findings of Angell et al. (2012) provide an essential contribution toward a better understanding of differences in shopping behavior among older consumers.

Laperche et al. (2019) have systematically analyzed the emergence and dissemination of innovations designed for older people. They have coined the term "Geront'innovations" to describe innovations targeted at older individuals, incorporating various forms of innovation and involving diverse social groups and networks. Furthermore, they propose that these innovations for older people are not solely driven by market demand but also by the supply side. The demographic shift requires a new approach to the silver population.

Gschwendtner (2020), examining the silver economy strategies, suggests that technology and innovation provide viable solutions to the challenges arising from an aging population and that governments can effectively improve the research and development environment, thereby turning these challenges into economic and social opportunities.

In the study by Zsarnoczky (2016), the innovation challenges posed by the emerging silver economy are highlighted, focusing on the demand for tailored services for older people. Companies are advised to proactively prepare for these forthcoming changes, emphasizing capacity development, improved product accessibility, and enhanced social equality. The competitive advantage will go to those companies that can adapt to the evolving environment and enhance customer satisfaction through an anti-ageism approach.

Colurcio et al. (2022) propose that adapting products and services to meet the needs of older individuals, often referred to as 'silverisation', will heavily depend on gerontechnology. This field integrates technology with the study of human aging. Consequently, the increasing demographic of older individuals necessitates tailored solutions in housing, transportation, food, insurance, robotics, health and e-health, communication, internet access, sports, leisure, and travel services.

3. THE AGING POPULATION AS A CHALLENGE

Recent comprehensive studies on the silver economy have unveiled compelling insights into the financial behaviors of the older population. The findings suggest that this demographic tends to enjoy higher disposable incomes, more significant savings, and enhanced economic security, which ultimately translates into more substantial expenditures than other age groups (Colurcio et al., 2022). As a result, these revelations highlight the vast potential for businesses to cater to the needs and preferences of this lucrative market segment.

The economic potential of older people is gaining recognition as they play a more significant role in shaping economies worldwide and forming an expanding consumer base. Individuals aged 50 and older represent around 34% of the global GDP, totaling $45 trillion (Accius & Suh, 2019). Projections suggest that this demographic's contribution is expected to rise to 39% of the worldwide GDP, reaching $118 trillion by 2050. Global consumer spending is projected to reach $96 trillion by 2050, compared to the $35 trillion recorded in 2020. Expenditure on goods and services related to those aged 50+ supported over 1 billion jobs globally in 2020, amounting to $23 trillion in labor income, and is expected to support 1.5 billion jobs, generating a global labor income of $53 trillion (Accius & Suh, 2019). Business opportunities have emerged as the aging markets have grown in various sectors, including medical and long-term care goods and services, leisure and lifestyle, and financial services (Barković Bojanić et al., 2024).

Aging implies changes in lifestyle and consumption patterns, which will have significant implications for the types of products and services in demand (OECD, 2014). New markets will emerge as part of a flourishing "silver economy"

The final report on the Silver Economy for the European Commission identified ten sectors offering potential solutions for older people (Varnai et al., 2018). These ten sectors are 1) connected health, 2) robotics and games, 3) silver tourism, 4) integrated care services and improved connectivity, 5) development of an age-friendly built environment, including smart home solutions, 6) knowledge for an active and healthy lifestyle, 7) age-friendly universities, 8) driverless cars, 9) "olderpreneur," and 10) an interactive platform to fast-track product and service development.

Businesses are increasingly realizing the significant market opportunity presented by the aging population in the 21st century. This opportunity is relevant for both developed and developing countries, with core investment areas including (WEF, 2016):

- Investment in medical and long-term care goods and services, including pharmaceuticals, is expected to yield significant returns due to age-related diseases and functional impairments. Additionally, substantial growth is anticipated in markets for devices such as home-based dialysis technology, IT-based care, and smart homes.
- Business opportunities abound in providing leisure, lifestyle, and living support for consumers aged 60 and above. This includes services offered by assisted living communities, age-adapted products for stress relief, and technological innovations such as driverless vehicles and age-adjusted electronics.
- Due to the aging population, the food industry is set to see increased demand for dietary, allergy-friendly, enhanced flavor, and soft food products. This presents significant investment opportunities in underdeveloped age-specific markets.
- The financial services industry serves aging baby boomers by offering investment and insurance options like voluntary pensions. This presents substantial business opportunities due to the wealth of aging populations in advanced economies.
- The construction and transport industries are expected to experience increased demand for age-friendly environments in public and private spaces, such as workplaces, homes, theaters, cinemas, public buildings, streets, and pavements. Significant public and private investments will be required for these initiatives and should not be underestimated.

The aging population offers various business opportunities. While initially tapped by healthcare providers, many other businesses are now focusing on older consumers. Companies must grasp the impact of longevity and develop competitive strategies that cater to the emerging mindset across all age groups. By implementing strategies to stimulate the market for products and services designed to cater to the needs of elderly individuals, the silver economy can generate a substantial pull effect on existing and emerging markets, as highlighted by the European Commission (2015).

4. SENIOR BUSINESS MODEL

The Silver Economy is mainly interested in an economic concept of consumption that focuses on buying, developing new marketable products and fostering the industries that would provide such products (Lipp & Peine, 2022). This significant inquiry pertains to the current economic model's ability to address emerging needs adequately. It raises the question of whether amendments to the existing model would suffice or if a comprehensive overhaul to introduce an entirely new economic framework is warranted. The research issues of this paper are focused on examining the "smart" senior business model as a new approach of SMEs toward older people and identifying the differences between the traditional and smart senior business models.

Traditional business models for older people have primarily focused on basic needs and conventional products, often relying on a one-size-fits-all approach. These models typically view older adults as a homogenous group with limited adaptability to new technologies, offering standardized services like healthcare products, retirement housing, or low-tech assistive devices. Traditional business models serving older people are frequently inadequate, inefficient and unsustainable. The primary focus has been on safety, affordability, and ease of use, with minimal emphasis on personalized experiences or integrating digital solutions. Innovation in catering to the needs of older people often progresses slowly and incrementally, hindered by regulatory barriers, cultural resistance, and market inefficiencies (Faster Capital, 2024). Goods and services designed for older people are typically implemented top-down and standardized, overlooking elders' specific

needs, preferences, and aspirations. Consequently, older individuals frequently experience low satisfaction, poor quality, and limited value in their interactions with such offerings.

In contrast, new smart business models for the silver generation embrace a more dynamic and diverse view of aging. These models recognize the growing tech-savviness, varied interests, and active lifestyles of today's elderly population. By leveraging digital technologies, smart business models offer personalized, data-driven solutions tailored to individual preferences and health conditions. They include innovations like smart homes, AI-driven health monitoring, wearable devices, and digitally enhanced services focused on convenience, social engagement, and well-being (Damoska Sekuloska et al., 2021).

The preferences of older people should be respected, and they should be allowed to make independent decisions (Singh & Kiran, 2014). Additionally, seniors should not be treated as a homogeneous group, as diversity and individual characteristics do not diminish after reaching a certain age. People continue to differ in many ways (Guido et al., 2018), leading to a diversification of their leisure behavior.

The shift toward smart business models also emphasizes creating ecosystems where products and services are interconnected, offering holistic solutions that combine health, lifestyle, and financial security. These models recognize older people as valuable consumers with significant purchasing power, integrating their needs with broader technological advancements while promoting social inclusion and enhancing their quality of life.

A substantial shift in elderly serving is imperative, demanding the development of fresh and inventive business models that can effectively address the unmet and evolving needs of older adults while yielding value for society and the economy. A business model involves decisions and strategies that dictate how an organization generates, delivers, and captures value. In the realm of elderly purpose, a new business senior model approach shifts the level of serving the silver market. It is focused on:

Recognizing the needs and preferences of older people is of utmost importance. Companies need to conduct comprehensive research and user testing to identify the desires of their senior customer base (Faster Capital, 2024). The utilization of technology can facilitate the provision of more personalized and easily accessible products and services, leading to enhanced efficiency and effectiveness. Faster Capital (2024) has spotlighted the case of Birdie, a UK-based startup that employs AI and Data Analytics to offer a digital platform for home care. This platform delivers insights and recommendations for care delivery, integrating with various devices and sensors to monitor the health and well-being of older people and promptly alert caregivers and families in case of any irregularities or emergencies.

Companies catering to older people should strive to develop unique and compelling value propositions that meet the unaddressed or underserved needs of older people and their caregivers to excel and stand out. They should also explore new and unconventional methods for delivering and monetizing their products and services while remaining adaptable to their customer base's evolving needs and expectations. CarePredict, recognized by Faster Capital (2024), exemplifies this approach by offering a wearable device and app for elderly care that monitors the daily activities and behaviors of older people, enabling the prediction of their health risks and requirements. Older people care businesses aim to provide solutions that improve older people's physical, mental,

emotional, and social well-being. To promote active aging, Guido et al. (2022) emphasize the importance of leveraging the latest scientific and technological advancements and reassessing business strategies. This approach will help gain a deeper understanding of older people's changing roles and behaviors within modern society.

It is crucial to adopt a Silver Economy Strategy at every level, from national to individual companies. By addressing the challenge comprehensively, we can develop an all-encompassing approach with mutually supportive individual measures and policies. This will also facilitate the mobilization of all decision-makers and stakeholders involved (Cizelj, 2023).

A senior inclusive and integrated business model refers to business strategies and systems designed to meet the aging population's needs, focusing on inclusivity, personalization, and integration across various sectors. These models aim to improve the quality of life for older adults by offering user-centric, technology-driven solutions coordinated across services (OECD, 2020).

The primary attributes of the smart senior-inclusive and integrated business model that the SMEs are innovating to serve the silver-growing market involve:

1. Personalization and customization: Tailoring services to individual preferences, health needs, and lifestyles of seniors using AI and data analytics to offer customized health plans, products, and care services.
2. Holistic and integrated approach: Focusing on coordinating integrated services involving healthcare, social services, housing, and financial institutions, with the support and enabling role of local and central government and communities to deliver seamless services.
3. Technology-enabled solutions: Utilizing smart home devices, wearables, telemedicine, and AI-driven platforms to support independent living and monitor health conditions, as well as digital platforms that connect seniors with services, support networks, and entertainment options.
4. Affordable solutions and partnerships: Providing affordable solutions without compromising quality and ensuring accessibility to all income levels, emphasizing partnering with the government and non-profit organizations to subsidize services for low-income seniors.
5. Social inclusion and community engagement: Developing business models that promote social inclusion and community engagement to combat loneliness and isolation.

The shift from traditional to smart senior business models reflects a growing recognition of the aging population as a diverse and dynamic consumer group. These models address aging challenges and unlock new opportunities for growth by creating value through innovation, personalization, and integration. Table 1 suggests the differences between the traditional and smart senior business models, referring to the main dimensions: the value proposition, value creation, delivering value to the seniors, and capturing the value and role of the supportive environment and stakeholders.

The transition from traditional to smart senior business models signifies a profound shift in how businesses cater to the aging population's needs. While conventional models primarily focus on standardized, reactive solutions, smart models embrace personalization, technology integration, and a holistic approach to seniors. Prioritizing user-centric designs, proactive health management, and interconnected services, smart business models not only enhance the quality of life for seniors but also unlock new market opportunities. This transformation underscores the increasing recognition of seniors as active and diverse consumers, driving innovation and economic growth in an aging world.

Table 1. Differences between the traditional and "smart" senior business models

	Traditional senior model	Smart senior model
Value proposition	Lack of personalization and customization. Standardized offering	Customized products and services aligned with the needs and preferences of the seniors
Value creation	Cost is expensive, inefficient, and has limited value for seniors.	Optimized, smart and technology-based efficient production activities
Delivering value	Standardized and inflexible manner of delivery	Convenient, personalized and customized delivery to meet the needs of seniors
Capturing the value	Failure to create a broader positive effect on society and the economy	Creating a positive impact on society and the economy while ensuring a fair and sustainable return on investment.
Environment and stakeholders	Lack of government and society support. Non-existence of policy and institutional support for silver-oriented businesses	Supportive policies toward the creation of silver products and services

Source: Own research

5. CONCLUSION

The ongoing demographic shift, marked by an aging population, offers significant growth opportunities for SMEs across various industries. Transferring businesses from traditional to smart senior business models is necessary for today's rapidly aging society. Adaptability to the dynamic nature of the silver society is vital for capitalizing on these prospects. As the needs and preferences of older adults evolve, businesses have the potential to innovate and tap into this expanding market. However, seizing these opportunities requires shifting from traditional approaches to more inclusive, supportive, and age-friendly business models. This shift is critical for businesses to stay competitive in an increasingly digital and customer-centric market. Adopting smart senior business models allows companies to meet the expectations of a growing and lucrative demographic and creates new opportunities for innovation, revenue growth, and societal impact. Embracing this transformation is essential for businesses looking to thrive in the future and play a meaningful role in shaping age-friendly economies. Transferring businesses from traditional to smart senior business models is necessary for today's rapidly aging society. Smart business models address these demands by leveraging digital technologies, data analytics, and integrated service platforms that provide tailored solutions. These models focus on enhancing independence, promoting well-being, and improving seniors' overall quality of life through innovations like smart homes, telehealth, and personalized care plans.

Additionally, smart models encourage a more holistic and preventive approach to aging, offering services that are not just reactive but proactive, anticipating the needs of seniors before they arise. Traditional models, which often rely on standardized, one-size-fits-all solutions, are no longer sufficient to meet the diverse and evolving needs of the modern senior population. Today's seniors are more active and tech-savvy and expect personalized experiences that cater to their unique preferences and health conditions. By adopting integrated and customized strategies, SMEs can drive growth and contribute to a more equitable society that values the contributions and well-being of seniors. This transformation emphasizes viewing the aging population as a challenge and a powerful driver for economic success, social progress, and sustainable development.

Future research will be focused on identifying best practices and policies for designing and implementing senior business models that address the needs of an aging society that are both economically sustainable and socially beneficial.

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References

Accius, J., & Suh, J. Y. (2019). *The longevity economy® outlook: How people ages 50 and older are fueling economic growth, stimulating jobs, and creating opportunities for all.* AARP Thought Leadership. https://doi.org/10.26419/int.00042.001

Angell, R., Megicks, P., Memery, J., Heffernan, T., & Howell, K. (2012). Understanding the older shopper: a behavioural typology. *Journal of Retailing and Consumer Services*, 19 (2), 259-269.

Barković Bojanić, I., Erceg, A., & Damoska Sekuloska, J. (2024). Silver entrepreneurship: A golden opportunity for ageing society. *Economics and Business Review*, 10(1), 153–178. https://doi.org/10.18559/ebr.2024.1.1068

Cizelj, B. (2023). Silver economy-a reply to challenges of population aging. *Journal of Innovative Business and Management*, *14*(2), 1-5. https://doi.org/10.32015/JIBM.2022.14.2.10

Colurcio, M., Edvardsson, B., & Vigolo, V. (2022). Guest Editorial: Framing Silver Economy in a management perspective: from practice to theory. *Silver Economy: Challenges and opportunities for an aging world. Sinergie-Italian Journal of Management*, 40 (3), 11-16.

Damoska Sekuloska, J., Puvača, M., Petkovski, A., & Erceg, A. (2021). Creative Aging Through Using Digital Technology. In Barković Bojanić, I. & Erceg, A. (eds.), Strategic Approach to Aging Population: Experiences and Challenges. Osijek: Ekonomski fakultet Sveučilišta Josipa Jurja Strossmayera u Osijeku, pp. 235-256.

European Commission (EC). (2015). Growing the European Silver Economy (Background Paper).

Faster Capital. (2024). Elderly care strategy Innovative Business Models for Elderly Care: A Startup Perspective Retrieved from: https://fastercapital.com/content/Elderly-care-strategy--Innovative-Business-Models-for-Elderly-Care--A-Startup-Perspective.html

Gschwendtner, P. (2020). Silver Economy Strategies: A Comparative Study of the Japanese and South Korean Governmental Measures. *Vienna Journal of East Asian Studies*, 12, 62–91. https://doi.org/10.2478/vjeas-2020-0003

Guido, G., Pichierri, M., Pino, G., & Conoci, R. (2018). The segmentation of elderly consumers: A literature review. *Journal of Customer Behaviour. 17*(4), 257–278. http://doi.org/10.1362/147539218X15445233217805

Guido, G., Ugolini, M. M., & Sestino, A. (2022). Active ageing of elderly consumers: insights and opportunities for future business strategies. *SN Business & Economics*, *2*(8), https://doi.org/10.1007/s43546-021-00180-4

Lange, V. G., & Velamuri, V. K. (2014). Business model innovation in the retail industry: growth by serving the silver generation. *International Journal Entrepreneurship and Innovation Management*, *18*(4), 310–329.

Laperche, B., Boutillier, S., Djellal, F., & Ingham, M. (2019). Innovating for elderly people:The development of geront'innations in the French silver economy. *Technology Analysis & Strategic Management*, 31(4), 462-476.

Lipp, B., & Peine, A. (2022). Ageing as a driver of progressive politics? What the European Silver Economy teaches us about the constitution of ageing and innovation. Aging and Society, Cambridge University Press

McGuirk, H., Lenihan, A. C., & Lenihan, N. (2022). Awareness and potential of the silver economy for enterprises: a European regional level study. *Small Enterprise Research*, *29*(1), 6-19. https://doi.org/10.1080/13215906.2021.1919915

OECD. (2014). The Silver Economy as a Pathway for Growth: Insights from the OECD-GCOA Expert Consultation. Report of a meeting held at University of Oxford, 26 June, www.oecd.org/sti/the-silvereconomy-as-a-pathway-to-growth.pdf

OECD. (2020). *Improving care pathways for elderly people. In Who Cares? Attracting and Retaining Care Workers for the Elderly*, OECD Publishing, Paris. DOI: https://doi.org/10.1787/62125548-en

Singh, B., & Kiran, U. (2014). Recreational activities for senior citizens. *IOSR Journal of Humanities and Social Science*, 19(4), 24–30. http://doi.org/10.9790/0837-19472430

UN. (2022). World population prospects. New York: United Nations Department of Economic and Social Affairs; Retrieved from: https://population.un.org/wpp/.

Varnai, P., Simmonds, P., Farla, K., & Worthington, H. (2018). *The Silver Economy*. European Union/European Commission.

WEF. (World Economic Forum). (2016). *The Silver Economy: How 21st-Century Longevity Can Create Markets, Jobs and Drive Economic Growth, Based on the World Economic Forum White Paper.*

Zsarnoczky, M. (2016). Innovation Challenges of the Silver Economy. *Journal of Management*, 28(1), 105-110.

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Measuring Total Factor Productivity Change in Medium-Sized Portuguese Wine Producing Farms

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Abstract: *This article presents a study on the productivity variation of medium-sized Portuguese farms that produce wine. Quantifying these variations, commonly referred to as Total Factor Productivity (TFP), lies at the core of the economic notion of productivity. The study applies the Malmquist Data Envelopment Analysis approach, which calculates distance functions to generate indices of total productivity change. The data consists of 2 outputs and two inputs for 19 analyzed farms from 2019 to 2022. The main objective of the study was to understand if the productivity of wineries changed during the period of the COVID-19 pandemic, with a focus on the year 2020. The results show, on average, a decline in productivity during the COVID period, but with different outcomes for the set of farms, indicating that some farms were better prepared to face the COVID crisis.*

1. INTRODUCTION

The study of efficiency is an important topic for farms and has attracted many researchers, and many studies have analyzed this subject (Sequeira & Teixeira, 2024, p. 2). Efficiency is interconnected with productivity and in many situations, they tend to be confused (Teixeira & Sequeira, 2024, p. 11), but they are different concepts. Productivity is a ratio between the output generated per unit of input employed (Lovell et al., 1994, p. 177). Efficiency can be defined as the maximum output produced with a certain amount of inputs or the minimum inputs required to produce a certain amount of output (Barros et al., 2013, p. 514). Efficiency is one of the variables that contributes to productivity, but variations in productivity can also be due to technological progress and variations in scale. Another concept associated with productivity is the total productivity factor (TFP), because it allows relating more than one output and more than one input (Färe & Grosskopf, 1992, p. 158). This concept is often used in a dynamic framework where change in TFP, that is to say productivity improvement, is investigated (Malmquist, 1953, p. 211). This study aims to measure productivity variations in 19 wine producing farms in Portugal from 2019 to 2022. For this purpose, the Data Envelopment Analysis (DEA) method is applied. This method has the advantage of not requiring any requirements for a cost or profit function (Sequeira et al., 2023, p. 228). To use the DEA method, it is necessary to construct a frontier function and for calculate the TFP it is necessary to construct distance functions. Frontier functions and distance functions are closely linked and from the latter it is possible to measure productivity variations (Barros & Antunes, 2014, p. 214). Multi-input, multi-output production technology can be represented using distance functions.

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In this study, the DEA method is applied to calculate a productivity indicator. This indicator is the Malmquist index through which productivity variations are measured.

The motivation for this study is based on the importance of productivity for farms and also because to our knowledge this analysis has never been applied to wine-producing farms in Portugal. The main objective of this study is to find out whether Covid 19 had an impact on the productivity of the farms analyzed in this study.

The remainder of this paper is organised as follows. Section 2 presents the contextual setting. Section 3 details the methodology. Section 4 presents the future research directions. Section 5 concludes.

2. CONTEXTUAL SETTING

Fragoso and Vieira (2022, p. 1) state that viticulture holds a prominent position in Portugal, being a fundamental pillar due to both its cultural heritage and its economic structure. On the global stage, Portugal establishes itself as one of the leading wine producers, playing a significant role in the international wine market (Salvado & Monteiro, 2024, p. 1). This position reflects not only the country's long wine-making tradition but also the quality and diversity of its products, which contribute to its relevance in the sector worldwide (Costa et al., 2021, p. 1). Rebelo and Baptista (2024, p. 1) mention in their study that Portugal is predominantly a low-cost wine market, both in terms of domestic consumption and exports. The lack of recognition of most wines limits their potential to generate and transfer value to wine producers. Rebelo and Baptista (2024, p. 11) concluded that failures in the wine market are the result of information asymmetries and high transaction costs. In contrast, Guo and Zhong (2024, p. 80) state that the portuguese wine business model places particular emphasis on market expansion, brand development, technological advancement, and environmental sustainability. Rebelo et al. (2017, p. 320) state that the wine sector exhibits a monopolistic competition market structure. According to this model, it is relatively easy for new producers to enter the market because there are no barriers to entry. Thus, farms of various sizes compete against each other. Varas et al. (2021, p. 1105) remind us that larger farms benefit from the effect of economies of scale, which allows easier access to technical and commercial opportunities. "In this complex and competitive context, where farms need to produce and market in different segments, wine farms must meet their customers' needs at an affordable cost. Thus, to keep the wine industry competitive in an increasingly global market, efficiency is a critical factor" (Fragoso & Vieira, 2022, p. 1). Barros and Santos (2007, p. 119) state that the factors influencing efficiency are the type of organisation, resources, and location. Specifically, i) Portuguese wine cooperatives are more efficient than private wine farms; ii) wine quality, managerial competence, and distribution networks; and iii) wine regions with better reputations are more likely to be more efficient. Varas et al. (2021, p. 1104) highlight the importance of monitoring the performance of wine farms to ensure that the level of efficiency is maintained or increased in the context of competition in a global market. Jradi et al. (2019, p. 13) studied revenue efficiency, distinguishing between productivity and allocative changes. They found that the behaviour of the regions analysed is different. Alsace, Beaujolais, Loire, and Provence showed the greatest decreases in revenue due to productivity changes, while in Burgundy, Languedoc-Roussillon, and Rhône, the negative impact was due to allocative changes. In the regions of Champagne and Bordeaux, no significant differences were found between the two types of change. Jradi et al. (2019, p. 12) noted that the various regional adaptation strategies to new market conditions were influenced by the Common Market Organisation for agricultural products. Santos et al. (2020, p. 573) argue that some wine farms have a low level of efficiency, justified by the poor use of available resources. The adoption of recent technologies could lead to substantial increases in the productivity of these

vineyards. Research conducted by Santos et al. (2021, p. 11) on the productive efficiency of wine farms in Northern Portugal revealed that production efficiency is intrinsically linked to the ability to adapt to regional specificities and the unique characteristics of each farm. The study highlights that, despite the importance of operational efficiency, profitability remains a critical factor, particularly for larger farms and producers specialising in Port wine. Bragagnolo et al. (2024, p. 167) assessed the productive efficiency in wine production in the southern region of Brazil and found that there were no significant differences between the actual calculated efficiency and the maximum potential efficiency in these three states. Bragagnolo et al. (2024, p. 168) concluded that the variables statistically significant in productive efficiency are the farmer's age, farming style, price, gender, and the proportion of vineyard area. The same authors noted that the size of the farm does not have a significant impact on productive efficiency. In contrast, Varas et al. (2021, p. 1105) found that smaller wine farms tend to be less efficient. Sellers-Rubio et al. (2016) found that efficiency levels are very low in the wine farms analysed in Italy and Spain. Even more concerning is the fact that average annual productivity has decreased. During this period, from 2005 to 2013, a negative trend in total productivity was observed, resulting from the interaction of two opposing dynamics. On one hand, there was technological progress that positively boosted productivity. On the other hand, this effect was offset by a reduction in the operational efficiency of the wineries. The balance between these opposing forces culminated in an overall decline in productivity in the wine sector.

3. METHODOLOGY

DEA models are widely used to measure the efficiency and productivity of Decision Making Units (DMUs). A DMU is regarded as the entity responsible for converting inputs into outputs and whose performances are to be evaluated (Coelli, 1995, p. 220). These DMUs must be homogeneous. DEA models can be applied to any sector of activity, providing a means for assessing the relative efficiencies of a set of Decision Making Units. One of the DEA models that can be applied to measure variations in productivity is the Malmquist index (Barros & Antunes, 2014, p. 214). The introduction of distance functions in the calculation of the Malmquist Index (Caves et al., 1982, p. 1395) allows the calculate of a total factor productivity index. The main objective of Malmquist TFP is to quantify variations in productivity.

When the orientation for calculating productivity takes the input perspective, it means that the analysis focuses on the level of production factors necessary to produce the observed level of output subject to a given production technology. Assuming that period t is taken as a reference, the Malmquist productivity index will be defined for periods t and t+1 as:

$$m_i^t\,(y_t, y_{t+1}, x_t, x_{t+1}) = \frac{d_i^t\,(y_{t+1}, x_{t+1})}{d_i^t(y_t, x_t)} \tag{1}$$

If we take the technology of period t+1 as a reference, then:

$$m_i^{t+1}\,(y_t, y_{t+1}, x_t, x_{t+1}) = \frac{d_i^{t+1}\,(y_{t+1}, x_{t+1})}{d_i^{t+1}(y_t, x_t)} \tag{2}$$

Since the Malmquist index from the factors perspective can be defined using either the technology of period t or of period t+1 as a reference, the Malmquist TFP index is given by the following expression:

$$m_i\,(y_t, y_{t+1}, x_t, x_{t+1}) = \left[\frac{d_i^t\,(y_{t+1}, x_{t+1})}{d_i^t(y_t, x_t)}\,\frac{d_i^{t+1}\,(y_{t+1}, x_{t+1})}{d_i^{t+1}(y_t, x_t)}\right]^{0,5} \tag{3}$$

Or simply,

$$m_i\ (y_t, y_{t+1}, x_t, x_{t+1}) = [m_i^t\ (y_t, y_{t+1}, x_t, x_{t+1}).\, m_i^{t+1}\ (y_t, y_{t+1}, x_t, x_{t+1})]^{0,5} \quad (4)$$

The four distance functions present in equation (3) are respectively:

$$d_i^t(y_t, x_t);\ d_i^{t+1}\ (y_{t+1}, x_{t+1});\ d_i^t\ (y_{t+1}, x_{t+1})\ \ and\ d_i^{t+1}(y_t, x_t) \quad (5)$$

Three outcomes are possible for the Malmquist TFP index:

$m_0\ (y_t,\ y_{t+1},\ x_t,\ x_{t+1}) > 1$, in this case, there is an increase in productivity;

$m_0\ (y_t,\ y_{t+1},\ x_t,\ x_{t+1}) = 1$, in this situation there is a stagnation of productivity; and

$m_0\ (y_t,\ y_{t+1},\ x_t,\ x_{t+1}) < 1$, this result highlights a decline in productivity.

4. RESULTS ANALYSIS AND FUTURE RESEARCH DIRECTIONS

The data were compiled from the Iberian Balance Sheet Analysis System (SABI). Applying the European criterion for classifying the size of farms according to the number of workers they employ, the database was divided by company size. According to this criterion, a large company employs 250 or more workers, a medium-sized company employs less than 250 people, a small company employs less than 50 people and a micro-company employs less than 10 people. The information collected from the SABI database reveals that in Portugal there are 860 wine-producing farms (farms with Code 1102 of the Economic Activity Classification) and that most of them are micro-enterprises and small farms. On the other hand, there are very few farms considered to be large farms. Our analysis focused on the group of medium-sized farms, using as a criterion the selection of farms that during the years under analysis maintained the number of workers above 50 and below 250, as shown in Table 1.

Table 1. Output matrix (Y) and input matrix (X) data

Company	Years	EBITDA	EBIT	Fixed Capital	No of employees
DMU1	2019	11 853	10 505	10 276	162
DMU2	2019	8 920	6 494	26 734	185
DMU3	2019	10 067	8 023	46 164	149
DMU4	2019	6 857	5 183	22 143	145
DMU5	2019	5 068	2 970	49 168	209
DMU6	2019	19 222	18 040	11 569	65
DMU7	2019	3 801	2 646	7 263	89
DMU8	2019	6 988	4 733	21 228	106
DMU9	2019	2 566	1 744	13 370	129
DMU10	2019	661	422	3 094	144
DMU11	2019	1 258	174	8 382	82
DMU12	2019	4 092	3 119	9 578	59
DMU13	2019	1 198	506	12 715	71
DMU14	2019	3 956	3 692	1 438	79
DMU15	2019	2 160	1 197	8 203	97
DMU16	2019	708	381	2 885	86
DMU17	2019	1 765	813	3 025	33
DMU18	2019	398	76	3 025	33
DMU19	2019	42	16	256	156

DMU1	2020	10 548	8 745	11 109	183
DMU2	2020	14 270	11 773	28 270	197
DMU3	2020	12 649	10 052	53 680	148
DMU4	2020	3 750	1 976	23 237	179
DMU5	2020	3 004	874	46 666	202
DMU6	2020	13 213	12 039	11 112	70
DMU7	2020	5 811	4 567	6 675	113
DMU8	2020	5 350	3 220	21 522	102
DMU9	2020	2 545	1 670	12 990	121
DMU10	2020	1 374	1 123	3 389	142
DMU11	2020	2 011	794	10 672	100
DMU12	2020	3 305	2 329	9 796	61
DMU13	2020	783	5	12 613	73
DMU14	2020	4 924	4 618	1 567	84
DMU15	2020	2 087	1 185	7 620	83
DMU16	2020	246	-108	2 750	82
DMU17	2020	1 411	504	4 244	46
DMU18	2020	725	456	4 244	46
DMU19	2020	51	16	233	156
DMU1	2021	10 405	8 574	9 979	174
DMU2	2021	12 805	10 060	31 023	216
DMU3	2021	12 757	10 187	54 242	178
DMU4	2021	7 221	5 445	23 345	160
DMU5	2021	6 412	2 292	80 626	262
DMU6	2021	16 302	15 090	12 251	71
DMU7	2021	4 583	3 442	7 900	95
DMU8	2021	5 777	3 627	21 323	102
DMU9	2021	2 712	1 815	12 427	110
DMU10	2021	1 179	906	3 464	130
DMU11	2021	3 099	1 879	10 520	104
DMU12	2021	4 295	3 227	9 890	68
DMU13	2021	1 001	158	12 112	68
DMU14	2021	4 701	4 294	1 973	85
DMU15	2021	3 590	2 619	8 461	90
DMU16	2021	624	317	2 652	86
DMU17	2021	1 394	592	7 149	58
DMU18	2021	1 392	1 065	7 149	58
DMU19	2021	75	36	229	157
DMU1	2022	8 175	6 386	9 042	176
DMU2	2022	10 130	7 348	34 378	231
DMU3	2022	11 232	8 998	54 132	175
DMU4	2022	10 593	8 847	22 400	154
DMU5	2022	7 970	4 035	80 606	273
DMU6	2022	14 064	12 739	12 224	72
DMU7	2022	3 322	2 225	7 607	100
DMU8	2022	6 341	4 479	20 895	108
DMU9	2022	2 197	1 261	12 194	107
DMU10	2022	1 223	915	3 418	150
DMU11	2022	3 150	1 939	10 552	107
DMU12	2022	3 699	2 639	9 812	72
DMU13	2022	1 981	1 136	12 090	63
DMU14	2022	3 293	2 802	6 777	85
DMU15	2022	3 517	2 500	8 572	98
DMU16	2022	502	185	2 561	90
DMU17	2022	1 813	1 134	7 095	62
DMU18	2022	1 049	719	7 095	62
DMU19	2022	62	27	197	150

Source: Authors based on SABI database

Our dataset covers the years from 2019 to 2022, and 19 farms are analyzed, which makes up a balanced panel with 76 observations. To construct a frontier function, it is necessary to identify outputs and inputs and ensure that they are available for all farms analyzed during the selected period. In this analysis, two outputs and two inputs were selected. The outputs are Earnings Before Interest, Taxes, Depreciation and Amortization (EBITDA) and Earnings Before Interest and Taxes (EBIT) and the inputs are fixed capital and number of employees. The selection of outputs was made considering that, from an economic point of view, they are the two main levels of operating income for farms. Regarding inputs, they are naturally the most important for the activity of this sector. It is possible to detect some heterogeneity, but after applying certain tests, such as the Senguta procedure, we conclude that heterogeneity can be neglected.

Applying the Malmquist DEA method, the results are shown in Table 2.

Table 2. Malmquist index summary of annual means

Period	EFFCH-Technical efficiency change	TECH-Technological change	Malmquist total productivity change
2019/2020	1.000	0.690	0.896
2020/2021	1.000	0.910	0.948
2021/2022	0.901	1.076	0.969
mean	0,967	0.877	0.937

Source: Own research

The main objective was to determine whether COVID-19 had an impact on the productivity of the 19 farms under analysis. There is no doubt that the total productivity factor showed a decrease from 2019 to 2020 (the year with the greatest intensity of the COVID-19 effect). This means, in principle, that COVID-19 had an impact on the productivity of these farms. This result was relatively expected, even though this sector was not as exposed to the effects of COVID-19 as others. In the future, it would be important to monitor the sector about the level of productivity presented and what types of public policies can be implemented to increase the sector's productivity. Another interesting aspect to study it would be the effect of the type of management, although the difficulty to isolate this variable, it would be interesting to carry out this analysis.

In future work, the Malmquist index could be compared with other productivity indices.

5. CONCLUSION

This article analyzed the variation in productivity in 19 Portuguese wine-producing farms. The results show that in the post-Covid 19 period, the average productivity of these farms increased. However, this growth does not occur for all farms. The explanation may be partly associated with the values recorded for technological variation, which in turn is associated with investments in fixed capital. Normally, investment in fixed capital is a source of technological innovation and innovation determines productivity values.

Another conclusion that can be drawn is that although the total Malmquist productivity factor showed growth during the period under analysis, from 2019 to 2022, it recorded values below 1, which means that on average these farms experienced a decrease in terms of productivity.

This decrease in productivity may be related, as the data seem to indicate, to the lack of introduction of technological innovation in the sector. Although the wine-producing sector, like other sectors, has

benefited over the last few decades from European subsidies to increase modernisation in the practices used, the reality is that in terms of productivity growth, there is no correspondence. The explanation may lie in the fact that not all farms are able to access European funds and are therefore it is a disadvantage compared to those that are able to obtain these funds to invest in fixed capital that introduces innovation. It would be useful, if information were available, to compare productivity growth between farms that benefited from European subsidies and those that were not covered by this type of support. In terms of public policy, this information is very important, as it could lead to the establishment of different criteria for access to European funds for farms that are in the same sector. And finally, in terms of public policy, it would be advisable to carry out an objective analysis of the impact that these subsidies have in terms of productivity.

References

Barros, C., & Antunes, O. S. (2014). Productivity Change in the Oil Blocks of Angola. *Energy Sources, Part B: Economics, Planning, and Policy, 9*(4), 413-424. https://doi.org/10.1080/15567249.2010.497794

Barros, C. P., Chen, Z., Managi, S., & Antunes, O. S. (2013). Examining the cost efficiency of Chinese hydroelectric companies using a finite mixture model. *Energy Economics, 36*, 511-517. https://doi.org/10.1016/j.eneco.2012.10.007

Barros, C. P., & Santos, J. C. (2007). Comparing the productive efficiency of cooperatives and private enterprises: the Portuguese wine industry as a case study. *Journal of Rural Cooperation*, *35*(2), 109-122. http://dx.doi.org/10.22004/ag.econ.58683.

Bragagnolo, C., Almeida, A., & Chagas, A. (2024). Assessing Technical Efficiency in Wine Grape Production: The Case of South Brazil. *International Journal of Food and Agricultural Economics (IJFAEC)*, *12*(2). https://doi.org/10.22004/ag.econ.343134

Caves, D. W., Christensen, L. R., & Diewert, W. E. (1982). The economic theory of index numbers and the measurement of inputs outputs and productivity. *Econometrica, 50*, 1393-1414.

Coelli, T. J. (1995). Recent Development in Frontier Modelling and Efficiency Measurement. *Australian Journal of Agricultural Economics*, 39(3), 219-245.

Costa, A., Marano-Marcolini, C., Malfeito-Ferreira, M., & Loureiro, V. (2021). Historical wines of Portugal: The classification, consumer associations and marketing implications. *Foods*, *10*(5), 979. https://doi.org/10.3390/foods10050979.

Färe, R., & Grosskopf, S. (1992). Malmquist Productivity Indexes and Fisher Ideal Indexes. *Economic Journal*, 102(4), 158-160.

Fragoso, R., & Vieira, A. A. (2022). Efficiency analysis of the Portuguese wine industry using accounting and operational metrics. *Results in Engineering*, *14*, 100389. https://doi.org/10.1016/j.rineng.2022.100389.

Guo, G., & Zhong, L. (2024). Analysis of the Profit Model of the Portuguese Wine Business. *Information Systems and Economics*, *5*(2), 80-85. https://dx.doi.org/10.23977/infse.2024.050211.

Jradi, S., Chameeva, T. B., & Aparicio, J. (2019). The measurement of revenue inefficiency over time: An additive perspective. *Omega*, *83*, 167-180. https://doi.org/10.1016/j.omega.2018.02.011.

Lovell, C. A. K., Grosskopf, S., Ley, E., Pastor, J. T., Prior, D., & Vanden Eeckaut, P. (1994). Linear programming approaches to the measurement and analysis of productive efficiency. Top, 2(2), 175-248. https://doi.org/10.1007/bf02574810

Malmquist, S. (1953). Index Numbers and Indifference Surfaces. Trabajos de Estadistica, 4, 209-242.

Rebelo, J., & Baptista, A. (2024). Potential market failures in the Portuguese wine industry. *Ciência e Técnica Vitivinícola*, *39*(1), 1-13. https://doi.org/10.1051/ctv/20243901001.

Rebelo, J., Gouveia, S., Lourenço-Gomes, L., & Marta-Costa, A. A. (2017). Wine Firm's Size and Economic Performance: Evidence from Traditional Portuguese Wine Regions. In *Grapes and*

Wines-Advances in Production, Processing, Analysis and Valorization. IntechOpen. https://doi.org/10.5772/intechopen.71320.

Salvado, J., & Monteiro, B. (2024). Wine & Olive Oil food heritage synergies within the tourism experience: Analyzing corporate websites. *Via. Tourism Review*, (25). https://doi.org/10.4000/123ha.

Santos, M., Rodríguez, X., & Marta-Costa, A. (2020). Efficiency analysis of viticulture systems in the Portuguese Douro region. *International Journal of Wine Business Research*, *32*(4), 573-591. https://doi.org/10.1108/IJWBR-10-2019-0052.

Santos, M., Rodríguez, X., & Marta-Costa, A. (2021). Productive efficiency of wine grape producers in the North of Portugal. *Wine Economics and Policy*, *10*(2), 3-14. https://doi.org/10.36253/wep-8977.

Sellers-Rubio, R., Alampi Sottini, V., & Menghini, S. (2016). Productivity growth in the winery sector: evidence from Italy and Spain. *International Journal of Wine Business Research*, *28*(1), 59-75. https://doi.org/10.1108/IJWBR-05-2015-0019.

Sequeira, O., & Teixeira, F. (2024). A Meta-analysis Regression on Efficient and Productivity Energy Research. In: Silva, F., Ferreira, L., Sá, J., Pereira, M., Pinto, C. (Eds). Flexible Automation and Intelligent Manufacturing: Establishing Bridges for More Sustainable Manufacturing Systems. FAIM 2023. Lecture Notes in Mechanical Engineering (pp. 1113-1120). Switzerland: Springer Nature Switzerland. https://doi.org/10.1007/978-3-031-38165-2_127

Sequeira, O. M., Teixeira, F., & Samartinho, J. (2023). Methodological Approaches in Innovative Pedagogical HEIs: Case Studies/Best Practices - LINK ME UP PROJECT: A Case Study. Advances in Higher Education and Professional Development, 227-243. https://doi.org/10.4018/978-1-6684-6701-5.ch013

Teixeira, F., & Sequeira, O. (2024). Poliempreende-an Analysis of the Efficiency Measures in 13 Portuguese Higher Education Institutions. *Journal of Global Business and Technology*, 20(2) (pp. 63-73).

Varas, M., Basso, F., Maturana, S., Pezoa, R., & Weyler, M. (2021). Measuring efficiency in the Chilean wine industry: a robust DEA approach. *Applied Economics*, *53*(9), 1092-1111. https://doi.org/10.1080/00036846.2020.1826400.

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The Chaotic Lithium Price Growth Model

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Abstract: *Lithium has become a strategic scarce input in the economy. The basic aims of this paper are: firstly, to create the simple chaotic lithium price growth model. This model can generate stable equilibria, cycles, or chaos. Also, this model confirms the existence of the stable convergent fluctuations of the lithium price in the period 2020-2023. The golden ratio shows the equilibrium level of lithium price in the presented chaotic model.*

1. INTRODUCTION

According to Lozhnikov et al. (2024), up to 58% of estimated world lithium reserves are located in the so-called "lithium triangle": Bolivia (21 million tons), Argentina (19 million tons) and Chile (up to 10 million tons).

Restrepo et al., (2023) show that lithium prices (carbonate and hydroxide) have exhibited explosive dynamics (particularly in the periods: 2016-2018, and 2021-2022).

According to Greim et al., (2020), lithium is an important input for: (i) the global „green" energy transition towards low-carbon transportation and (ii) the energy sector. Nowadays, Australia, Chile and China together account for over 90% of global lithium production.

Greim et al. (2020) state that China hosts 60% of the world's lithium refining capacity for batteries. The lithium prices can generate the necessary investment in this input production.

Kindleberger and Aliber (2005) believe that it is possible that the existence of a lithium price "bubble" can generate the inefficient allocation of resources.

Będowska-Sójka and Górka (2022) highlight that investors have the option to invest in lithium mining companies, noting the bubble-like behavior observed in lithium prices. They emphasize that while the transition to renewable energy is rapidly advancing, oil remains a significant energy source. Additionally, their findings indicate that the returns of lithium mining stocks generally exhibit a weak correlation with changes in oil prices.

Li et al. (2023) combine lithium real-time series data with Artificial Neural Networks (ANN) and Facebook Prophet (Fb-P) algorithms. The basic aim of this study is to forecast lithium mineral resource prices in China.

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Gielen and Lyons (2022) emphasize that lithium is important to the "green" energy transition (rechargeable batteries for laptops, cellular phones, electric cars, ceramics, glass, etc.). It is expected that lithium prices will remain high. Australia and Chile dominate mining. Lithium mineral resources are concentrated in Argentina, Bolivia, Chile, and China. Battery-grade lithium carbonate and lithium hydroxide are important products in the context of the "green" energy transition. According to Gielen and Lyons (2022), battery lithium demand is projected to increase tenfold over 2020–2030. This is driven by the growing demand for electric vehicles.

2. THE MODEL

The modified chaotic price growth model is applied in this paper (Jablanovic, 2022). The chaotic lithium price growth model is presented by the following equations:

$$D_t = \alpha P_t - \beta P_t^2 \alpha > 0, \beta > 0 \quad (1)$$

$$S_t = \gamma P_t + \delta P_t^2 \gamma > 0, \delta > 0 \quad (2)$$

$$P_{t+1} - P_t = \rho(D_t - S_t), \rho > 0 \quad (3)$$

Where P_t – lithium price ; S_t – supply function of lithium; D_t – demand function for lithium; ρ - the adjustment coefficient ; α , β - the coefficients of the lithium demand function ; γ , δ - the coefficients of the lithium supply function.

(1) defines demand function for lithium; (2) defines supply function of lithium ; (3) determines the relation between the increase in lithium price and surplus of demand for lithium.

By substitution one derives:

$$P_{t+1} = [1+ \rho(\alpha-\gamma)]P_t - \rho(\beta + \delta)P_t^2, \alpha, \beta, \gamma, \delta, \rho > 0 \quad (4)$$

The lithium price growth rate depends on the current lithium price, P, relative to its maximal size in its time series P^m. We introduce p as $p = P/P^m$. In this sense,

$$p_{t+1} = [1+\rho(\alpha-\gamma)]p_t - \rho(\beta + \delta)\beta p_t^2 \alpha, \beta, \gamma, \delta, \rho > 0 \quad (5)$$

This model given by equation (5) is called the logistic model.

The logistic map explains chaotic behavior. The map was popularized by the biologist Robert May (1976).

It is possible to prove that the iteration process for the logistic equation (6)

$$z_{t+1} = \pi z_t(1 - z_t) , \pi \in [0, 4], z_t \in [0, 1] \quad (6)$$

is equivalent to the iteration of the growth model (5)

$$z_t = \frac{\rho(\beta + \delta)}{[1 + \rho(\alpha - \gamma)]} p_t \text{ and } \pi = [1+ \rho(\alpha-\gamma)] \quad (7)$$

Using (5) and (7) we obtain:

$$z_{t+1} = \frac{\rho(\beta+\delta)}{[1+\rho(\alpha-\gamma)]}\, p_{t+1} = \frac{\rho(\beta+\delta)}{[1+\rho(\alpha-\gamma)]}\{[1+\rho(\alpha-\gamma)]p_t - \rho\,(\beta+\delta)p_t^2\} =$$

$$= \rho(\beta+\delta)p_t - \frac{\rho^2(\beta+\delta)^2}{[1+\rho(\alpha-\gamma)]}p_t^2$$

On the other hand, using (6) and (7) we obtain:

$$z_{t+1} = \pi\, z_t\,(1-\ z_t\,) = [1+\rho(\alpha-\gamma)]\frac{\rho(\beta+\delta)}{[1+\rho(\alpha-\gamma)]}\, p_t \left\{1 - \frac{\rho(\beta+\delta)}{[1+\rho(\alpha-\gamma)]}\, p_t\right\} =$$

$$= \rho(\beta+\delta)p_t - \frac{\rho^2(\beta+\delta)^2}{[1+\rho(\alpha-\gamma)]}\, p_t^2$$

Li and Yorke (1975) and May (1976) analyzed the characteristics of the logistic equation (6).

3. EMPIRICAL EVIDENCE

The main aim of this analysis is to present the lithium price growth stability in the period December 2020 – April 2023 by using the logistic model (8).

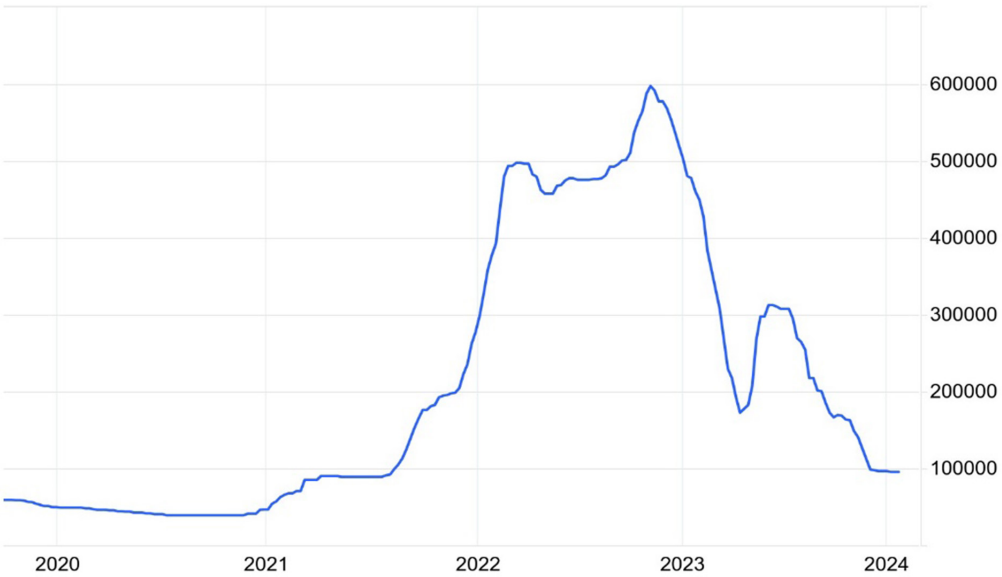


Figure 1. Lithium carbonate prices are held at CNY 100,000 per tonne

Source: Trading Economics (n.d.)

In this sense,

$$p_{t+1} = \pi p_t - \upsilon p_t^2,\ \pi \in [0, 4],\ \upsilon > 0 \qquad (8)$$

where: p_t - lithium price, $\pi = [1+\rho\,(\alpha-\gamma)]$, $\upsilon = \rho\,(\beta+\delta)$, ρ - the adjustment coefficient ; α , β - the coefficients of the lithium demand function; γ , δ - the coefficients of the lithium supply function.

It is supposed that the basic Elliott wave pattern exists in the period December 2020 - April 2023 (see Table 1). The Elliot Wave Theory shows (Frost & Prechter, 2006) eight waves.

Table 1. Lithium Price, December 28,2020-April 17, 2023 (unit: CNY/T)

	December 28, 2020	43969.8
1	April 15, 2021	87939.7
2	August 02, 2021	86180.9
3	March 28, 2022	494221.1
4	May 09, 2022	459042.2
5	November 07, 2022	596231.2
A	November 21, 2022	576884.4
B	November 28, 2022	578643.2
C	April 17, 2023	172361.8

Source: Trading Economics (n.d.)

Now the model (8) is estimated. The results are presented in Table 2.

Table 2. The estimated model (8): Lithium Price, December 28, 2020-April 17, 2023.

R=0.63287		
N=8	π	υ
Estimate	**2.611670**	1.982268
Std.Err.	2.408387	2.249974
t(5)	1.084406	0.881018
p-level	0.327682	0.418637

Source: Own calculations based on Trading Economics (n.d.)

Because π=2.611670, then lithium price convergent fluctuations exist. Namely, for $2 < \pi < 3$ fluctuations will converge to $z = (\pi - 1) / \pi$, or $z = (2.611670 - 1) / 2.611670$, or 0.617, or 367874.65 CNY/T in the observed period. The equilibrium lithium price exhibits the characteristics of the golden ratio (0.617) or 367874.65 CNY/T in the observed period.

4. CONCLUSION

This paper creates the chaotic lithium price growth model. This paper shows that the coefficient $\pi = [1+\rho(\alpha-\gamma)]$ plays a crucial role in explaining the local stability of the lithium price, where, ρ is the adjustment coefficient; α is the coefficient of the demand function; γ is the coefficient of the supply function. The estimated value of the coefficient π is **2.611670.** This result shows continuous convergent fluctuations of the lithium price in the observed period. In this sense, the equilibrium lithium price exhibits the characteristics of the golden ratio.

References

Będowska-Sójka, B., & Górka, J. (2022). The lithium and oil markets – dependencies and volatility spillovers. *Resource Policy, 78*, 102901. https://doi.org/10.1016/j.resourpol.2022.102901

Frost, A. J., & Prechter, R. P. (2006). *Elliott Wave Principle: A key to market behavior*. https://0104.nccdn.net/1_5/1d1/31d/37b/A.J.-Frost--Robert-Prechter---Elliott-Wave-Principle.pdf

Gielen, D., & Lyons, M. (2022). *Critical materials for the energy transition: Lithium*. International Renewable Energy Agency. Retrieved from https://www.irena.org/-/media/Irena/Files/Technical-papers/IRENA_Critical_Materials_Lithium_2022.pdf

Greim, P., Solomon, A. A., & Breyer, C. (2020). Assessment of lithium criticality in the global energy transition and addressing policy gaps in transportation. *Nature Communications, 11*, 4570. https://doi.org/10.1038/s41467-020-18402-y

Jablanovic, V. (2022). *The Golden Ratio and the Equilibrium Stock Market Index in Elliott Wave theory*. Aracne.

Kindleberger, C. P., & Aliber, R. Z. (2005). *Manias, panics, and crashes: A history of financial crises*. Palgrave Macmillan UK.

Li, T., & Yorke, J. (1975). Period three implies chaos. *American Mathematical Monthly, 82*(8), 985-992.

Li, X., Sengupta, T., Mohammed, K. S., & Jamaani, F. (2023). Forecasting the lithium mineral resources prices in China: Evidence with Facebook Prophet (Fb-P) and Artificial Neural Networks (ANN) methods. *Resources Policy, 82*, 103580. https://doi.org/10.1016/j.resourpol.2023.103580

Lozhnikov, O., Pavlychenko, A., Shustov, O., & Dereviahina, N. (2024). Prospects for the lithium deposits development in Ukraine. *E3S Web Conferences, 526*, 01001. https://doi.org/10.1051/e3sconf/202452601001

May, R. M. (1976). Mathematical models with very complicated dynamics. *Nature, 261*, 459-467.

Restrepo, N., Uribe, J. M., & Guillen, M. (2023). Price bubbles in lithium markets around the world. *Frontiers in Energy Research, 11*. https://doi.org/10.3389/fenrg.2023.1204179

Trading Economics. (n.d.). *Lithium*. https://tradingeconomics.com/commodity/lithium

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Local Government Debt and Fiscal Autonomy

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Abstract: *The purpose of the study is to analyse and discuss the local government debt and fiscal autonomy. It is very important to understand the composition of the municipal budget, its own income and government transfers. The study will analyse the revenues and expenses of municipalities (operational and capital) as well as the ways of financing investments. Literature and statistical data show the financial inability of the local government to cover expenses and to invest in public works. Some municipalities have received loans from Second Level Banks for capital investments. Furthermore, the study will analyse the use of debt, its effects and its efficiency. In Albania, the fiscal autonomy of the local government is still a problem, since the municipalities find it impossible to generate income and meet the needs for investments and expenses, bringing a strong dependence on the central government. Also, the study will discuss the ways how municipalities can increase their level of income, their good management and the increase of financial autonomy.*

1. INTRODUCTION

Borrowings and debts of municipalities are two of the most critical points of public management. Local government debts should be taken into consideration by policy makers since the economic development or destruction of a country starts from the local administrative units. During these 34 years of transition in Albania, decision-making policies have been oriented mainly from the center to the grassroots. Strategic plans have been drawn up as the only ones at the national level, where unfortunately most of them have remained simply on paper. Albania's economic development would be more stable if the priority in the management of development funds was directed towards local units, bringing financial decentralization and real local policy-making.

The consideration of the economic development of the regions, accompanied by the evidence of social-cultural differences, would be a solid basis for real local decision-making and national development policies, in accordance with the identified regional priorities. Statistical data show that local revenues of municipalities are not sufficient to meet all expenditure needs. Also, the lack of income penalizes the municipalities even in the process of borrowing from second level banks, since they do not meet the criteria for repayment of loans, while for any local borrowing the financial guarantor must be the Ministry of Finance.

Hence, there is a strong need for the government to focus on the process of decentralization and powering the local governments, as a pole for sustainable development economy.

2. LOCAL GOVERNMENT REVIEW

Albania is one of the countries of the Western Balkans which aspires to join the EU. During these 33 years of transition, Albania has continuously drafted and implemented reforms within the framework of the approximation of its legislation with the EU. What has been done so far has

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focused on the policies and good governance of the central government, but in parallel with it also solid efforts for the decentralization and good functioning of the local government, as part of the integration package of our country in the EU.

The drafting of the Territorial-Administrative Reform in Albania took place in 2015 and focused on the improvement of local governance. Today, after 8 years of its implementation, we are able to analyze and see the first effects. During this period, we can mention as a legislative achievement the approval of the Intersectoral Strategy for Decentralization and Local Governance, a document followed by: (i) the implementation of the Administrative and Territorial Reform (RAT), (ii) the approval of Law No. 139/2015 "On local self-government"; (iii) approval of Law no. 68/2017 "On the finances of local self-government".

The Intersectoral Strategy for Decentralization and Local Governance 2015-2020 was designed to strengthen local governance, to adopt the decentralization process according to the EU model and to consolidate the principles of fiscal and political administration of Local Units. At its core, decentralization has the principle of subsidiarity and the responsibility of the local government to be as close as possible to the citizens (Haxhimali, 2024).

With the beginning of the implementation of the Territorial Administrative Reform in 2015, priority has been given to fiscal decentralization, but even today we do not have visible results of it. Decentralization should bring citizens' problems closer as well as their faster solution. On the other hand, the process of decentralization would empower more the citizens, since investment projects and expenses would be more controlled by the citizens themselves. However, the process has not been implemented in all the purposes of its drafting, as well as the full distribution of administrative and financial powers of the new municipalities. The reality in the country's municipal units is different. There is a lack of investment transparency and often public hearings are not taken into consideration (Haxhimali, 2024).

The process of decentralization includes the transfer of power from the central level to the local level and increases democracy and local decision-making authority. Decentralization increases the confrontation of elected local authorities with citizens, as well as the responsibility of the local governments to manage revenues and expenses. In this aspect, fiscal decentralization will force local elected officials to pay more attention to the community, their needs and medium and long-term economic development. But, for this process to succeed, the financial and decision-making power of the local authority must be guaranteed at a new level. Until now, local units do not have independence from the central government as they lack the necessary financial resources.

Also, the majority of municipalities do not have the ability to borrow money from the banking system (loans). The financial system is not yet ready to finance municipalities, as the risk in lending without a guarantee from the central government is still considered very high. Municipalities are outside the capital market. This would require an improvement of the regulation for local borrowing, where the municipalities increase their competencies, as well as the ability to generate income through the sale of local bonds. But, on the other hand, in the conditions when the state debt at the end of 2023 was calculated at 71.5% of GDP, this figure has exceeded the norms established by the Maastricht Treaty (60% of GDP), which means that the government finds it more difficult to support as a guarantor of the municipalities' debt because it would have to further consolidate the debt and the deficit (Ministry of Finance, 2024; NALAS Report, 2024).

Therefore, the application and full implementation of the decentralization process, monitored by the government, is required as soon as possible to avoid the financial problems that small municipalities and municipalities that cannot collect their local revenues. If fiscal decentralization does not happen, then the municipalities will be faced with the impossibility of managing the new administrative competencies. Many delegations of new responsibilities, such as those in education, health, agriculture, transport, etc., which have been added to the competences of new municipalities, will not be implemented if the responsible ministries do not transfer the requested grants. Therefore, a combination of revenues would be more consistent and efficient for both the central government and the local government. On the other hand, the central government does not delegate fiscal powers due to the lack of human resources that the local government has. Then, under these conditions, control and monitoring of the funds allocated by the relevant ministries against the local government would be recommended. Auditing and controlling the use of funds will increase the efficiency and accountability of local authorities. Parallel to the above, it would be required to set up a computerized system, which will facilitate the identification of all families and private entities that must pay local obligations (Stafa, 2021; NALAS Report, 2024).

The allocation of additional funds and the development of investments will increase production and consumer capacities. However, this remains the will of the central government to develop the regions at the same level. Decentralization will increase the responsibility of mayors in the use of funds and their collection.

Moreover, the full implementation of the decentralization process will promote cooperation between the local government, the private sector and civil society. Sectoral and regional development strategies would be more important if the RAT was designed for economic and non-political-electoral interests. Economic development would be the priority of every region. Also, in addition to the efforts to make the local government financially independent, it would be more important to develop the techniques and institutional relations to make the decentralization process more easily accessible to the citizens.

2.1. Dependence of Municipalities on the Governmental Block Funds

The lack of full revenues and the high level of expenses for salaries, operational expenses, payments for services and investments, force the municipalities to be dependent on the state budget. Unconditional transfer, conditional transfer and Regional Development Fund (RDF) are three important elements in the fiscal functioning of municipalities. As long as the local revenues do not cover the costs of services provided by the municipality, then the deficit occurs. The study shows that around 60-80% of local income goes to salary and operational expenses; only 12-20% goes to capital expenditure. All other expenses and investments are covered by the government (NALAS Report, 2024).

Municipalities are still not able to generate enough income to govern themselves. Even the new competences that were added, have not been completed with full conditional transfers for the performance of these functions. The relevant ministries still do not allocate funds through the Municipalities, at the same level that they spent for the same functions when they were under their responsibility. The good functioning of the local government requires sufficient funds to guarantee the quality of services and investments for all administrative units. Until now, administrative units do not have the same investments and service provisions, and there are many areas that do not even receive basic services, regardless of paying municipal taxes and fees.

The non-collection of revenues is due to the high informality of the municipalities (families and businesses that do not pay or have not signed contracts with the municipality for the services they benefit from) or unregistered businesses/families. Therefore, the fiscal burden falls on businesses and regular families who always pay. Social responsibility and conscience is at low levels. This would urgently require a complete registration of all families and businesses, where each municipality would have a more complete view of the financial opportunities it can accumulate. If informality is fought, then we will see that the municipalities will collect more income (Haxhimali, 2024).

2.2. Financial Independence of Municipalities

As far as the study analyzed above, the municipalities are not financially independent. Their good functioning depends on the funds allocated by the state for each municipality. Also, the lack of a capital market has reduced the possibility for municipalities to generate funds from other sources. It would be necessary for the Albanian Stock Exchange (ALSE), in cooperation with the Ministry of Finance and the Municipalities of Albania, to draw up a regulation for the sale and purchase of municipal bonds. This would be a form of independence for income generation, even though the Ministry of Finance would again be the guarantor. Another possibility would be syndicated loans (loans taken from several banks, but with citizens' deposits). This form is not applied in Albania, but it would give power to the citizen in the decision-making of municipal investments. The citizen's contribution would be an amount requested by the municipality, where the citizens through the banks would offer their deposits against a well-formulated contract with the repayment terms. This would make the municipal executives accountable and increase citizen activism. However, this could not happen in most of the municipalities of Albania, due to the lack of funds or financial culture, but some municipalities could be an application model. Also, this would increase the need for the adoption of a new Law on Local Referendums, where important investments for municipalities would pass through citizen decision-making. This requires political and civic will (Haxhimali, 2024; Brugmann, 2023).

The consideration of the economic development of the regions, accompanied by the evidence of social-cultural differences, would be a solid basis for real local decision-making and national development policies, in accordance with the identified regional priorities. Statistical data show that local revenues of municipalities are not sufficient to meet all expenditure needs. Also, the lack of income penalizes the municipalities even in the process of borrowing from second level banks, since they do not meet the criteria for repayment of loans, while for any local borrowing the financial guarantor must be the Ministry of Finance. The June-July period is the time when the project budgets of the municipalities for the following year begin to be drawn up. This process requires the coordination of statistical data, monetary funds, government grants, projects from the central and local government, but also a complete analysis of the credit-taking and credit-paying power of the municipalities, in relation to the projected investment zeros, in order to realized with funds received from the banking system (NALAS Report, 2024).

After the approval of Law no. 9868 dt. 4.2.2008 "On Local Borrowing", it is found that only very few municipalities have received loans from second level banks. Controversial is the fact of matching or not the priorities for investment judged by the public, in relation to the decision-making of the municipalities to invest the loan received in local development projects.

At the same time, this process must be preceded by real listening to the public and voters, taking into consideration their concerns in investments by municipalities, giving decision-making more democracy and inclusion towards a reliable model of "participatory budgeting".

Unfortunately, it is found that hearings and discussions with the public are missing and there is no transparency for the expenses incurred by the municipalities, regardless of the origin of the invested funds. Informing the public about the loan received from the bank, the conditions and the destination of the investment, for the funds received as a loan through the banking system, is minimal or non-existent.

Also, it is found that considering the risk of political rotation, the municipalities tend to maximize and often exceed their credit-paying ability, using the loan received for investments within the election mandate, while the loan repayment terms go beyond one electoral mandate. This results in investment restrictions in the short and medium term for the leaders of the new municipalities, penalization in new borrowings, stronger financial discipline in the collection of revenues from municipalities and penalization of local taxpayers with an additional tax (Haxhimali, 2024).

The issue lies in the late reaction of the Ministry of Finance, as this is the institution that "legitimizes" the borrowing and creation of municipal debts. In addition to the fact that the municipalities have financial difficulties, due to the non-complete implementation of fiscal decentralization, the Ministry of Finance is the main responsible for the financial impasse that the municipalities are going through.

Municipalities are dependent on the central government through unconditional transfer, conditional transfer and Regional Development Funds. The Ministry of Finance should consider the means for paying off the accumulated debts of the municipalities, as these debts weigh heavily on the pockets of citizens and contracting businesses from the municipalities. The more this debt deepens, the more local taxes and fees will increase, which are reflected in the Fiscal Packages. It is the right time for the Ministry of Finance and the local government to reconcile expenses and income so that the debt does not deepen for the new fiscal year 2025, where a significant increase in expenses and the end of investments are also expected as a consideration of an electoral year.

3. LOCAL GOVERNMENT REVENUES AND EXPENSES

Below it is given the structure of the public debt for several years.

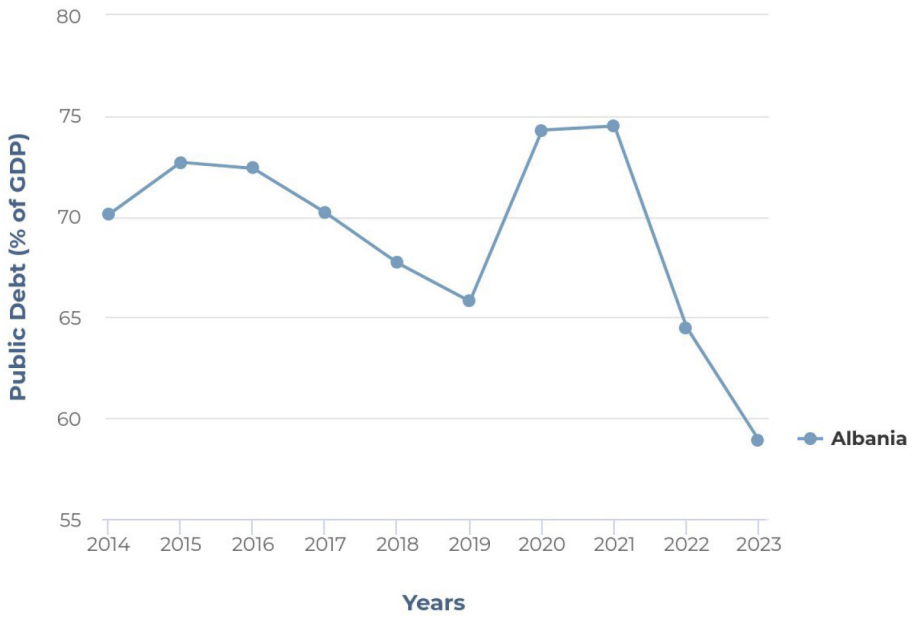


Figure 1. Structure of public debt 2014-2023

Source: Focuseconomics (2024)

According to the graph above, we see the fluctuations of the public debt, which has experienced a strong increase during the years 2019-2021, but has begun to decrease, reaching the level of 59% at the end of 2023. Albania has a high level of debt public, due to the mismanagement of public money and investments. Governments are still working and testing mechanisms for public debt control. Bad debt management also leads to wrong decision-making, regarding the distribution of income. Poor management of budget revenue sources also leads to a decrease in investment funds and government transfers to local governments.

The figure below shows the income of the local government.

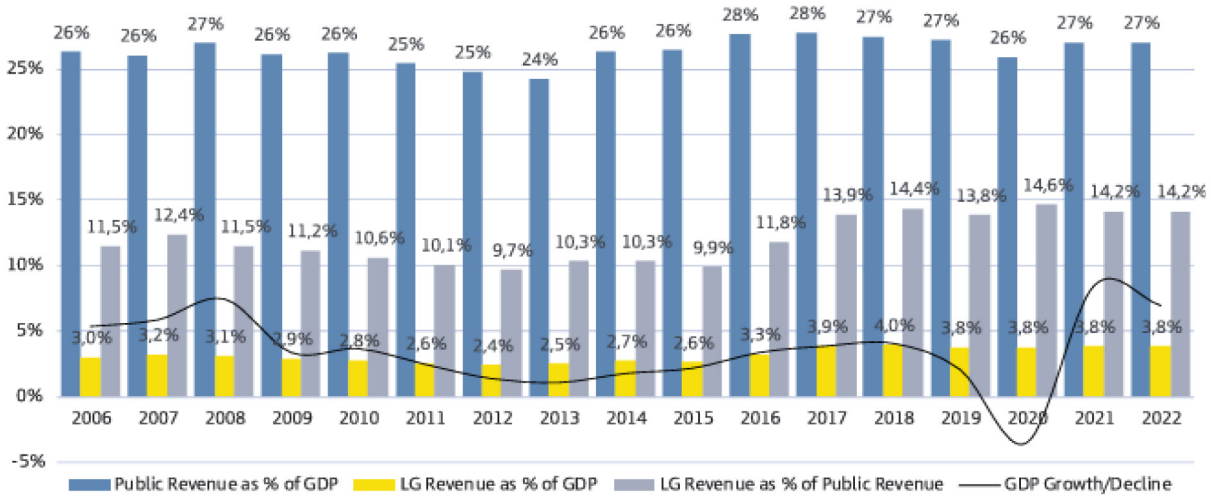


Figure 2. Local Government Revenue as % of GDP and Total Revenue

Source: NALAS Report (2024)

From the above comparative data, we see in detail the income of the state budget and the income of the local government as a % of GDP as well as the fluctuation of economic growth. The study clearly states that local revenues remain almost constant, where they experienced a slight increase after 2016-2017 (it that time Albania adopted the new Territorial Reform and local governments got more competencies and funds for the new services), but again it seems that municipalities are still very dependent on government transfers.

Table 1. Municipality Revenues

	2022	2023	Difference %
Own income	31,725,743,040	35,048,913,604	10.47%
Unconditional and specific transfer	28,863,571,194	34,891,876,612	20.89
Local taxes	3,030,878,854	3,370,161,765	11.19%
Total	**63,620,193,088**	**73,310,951,981**	**15.23%**

Source: Ministry of Finance (2024)

From the above data, the study shows that local income and government transfers are very close, this means that the local governments do not generate enough income to cover their expenses, and they are dependent on the central government. Although local revenues have increased from 2022 to 2023, again the dependence on the Government is great.

Figure 3 gives us the sources of income as a % of total income, so from those data, it is seen the equality of local income with government transfers.

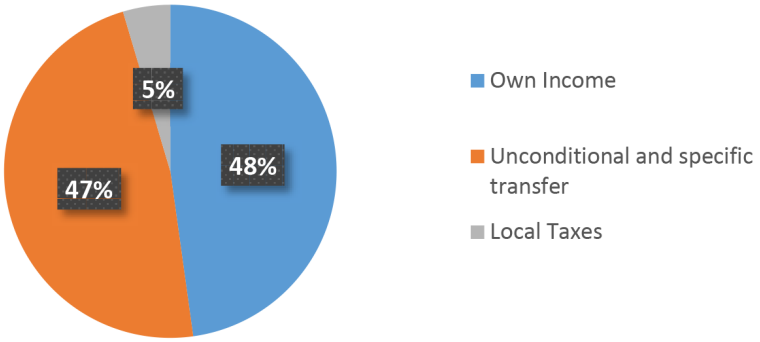


Figure 3. Sources of Income
Source: Ministry of Finance (2024)

Furthermore, the study strongly shows that fiscal decentralization would force municipalities to be more efficient in collecting revenues and managing expenses. From the analysis of the official figures, it can be seen that the performance of the municipalities, especially in the collection of revenues, leaves much to be desired. The realization of income at the national level does not exceed 30% of the total income. In the conditions where the municipalities depend on: Block transfers from the government (~70) then we can say that the decentralization process has not happened completely. Local government with a low level of local income is highly dependent on unconditional transfer and conditional transfer (NALAS Report, 2024).

Based on the NALAS Report (2024), the municipalities of the Western Balkan Countries (WB) have less developed the process of decentralization compared to the municipalities of the European Union countries, also the distribution of grants or transfers from the central governments. In general, WB municipalities have less income, less funds for investment, and less decision-making than their co-sisters in the EU. Data on expenses are given below.

Table 2. Municipality Expenses

	2023
Expenses from its income	68,336,317,873
Wages and insurances	29.449,805,197
Operational expenses	22,735,602,814
Capital investments	16,150,909,862
Total	**107,222,909,862**

Source: Ministry of Finance (2024)

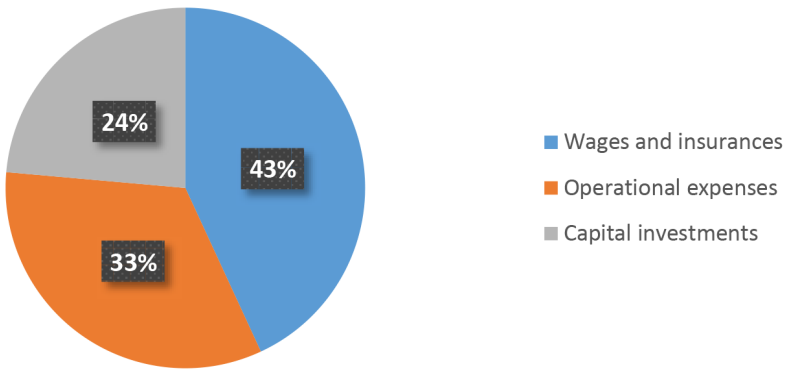


Figure 4. Municipality Expenses from Its Income
Source: Ministry of Finance (2024)

From the above data, the study clearly states that the local government's income are mostly spent on salaries and insurance as well as operational expenses. This means that the local governments have very little funds to invest in infrastructure and services. This is a very critical issue for the local government, as it shows how little of its income it generates, meeting only short-term expenses. This shows again the high dependence of the local government on the government for block grant funds.

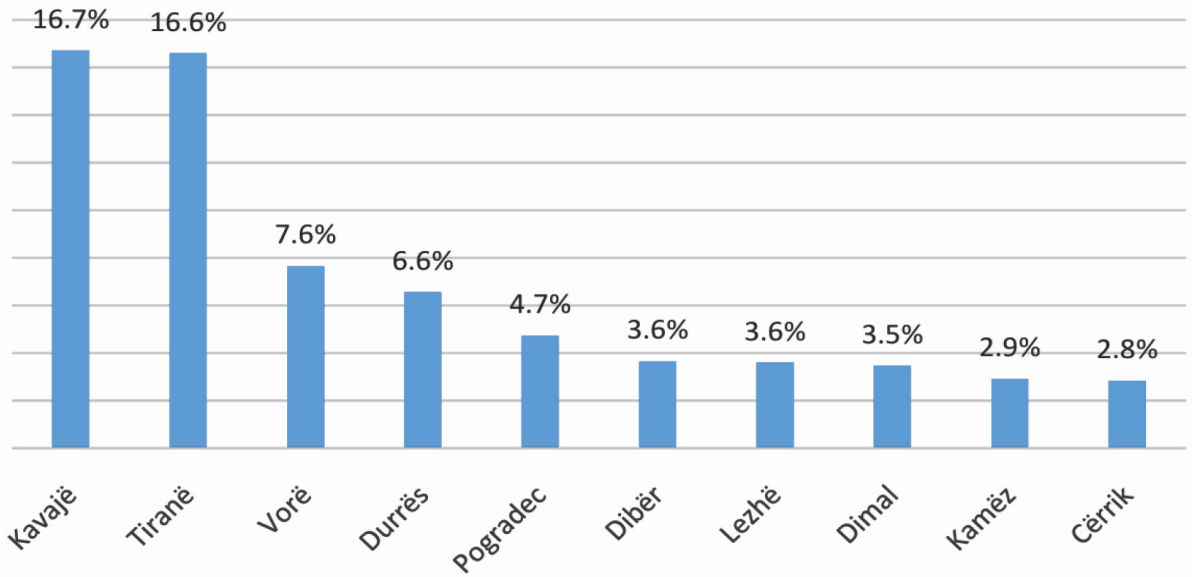


Figure 5. Local Debt/Total Income
Source: Ministry of Finance (2024)

The above data confirm the high borrowing costs as well as the inability of the municipalities to repay them since their income cannot cover the costs. The increase in the level of borrowing costs has also caused an increase in local taxes and fees (in most municipalities +30% is allowed by law). In addition, the lack of funds has increased the debt of municipalities to third parties (expenses for capital investments, services, court decisions, etc.). These debts amount to USD 280 million, created mainly during the last two years. Municipal debt is on average 2% of GDP and is added to the public debt. This means that if the debts of the municipalities are not controlled, very soon the state budget will have an additional heavy local burden (Ministry of Finance, 2024).

Also, Albania, like other WB countries, still finds it difficult to borrow locally, and it can even be said that it is still a new instrument to finance local government. The biggest difficulties in applying this instrument are: the financial inability of the municipalities to pay the debts; the high level of public debt as well as regulatory frameworks which are very centralized, strict and bureaucratic. In addition, the local government also lacks trained and experienced human resources for collection and strong control of that debt. Therefore, taking into consideration the low level of income from their resources, the local government (small and medium-sized municipalities) has made it impossible for local government. Moreover, the municipalities of the country have never applied the instrument of local government bonds (NALAS Report, 2024).

4. FUTURE RESEARCH DIRECTIONS

The development and decentralization of local government remains one of the challenges and priorities of sustainable development for Albania. Albania still needs great support from the EU, in terms of monitoring, training and financing for the independence of local government. A

decentralized and developed local government would bring about an improvement in the economic and social situation of the country. If we had a developed local government, then we would also have local economic growth, which all together would bring sustainable GDP growth.

In the future, this topic will be developed by making concrete comparisons of Albania with the countries of the Region as well as SEE, to see the adopted policies and mechanisms, in order to benefit the best from the experiences of other countries.

5. CONCLUSION

The study analyzed the difficult situation where the Municipalities of Albania stand, because of lack of funds, low level of local revenues, high deficit ratio and high level of expenses. The study showed the importance of the full completion of the decentralization process, the full distribution of government funds for the additional powers that the municipalities receive, as well as the increase of human capacities for the management of funds, projects and services.

Municipalities are very dependent on the Government because to get a loan, the government is needed as a guarantor. But, very few municipalities have this opportunity, since most of them do not have borrowing capacities. Municipalities still have debts to third parties, and cannot borrow from banks.

The study showed that the income level of the municipalities is low and this leads to the inability to pay the debts or loans received. This has also led to an increase in local taxes for citizens. It is also very necessary to apply financial and debt management policies and to monitor the level of debt and deficit.

Municipalities should allocate funds for more capital investments that generate production, employment, and income for businesses and citizens. Also, the Municipalities together with the Ministry of Finance should start discussions on drafting the Regulation for Local Government Bonds in the Albanian Stock Exchange (ALSE). In addition, inter-municipal cooperation should be increased, as well as stimulating Lending for local government by citizens (union loan).

References

Brugmann, J. (2023). Mobilizing Local Public Resources for Locally – Led Climate Resilience. Working Paper, November 2023. https://decentralization.net/wp-content/uploads/2023/12/1701014127240.pdf

Focuseconomics. (2024). Country Indicators. https://www.focus-economics.com/country-indicator/albania/public-debt/

Haxhimali, A. (2024). Qeverisja Vendore ne Shqiperi. Tirane, 2024. https://iam.org.al/wp-content/uploads/2024/05/Qeverisja-vendore-ne-Shqiperi-Raport-2023.pdf

Ministry of Finance. (2024). Statistical data. https://financa.gov.al

NALAS Report. (2024). Fiscal Decentralization indicators for South-East Europe. Report, 9th edition, February 2024. https://issuu.com/kdz_austria/docs/fd_2024_04

Stafa, E. (2021). Local government in Albania: Responses to Urban Challenges. NALAS Country Report. https://zenodo.org/records/5707200

https://doi.org/10.31410/ERAZ.2024.53

The Evolution of the Financial System in Albania

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Future trend;
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Post-dictatorship period

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Abstract: *This paper aims to bring a general framework of the financial system in Albania: how it has evolved and how the situation has been presented in the last 10 years. The Albanian economy continues to be an economy in transition and Albania is considered a developing country, that aims to join the European Union and as such the economy faces great challenges and difficulties, but at the same time, there are still unexploited development opportunities. The level of financial development significantly influences economic development as a whole, so there remains an important system that must be analyzed at any time: problems, challenges and future perspectives. The more complex the economy, the more evident the role of the financial system in it. The objective is to conclude in which directions it is suggested to invest in order to improve, modernize and evolve our financial system so that in the future it can operate freely with the European and world markets.*

1. INTRODUCTION

Today Albania is in the phase where the main role is played by the banking sector and the role of other financial intermediaries is growing. In recent years, we have had an expansion of the credit system. Not only the number of institutions has increased, but also financial instruments, when in the first 10-15 years (post-dictatorship) we had a cash economy and the only functioning market institution was that of goods. Albania is still far from European countries in this effort, but it cannot say that there is no progress.

The system of national accounts classifies institutional units based on the main economic activity and according to the role they play in the country's economy. The institutional sectors are: non-financial corporations, financial corporations, general government, family economies and non-profit institutions serving families. Non-financial corporations and financial corporations include both private and public corporations (with shares owned by the government).

Financial assets and liabilities are classified into financial instruments: currency and deposits, debt securities, loans, equity and shares in investment funds, insurance and pension schemes, financial derivatives and other accounts receivable/payable. Two other instruments, monetary gold and SDR holdings, appear only in the financial corporation sector in the central bank subsector.

The paper deals with an observational study, with comparative quantitative data. Based on the data of the Bank of Albania on the financial accounts of the last 10 years, presented in financial instruments and obligations of the institutional sectors, detailed in financial instruments, the study has drawn some conclusions on the progress of the financial system in Albania and the future trend, how it has grown in recent years and how much work is still to be done.

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In the economy of financial markets, the financial system has the appearance of an infinite set of connections, transactions, relationships and exchanges in financial and cash flows, operations and institutions of a country, which form a continuous chain of transactions, closed spirals and that only when conceived as a whole give meaning to the financial system itself. The financial system is the totality of financial markets, the totality of financial intermediaries, the totality of services and financial institutions that make possible the permanent and one-time communication, without limitation of time, volume and space, of the finances of families with the finances of businesses and with public finances (Bundo et al., 2004, p. 301).

The economy of Albania went through a process of transition from a centralized economy to a market-based economy on the principles of the free market.

Albania has an asymmetrically developed financial system with the banking sector as a more developed pillar and the non-banking system which is modestly developed. Thus, as part of the non-bank financial sector, Albania has an almost absent capital market, although many market operators are licensed (brokerage firms, custodians, investment funds, pension funds, life insurance, etc.). On the other hand, despite a clear presence of collective saving schemes (investment funds and pension funds, life insurance schemes) over the last ten years, their further development is strictly hampered by the lack of domestic capital market and alternative investments (ALSE, n.d.-a).

In this paper, it should be shown how our financial system has changed in these years of transition (when we moved from a planned economy to a free market economy) and what improvements and changes we expect to happen in the future.

2. THE ROLE OF THE FINANCIAL SYSTEM ON ECONOMIC STABILITY

The first important stage in the reform of the financial system in countries with a planned economy begins with the transition from the system mono-banking, to a two-tier system in which the state bank assumes the traditional functions of the central bank (which performs issue function, implements monetary policy, intervenes in the field of foreign exchange, etc.) and established commercial banks newly charged with the transactions related to the acceptance of deposits and granting loans (Imbrahimi & Salko, 2002, p. 214).

The financial system feeds on information (macroeconomic, including forecasting, political-social, microeconomic, etc.), including non-public information, and produces information (in terms of prices of financial instruments traded in organized markets) necessary for economic operators to define their investment plans and strategies and to make the economy work in general.

The sustainability of the financial system is a fundamental condition for the financial system to increase its level of efficiency in the mediation process, contributing to the orientation of financial resources towards investment in productive projects, within known and controlled parameters of activity risk. In this way, the contribution of the financial system to the economic development of the country and to meeting the needs of its customers is inherent.

In order to achieve and maintain the stability of the financial system, healthy financial institutions are needed that operate in a financial market with a developed and protected infrastructure, where there are mechanisms that promote the effective management of financial resources and risks by investors.

Central banks play an important role in achieving and maintaining the stability of the financial system, but this role is not exclusive. The importance of the objective, as well as the diversity and complexity of the issues that are intertwined within it, require the harmonization of efforts with other institutions, notably the supervisory authorities of banking and non-banking financial institutions, and the deposit insurance agency. Other institutions that can be included in this framework are those that supervise the development of competition conditions in the financial market, promote the adoption and control the implementation of various standards, etc. In the conditions of the opening and integration of the financial markets, the authorities of different countries have found it necessary to extend this cooperation at the international level.

The Law on the Bank of Albania also defines the role of the Bank of Albania, as the central bank of the country, for maintaining the stability of the financial system. In articles 3, 12, 16, 21 and 69, of this law, the responsibility of the Bank of Albania for licensing and supervision of banking activity, for promoting the functioning of payment systems and their supervision, for providing liquidity in the market is sanctioned, the role of lender of last resort, as well as to speak publicly about the nature and type of threats that may exist to the stability of the financial system.

During the first half of 2023, the share of financial system assets to Gross Domestic Product (GDP) dropped by 4 percentage points, to 92.1%. This performance reflects the fact that the annual growth rate of GDP was higher compared to the growth of the financial system balance. The banking sector has provided the main contribution to this decline by almost 4.3 percentage points. Within the financial system, the banking sector continues to dominate by around 91% of total assets (Bank of Albania, 2019).

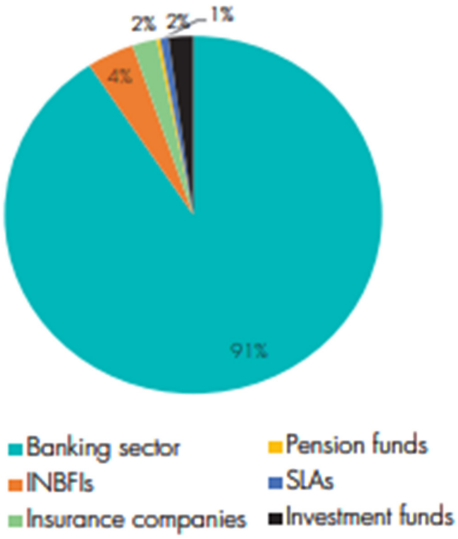


Figure 1. Share of financial system segments to total financial system assets, June 2023
Source: Bank of Albania, 2023

The table below shows the weight of assets to the GDP (The shares are calculated using nominal GDP at current prices according to INSTAT) and as can be seen, the data reconfirms what concluded in the first part of the study: the banking system has the largest weight and role in our financial system and GDP. The exposure of the banking sector to the non-banking sector remains low and stable, while the sensitivity of the non-banking sector to the activity of the banking sector remains high but has marked a slight decrease during the period. The years 2020 and 2021 mark the years with the highest percentages.

Table 1. Share of the financial system segments to GDP over the years (in %)

Albanian Financial Supervisory Authority	Bank of Albania			Albanian Authority Financial Supervisory			Financial intermediation
Financial system	Banking sector	IFJB	SIAs and Union	Insurance companies	Pension funds	Investment funds	
2011	86.1	2.6	0.8	1.5	0,0		91.0
2012	89.1	2.7	0.8	1.6	0,0	1.2	95.4
2013	91.4	2.6	0.7	1.6	0.0	3.7	100.2
2014	92.7	2.8	0.8	1.8	0.0	4.6	102,7
2015	91.9	2.7	0.7	2.0	0.1	4,7	102.0
2016	95.5	2.8	0.6	2.0	0.1	4.5	105.5
2018	88.8	3.2	0.6	1.9	0.1	4.2	98.8
2019	87.2	3.9	0.6	2.0	0.2	4.0	97.9
2021	95.5	4.1	0.7	2.2	0.2	4.2	107.0
2022	88.0	3.8	0.7	2.0	0.3	1.9	96.7
2023	85.4	3.8	0.7	2.0	0.3	2.0	94,2

Source: Bank of Albania, 2023

Table 2. Specific weight of financial institutions (30.09.2001)

Institutions	Absolute size of assets	In %
Banking system	301.0	95.0
Pension fund	7.60	2.4
Insurance companies	8.0	2.6
	316.6	100.0

Source: Own processing (Imbrahimi & Salko, 2002)

In the second table, which reflects the data of 2001 (Imbrahimi & Salko, 2002), it can be noticed that the banking system dominated and occupied the main weight with 95% and besides the banks, only the Pension Fund and the Insurance Institutions have operated in Albania, without having a great variety of financial institutions. Their number and type has increased significantly in recent years.

The main functions of the financial system are to:

a. provide the economic system with the means of payment necessary to ensure the functioning of the circuit of production and distribution of income (monetary function);
b. encourage the distribution of financial resources in the various economic sectors for the purpose of productive use (allocative function);
c. management of the financial risks associated with the investments made (Consob, n.d.).

The financial system in Albania seems to best fulfill its monetary function and to some extent the allocative one, but it still does not fully fulfill the function of risk management and in this direction, it is expected to develop in the future.

3. THE CAPITAL MARKET

For many years, Tirana Stock Exchange (TSE) was the only exchange ever created in Albania. Initially, it was set up as a department of the Bank of Albania (BoA) targeting the spin-off after a certain period. TSE's core activity included the primary and secondary market for short-term government debt securities (treasury bills). TSE finally span off BoA in July 2002, to be established and function as an independent state-owned shareholding company (ALSE, n.d.-a).

Albanian Securities Exchange was launched in 2014 by a team of experts on securities and capital markets as an ambitious project with the support of Credins Bank, to create a privately-owned electronic trading platform that would match the supply and demand for securities in Albania. This electronic platform would fill the lack of a functional market (stock exchange), where domestic businesses can raise capital as an alternative capital to the banking sector (ALSE, n.d.-a).

Table 3. Transactions number in ALSE

Transactions number in ALSE	2018			2019			2020			2021			2022			2023		
	PM	SM	DM	PM	SM	DM	PM	SM	DM	PM	SM	DM	PM	SM	DM	PM	SM	DM
Shares																		
Treasury Bonds	42			25			38			14			24			48		
Treasury Bills	85			76			62			74			89			100		
Corporate Bonds																	12	
Municipal Bonds																		
Commercial paper																		

Note: PM-prime market, SM- standard market, DM-direct market

Source: Own processing (ALSE, n.d.-b)

Only government debt securities are traded on the Albanian Stock Exchange, mainly treasury bills and treasury bonds and only in 2023 corporate bonds, too.

The fact that in Albania a large part of people do not invest is related to several reasons and several factors. First, low income or the lack of opportunity to save means that a high percentage of the population does not have access to the financial or banking market. But even among those strata of the population with relatively high incomes, a good part of citizens do not invest due to the lack of information on the financial market and the fact that they consider it very complex and risky.

Also, for a long period in Albania, especially after what happened in 1997, people were oppressed due to the insecurity of the institutions to protect their income. They see it as a safer alternative to keep their money at home or to invest in the purchase of assets (land, property, etc.) compared to investments in the financial market.

Another reason could be the mentality and culture of the Albanians. Even though we moved to a free market economy, the influence of the dictatorial system with a closed economy, where the financial market was completely underdeveloped, has still an influence.

Even today, the role of the state has changed in the monitoring and supervision of the financial sector, once again the Albanians do not have the culture to buy securities in the stock market, invest in a pension fund, or ensure the capital and life of them in an insurance company. Thanks to globalization and the influence every day more and more from foreign markets, of course, this situation has changed somewhat and is expected to influence even more in the future. Overall, it is expected that the Albanian economy will emerge from this transition phase as soon as possible and become unified with the EU markets and economy.

4. FINANCIAL ACCOUNTS AND FINANCIAL INSTRUMENTS OF INSTITUTIONAL SECTORS

The system of national accounts classifies institutional units based on the main economic activity and according to the role they play in the country's economy. Institutional sectors are: non-financial corporations, financial corporations, general government, family economies and non-profit institutions serving families. Non-financial corporations and financial corporations include both private and public corporations (with shares owned by the government).

The sector of financial corporations consists of institutional units, which are independent legal entities, and market producers, whose main activity is the production of financial services. Such institutional units include all corporations and quasi-corporations, which are primarily engaged in a) financial intermediation, and/or b) auxiliary financial activities. Financial corporations include the following sub-sectors:

a. Central Bank;
b. Corporations that accept deposits;
c. Money market funds;
d. Non-money market mutual funds;
e. Other financial intermediaries;
f. Financial aid institutions;
g. Finance companies controlled by other companies and money lenders;
h. Insurance companies;
i. Pension funds.

At the end of 2023, the following are operating in Albania:

Table 4. Number of institutional units in Albania

Institutional units	Number
Central Bank	1
Corporations that accept deposits	27
Money market funds	-
Non-money market mutual funds	15
Other financial intermediaries	25
Financial aid institutions	38 + 626
Finance companies controlled by other companies and money lenders	-
Insurance companies	12
Pension funds	6

Source: Own processing (Bank of Albania, n.d.-a)

In terms of financial aid institutions, in addition to 28 institutions such as Albanian Financial Supervisory Authority (AFSA), Albanian Securities Exchange etc., 626 are currency exchange offices licensed by the Bank of Albania.

As can be seen in Table 4, the largest number of units is occupied by corporations that accept deposits (which include second-level banks and savings and credit companies) as well as financial aid institutions. There is still no money market fund or finance company controlled by other companies and money lenders in Albania.

The classification of financial instruments is mainly based on the degree of liquidity and their characteristics (Bank of Albania, n.d.-b):

- Monetary gold and SDR;
- Currency and deposits;
- Debt securities;
- Loans;
- Capital and shares/quotas of the investment fund;
- Technical reserves and life insurance and annual pension schemes;
- Financial derivatives;
- Other accounts receivable/payable.

5. CONCLUSION

The financial system in Albania has had relatively positive changes during the last years, even though there have been many problems and challenges towards its consolidation. In addition to the consolidation of the banking system and the growth of insurance companies, steps have also been taken towards the growth of savings and loan institutions. A shortcoming of our financial system is the fact that personal finance still feels unintegrated in the financial system for several reasons. Our financial system offers limited opportunities for the creation, operation, development and real progress of joint stock companies. Insurance companies and the insurance market should be oriented towards voluntary insurance in addition to compulsory insurance and premiums. The capital market, which for a long time has been almost non-existent, has started to develop in the last 10 years with small steps and mainly focused on government debt securities.

It seems that Albania has passed the stage of an underdeveloped financial system and a cash economy and has entered the stage of the credit economy, where the main role in the market is played by second level banks and other intermediaries institutions are also growing. Many steps still need to be taken, in order to enter a third phase where we have genuine financial markets where not only liquidity brokerage institutions operate, but also financial rights brokerage institutions, where invisible money is operated and electronic and titles and capitals are transferred and invested without recognizing time and space boundaries. The development of the stock market in the financial market of Albania will allow to establish a high-quality loan portfolio and expand it, help support innovations, improve the asset and business management system, expand asset restructuring and recovery, expand brokerage activities, improve investment banking and securities, and introduce the process of asset securitization.

It can be concluded that our financial system, although not very modern and developed, is complex and requires investment in many directions. The more stable this system appears, the more stable our entire economy appears. Of course, the development of the financial system is related to the economic development of the country as a whole, and it is expected that with the exit of our economy from this long period of transition, greater steps will be taken in the evolution of the financial system.

References

ALSE. (n.d.-a). *History.* Albanian Stock Exchange. https://alse.al/en/home/alse-8/history/

ALSE. (n.d.-b). *Numri i transaksioneve*. Albanian Securities Exchange. https://alse.al/kreu/te-dhenat-e-tregut-2/analizat-e-statistikat/numri-i-transaksioneve/

Bank of Albania. (n.d.-a). *Financial account statistics*. https://www.bankofalbania.org/Statistics/Financial_account_statistics/

Bank of Albania. (n.d.-b). *Lista e institucioneve financiare*. https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fwww.bankofalbania.org%2Frc%2Fdoc%2FLista_e_institucioneve_financiare_26457.xlsx&wdOrigin=BROWSELINK

Bank of Albania. (2019). Financial Stability Report. https://www.bankofalbania.org/rc/doc/4_Financial_system_17323.pdf

Bank of Albania. (2023). Financial Stability Report. https://www.bankofalbania.org/rc/doc/FSR_6M1_2023_English_web_26787.pdf

Bundo, S., Luçi, E., & Cane, G. (2004). The Albanian financial system and the role of the intermediation institutions. Bank of Albania. https://www.bankofalbania.org/rc/doc/BUNDO_LUCI_CANE_en_10167.pdf

Consob. (n.d.). *Il sistema finanziario attuale: una stilizzazione*. https://www.consob.it/web/investor-education/il-sistema-finanziario-attuale-una-stilizzazion

Imbrahimi, F., & Salko, D. (2002). *Financial system in Albania*. Bank of Albania. https://www.bankofalbania.org/rc/doc/fatos_drini_ang_137_1_12967.pdf

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The Structure of the Microfinance Market and Its Adoption to the EU Accession: A Comparative Empirical Study for Western Balkans

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Abstract: *The objective of this paper is to examine the microfinance market structure and its adoption in the EU accession in Western Balkan Countries (WBCs). This objective is pursued by employing survey data from 31 MFIs operating in WBCs. The survey aims to assess MFI's representatives' views on competition policy, measure surveillance, identify influencing factors of firm performance, and recognize institutional challenges. The findings show the microfinance market remains transitional with various difficulties that need to be addressed. The study gives a contribution to the existing literature by filling the gaps in the microfinance market in WBCs and making a comparative analysis. Policymakers, stakeholders, and researchers can based on the paper's findings, recommendations, and future research directions for further sustainable improvement of the microfinance market in the WBCs.*

1. INTRODUCTION

The purpose of this paper is to examine the microfinance market structure in the Western Balkan region and its adoption in EU accession. The motivation originates from the lack of knowledge in the existing literature and to further investigate this post-communism region which still is in economic and political transitions.

The microfinance literature documents that microfinance, despite its seemingly minor nature, has significant effects, with roots in East Asia and Europe dating back to the eighteenth century (Bika et al., 2021). Microfinance is widely known for alleviating poverty and boosting regional wealth, by offering capital to the poor and the financially excluded who face a lack of collateral from main financial institutions like commercial banks (Chikwira et al., 2022). Consequently, compared to the loans offered by main financial institutions, these loans are smaller. MFIs face challenges like the absence of formal records and some of them operate in under-developed law and property rights systems countries that as a result, make difficult loan recovery via the court system (Lieberman, 2020; Suesse & Wolf, 2020; Terberger & Winkler, 2021). Henceforth, it intimidates their sustainability.

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The Western Bakan region faces a lack of knowledge and available data is limited. So, the main questions of this paper are, how can the microfinance market adapt to EU laws and regulations? What are the challenges faced by MFIs in WBCs?

This paper seeks to contribute to the research of the microfinance market sector and its adoption in EU accession by conducting a comparative analysis of MFIs in the Western Balkan region. To the best of our knowledge, no investigations have been done to examine its structure and its adoption in EU accession. This paper attempts to bridge the knowledge gap. In doing this, the paper employs original survey data and conducts a comparative analysis of MFIs in the Western Balkan region. By critically analyzing the literature and conducting a comparative analysis, this study aims to offer novelty findings within the microfinance sector in the Western Balkans region.

The rest of the paper follows this order. The next section presents the literature review. The methodology section follows. Next is the result section. The final section presents concluding remarks.

2. LITERATURE REVIEW

Several studies have investigated the structure of the microfinance market and its shaping factors. The literature abounds with factors that influence this market. Regulatory frameworks and policies are one of them. However, their role is heterogeneous. Mia (2018), Navin and Sinha (2019), Aguilar and Portilla (2020), emphasize that the regulatory and policies environment drives the microfinance market positively, while (Alper et al., 2020; Parvin et al., 2020) report negative effects such as the rise in the interest rates that MFIs charge in their microcredit services and the need of their control. Market demand is another influencing factor. It helps in the needed product design and reaching out to the targeted population. Generally, the studies that have investigated this relationship have reported some positive effects (Karugu et al., 2020; Pati, 2019). The institutional factors' impact is considered as mixed. As part of it, the efficiency wage (Mia et al., 2023) is positive for large MFIs that aim to attract skilled staff, and negative for small MFIs as it strains financial resources and decreases overall efficiency and sustainability. The number and types of MFIs in the market, determine the level of competition. In recent years in developing countries, the competition level has increased due to the rise of both MFIs types, development-oriented MFIs and commercial-oriented MFIs (Bateman, 2018). This increase brings both positive and negative effects. Karimu et al. (2021) emphasize higher competition as positive as it brings a decrease in prices of products with lower cost of production, higher output, and welfare improvement. On the other hand, (Bateman, 2018) reports that higher competition is unhealthy, as long as it takes unnecessary risks and overall business strategies that bring risk exposure.

Other studies have considered additional factors such as economic environment and social context regarding this relationship. Ashraf et al. (2022) focus on the economic environment and social context of MFIs' locations. The study uses a sample of 2,064 MFIs from 94 states, from 2007-2018. Findings show the key role of the factors and report that countries with higher socio-economic freedom, bring superior environmental, social and governance integration. Appietu et al. (2021) use qualitative and quantitative data collected from the top five MFIs in Ghana. The study results show that economic and social support has a significant impact on MFIs along with the overall structure of microfinance. It advocates the need for government intervention and fair policies.

This paper seeks to contribute to the microfinance market structure and its adoption to EU accession by conducting a comparative analysis of MFIs in the Western Balkan region. What is the current

situation of the microfinance market in WBCs? Microfinance flourished in WBCs post-1990s economic and political transitions, meeting the demand for financial services among previously excluded communities (EIB, 2019). Over the past years, the microfinance market has grown (EIB, 2019), with MFIs providing tailored services to minority groups, microenterprises, and individuals with limited resources. MFIs in WBCs span diverse nations, each with unique industries shaped by legislative frameworks, economic development stages, and financial systems (EIB, 2023). A good reference is the study (Smolo, 2023), which explores and finds a positive impact of the microfinance market and its institutions on the economy of Bosnia and Herzegovina by analyzing quantitative data from 2010 to 2022. MFIs in WBCs are still in a developing phase and are mainly influenced by socioeconomic, cultural and institutional factors. Adhering to EU regulatory standards during the accession process enhances credibility and access to international funding (Battaggia, 2021). However, MFIs encounter substantial challenges in achieving their potential and effectively serving consumers (Milana & Ashta, 2020), as there exist limited and costly financing options, a complex and fragmented regulatory framework, and a lack of regional regulatory harmonization (Battaggia, 2021).

This paper seeks to contribute to the microfinance market structure and its adoption to EU accession by conducting a comparative analysis of MFIs in the Western Balkan region. To the best of our knowledge, not much investigation has been done to examine the structure of the microfinance market and its adoption in EU accession. This paper attempts to bridge the knowledge gap. In doing this, the paper employs original survey data and conducts a comparative analysis of MFIs in the Western Balkan region. This brings also the novelty of our paper.

Table 1 shows an overview of the microfinance market structure in the WB region. It focuses on key points such as EU membership status, number of competitors, type of ownership, competition ratio, country competitiveness index, adaption phase in EU competition law and the regulator actor along with the competition agency. The national competitiveness indexes are retrieved from WB's Global Competitiveness Index (GCI) for 2019, the latest year with available data. All the information is based on the country's central banks, competition agencies and official national websites.

Table 1. Microfinance market structure in WBCs

WBs	EU Membership Status	Nr. of competitors	Type of Ownership	Competition degree/ratio	Country competitiveness, Index/score/rank	Adapting to EU competition law in the market	Regulatory actor and competition agency
ALBANIA	Candidate	Large	Franchise + Private and Public institutions	Monopolistic competitive / Perfect competitive	57.61 points in 2019	NA	BoA – Bank of Albania & ACA –Albania Competition Authority
NORTH MACEDONIA	Candidate	Large	Franchise + Private and Public institutions	Monopolistic competitive	57.33 points in 2019	No progress	NBRM – National Bank of the Republic of North Macedonia & CPC –Commission for Protection of Competition

MONTENEGRO	Candidate	Large	Franchise + Private and Public institutions	Monopolistic competitive	60.82 Points in 2019	Some progress	CBCG – Central Bank of Montenegro & APC –Agency for Protection of Competition
SERBIA	Candidate	Large	Franchise + Private and Public institutions	Monopolistic competitive	60.85 points in 2019	Some progress	NBS – National Bank of Serbia & CPC –Commission for Protection of Competition
BOSNIA AND HERCEGOVINA	Candidate	Large	Franchise + Private and Public institutions	Monopolistic competitive	54.73 points in 2019	NA	CBBH -Central Bank of Bosnia and Herzegovina & Council of Competition
KOSOVO*	Potential Candidate	Large	Franchise + Private and Public institutions	Monopolistic competitive/ Perfect competitive	-	Some progress	BQK – Central Bank of Republic of Kosovo & Competition Authority

* Kosovo - Under the UN Resolution 1244.

Source: Own research

3. METHODOLOGY

3.1. Theoretical Framework

This paper applies the theory of Industrial Organization (IO) to the microfinance sector as it aids in comprehending the dynamics of MFIs and their broader market structure. This theory studies how firms operate within markets and includes key concepts such as market concentration, degree of product differentiation, market performance, barriers to entry, and market conduct (Mburu & Namusonge, 2023; Oikawa Cordeiro, 2020). This theory is applied to the microfinance market of WBCs case, based on the obtained survey results. Figure 1, shows the retrieved results for this case.

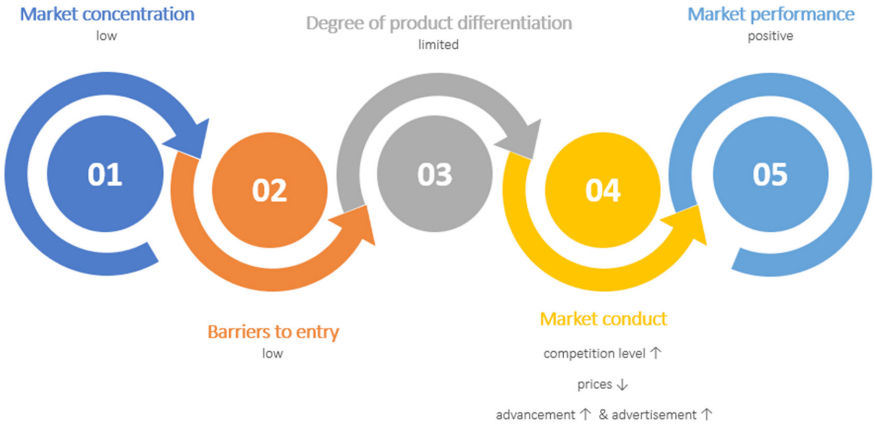


Figure 1. Application of IO theory on MFIs in WBCs

Source: Own processing

3.2. Data

The study utilizes data (2022-2023) from 31 private and public MFIs across the WB region. Notwithstanding, it is a primary data collection from an online survey distributed to MFI representatives. Using this purposive sampling approach, 31 valid responses (after data cleaning and preparation) are retrieved from all the WBCs except Serbia. The analysis part includes descriptive statistics, a T-test, an ANOVA test, a crosstabulation analysis and a correlation matrix.

Table 2. Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
EU membership status	31	1.00	3.00	1.2903	.69251
Microfinance institution's progress	31	1.00	3.00	1.9032	.94357
Helpfulness of the government	31	1.00	4.00	2.5806	.76482
Valid N (listwise)	31				

Source: Own calculations

The descriptive statistics of the data are reported in Table 2. It highlights three key factors. The mean of the EU membership status is 1.29, which shows that MFIs are in the process of applying, or their preliminary status. Its standard deviation is 0.69 and reports that there exists a moderate variation between MFIs in terms of their EU membership status. The mean of MFI progress is 1.9, which shows a moderate level of progress, likely in financial performance, outreach, or client impact. Its standard deviation is 0.94 and highlights a notable variability in their progress. The mean of government helpfulness is 2.85 and shows a moderately positive view in the support of government or providing facilitating services. Its standard deviation is 0.76 and reports that opinions regarding it depend between surveyed MFI representatives.

Table 3. ANOVA test of differences in the mean level of adaptation of the microfinance sector to the EU law and regulations by countries

					95% Confidence Interval for Mean			
	N	Mean	Std. Deviation	Std. Error	Lower Bound	Upper Bound	Minimum	Maximum
Albania	12	1.9167	.99620	.28758	1.2837	2.5496	1.00	3.00
Kosovo*	11	1.9091	.94388	.28459	1.2750	2.5432	1.00	3.00
Montenegro	2	2.5000	.70711	.50000	-3.8531	8.8531	2.00	3.00
North Macedonia	2	2.0000	1.41421	1.00000	-10.7062	14.7062	1.00	3.00
Bosnia and Herzegovina	4	1.5000	1.00000	.50000	-.0912	3.0912	1.00	3.00
Total	31	1.9032	.94357	.16947	1.5571	2.2493	1.00	3.00

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.384	4	.346	.355	.838
Within Groups	25.326	26	.974		
Total	26.710	30			

* Kosovo-Under the UN Resolution 1244.

Source: Own calculations

Table 3 shows the ANOVA test that aims to check if there are significant differences among countries regarding the adaptation of the microfinance sector to the EU accession. The results show that there are no statistically significant differences between the states due to the p-value being greater than .05 ($p > .05$). The highest average is obtained from Montenegro with a mean of 2.5.

Table 4. T-test of mean differences in adaptation of the microfinance sector to the EU law and regulations according to the type of products

Group Statistics					
	Type of products	N	Mean	Std. Deviation	Std. Error Mean
Microfinance institution's progress	Both financial and non-financial products and services	6	1.8333	.98319	.40139
	Only financial products	25	1.9200	.95394	.19079

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Microfinance institution's progress	Equal variances assumed	.116	.736	-.199	29	.844	-.08667	.43599	-.97836	.80503
	Equal variances not assumed.			-.195	7.435	.851	-.08667	.44442	-1.12521	.95188

Source: Own calculations

Table 4, shows the T-test that aims to examine significant differences among product types and the sector's adaptation to EU regulations. No statistically significant differences exist between product types, since the p-value is greater than 0.05 significance level ($t = -.199$, $p \geq .05$). Different from what was expected, the findings report a higher adaptation rate for "only financial products" ($M = 1.92$, $sd = .95$) compared to "both financial and non-financial products and services" ($M = 1.83$, $sd = .98$).

Table 5. Years of operating * Type of digital solutions Crosstabulation

			Type of digital solutions			
		Online loan application	Uploading documents accompanying loan application	Other	None	Total
Years of operating	Less than 5 years	2	1	0	5	8
	5-10 years	0	0	0	3	3
	11-20 years	3	0	0	3	6
	More than 20 years	8	1	1	4	14
Total		13	2	1	15	31

Source: Own calculations

Table 5, shows a crosstabulation analysis between the years of operating and the type of digital solutions of their respective MFIs. This type of analysis is beneficial since it identifies relationships and helps in insight generation. The selection of the "none" option is each alternative of years of operation, reports an issue of not owning any digital solution and should be properly considered by policymakers.

Figure 3, shows a graphical representation of a correlation matrix generated through Power BI that focuses on depicting the governmental support for EU accession among WBCs, alongside the number of participating institutions. Responses are scaled from 1 to 5, with Kosovo's* rating

* Under the UN Resolution 1244.

at 2, Albania and North Macedonia at 3, Bosnia and Herzegovina at 4, and Montenegro at 5. This correlation matrix shows governments' proactive measures to assist and sheds light on public perception of these efforts.

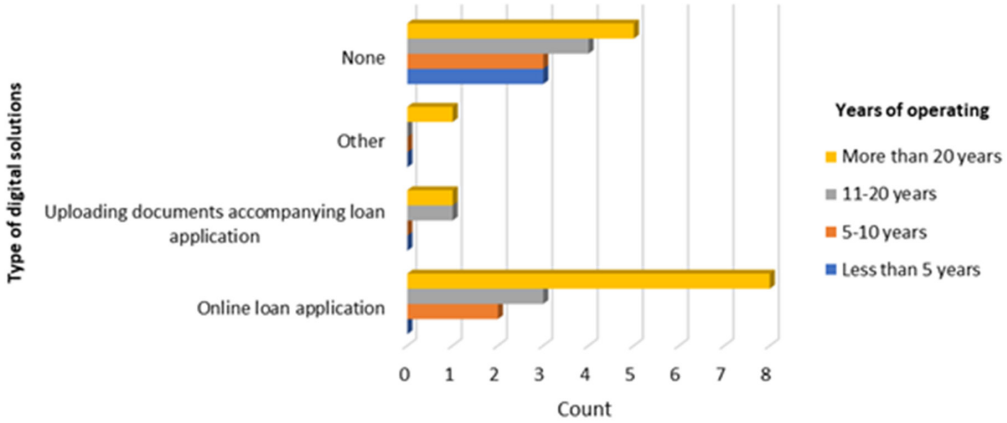


Figure 2. Years of operating & Type of digital solutions Crosstabulation

Source: Own processing

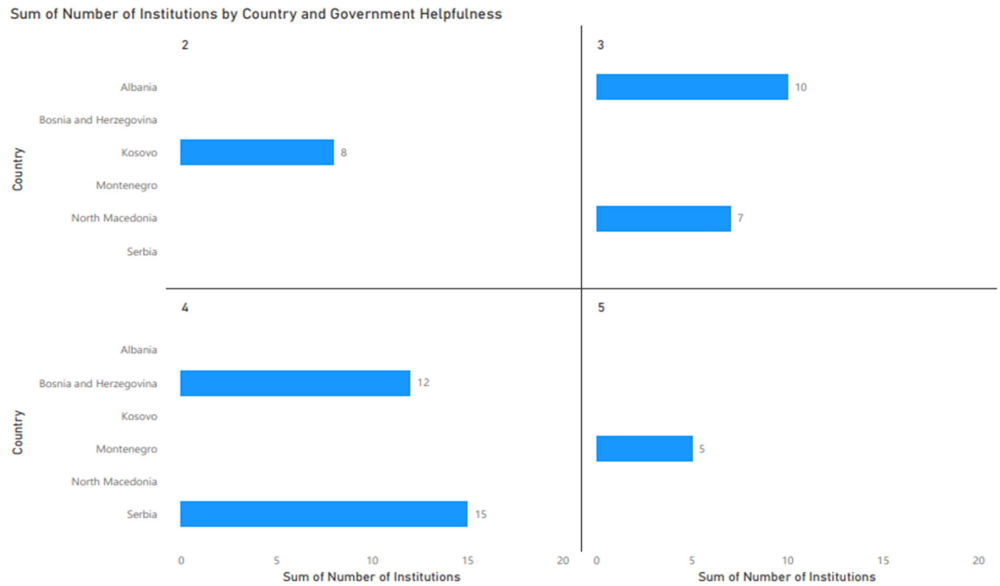


Figure 3. Correlation Matrix

Source: Own processing

As the survey is conducted with a focus on learning more about MFIs in WBCs, the retrieved findings lead to a more comprehensive framework. Data reports that NBFIs and NGOs dominate the market, with a presence of more than 20 years. With NBFIs as the oldest and cooperatives as the youngest, they generally, are offering only financial products which mostly include business loans and personal income. Despite providing online loan applications, over half of MFIs lack digital solutions. The competition is still in the evolving phase and faces many challenges that need to be addressed by policymakers. Additionally, inadequate capacity building, regulatory mechanisms and limited funding access are considered to be the main challenges of MFIs. These findings may be similar to the survey report on microfinance in Europe (Pytkowska, 2020), which focused (2020-2021) on 156 MFIs across 30 countries. However, there are some differences among the studies' findings like the provision of financial and non-financial products, owning various digital solutions and cooperatives to be the youngest in this market. The rest is the same.

4. FUTURE RESEARCH DIRECTIONS

Future research should prioritize longitudinal studies to investigate the long-term impact of EU accession on microfinance advancements and its broader socio-economic impacts in the WBCs.

5. CONCLUSION

MFI's role consists of providing financial and non-financial services to those at the bottom of the economic pyramid and conducting it in a sustainable financial approach. However, the regional factor is a key component when discussing it, as it makes the difference. This paper attempts to bridge the knowledge gap for the WB region, which lacks information and data. In doing this, the paper employs survey data (2022-2023) from 31 private and public MFIs across the WB region. The formation and distribution of this survey is one of the unique points of this paper. Data is retrieved from all the WBCs except Serbia, due to no responses. The existing literature is facing a lack of knowledge regarding the microfinance structure and based on our knowledge there is no available information on it for the whole WB region. This represents the main contribution of this paper by analysing this market, considering the region (not by country separately), and its adoption of EU accession. One of the critical questions that flows from this study is, what are the challenges faced by MFIs in WBCs? It is notwithstanding, that MFIs of this region differentiate a lot compared to other ones. Surely, there are various factors affecting (socioeconomic, political, regional) as discussed above in the literature section. The survey data reports a lack of digital solutions, inadequate capacity building, regulatory mechanisms and limited funding access. This is directly related to the second critical question of how can the microfinance market adapt to EU laws and regulations? Considering these challenges, it is difficult for MFIs to meet EU accession demands. There exist improvements compared to the previous years, but still are limited and insufficient. In conclusion, it is essential to invest in the microfinance sector and achieve its alignment with EU standards and practices. EU's support and targeted national policies have the potential to significantly have a positive impact on this market.

References

Aguilar, G., & Portilla, J. (2020). Determinants of market power in the Peruvian regulated microfinance sector. *Journal of Industry, Competition and Trade, 20*(4), 657-688. https://doi.org/10.1007/s10842-019-00318-z

Alper, E., Clements, B., Hobdari, N., & Moya Porcel, R. (2020). Do interest rate controls work? Evidence from Kenya. *Review of Development Economics, 24(*3), 910-926. https://doi.org/10.2139/ssrn.3405986

Appietu, R. K., Dankwa, I. O., & Caesar, L. D. (2021). Exploring the nexus between microfinance activities and economic wellbeing at the grassroots: evidence from an emerging market economy. *Global Social Welfare, 8*, 337-349. https://doi.org/10.1007/s40609-020-00172-6

Ashraf, D., Rizwan, M. S., & L'Huillier, B. (2022). Environmental, social, and governance integration: the case of microfinance institutions. *Accounting & Finance*, *62*(1), 837-891. https://doi.org/10.1111/acfi.12812

Bateman, M. (2018). *Impacts of the microcredit model: Does theory reflect actual practice?* UK: Routledge

Battaggia, S. (2021). The Ways of Microfinance in Europe: An Overview of Actors and Practices. http://dspace.unive.it/bitstream/handle/10579/19251/728721-1250436.pdf?sequence=2

Bika, Z., Subalova, M., & Locke, C. (2021). Microfinance and Small Business Development in a Transitional Economy: Insights from Borrowers' Relations with Microfinance Organisations in Kazakhstan. *The Journal of Development Studies*, 58(1), 183–203. https://doi.org/10.1080/00220388.2021.1956472

Chikwira, C., Vengesai, E., & Mandude, P. (2022). The impact of microfinance institutions on poverty alleviation. *Journal of Risk and Financial Management*, 15(9), 393. https://doi.org/10.3390/jrfm15090393

EIB. (2019). The European Investment Bank in the Western Balkans. https://www.eib.org/attachments/country/the_eib_in_the_western_balkans_en.pdf

EIB. (2023). 2022/2023 EIB global report: the impact, European Investment Bank. https://data.europa.eu/doi/10.2867/939060

Karimu, A., Salia, S., Hussain, J. G., & Tingbani, I. (2021). Are competitive microfinance services worth regulating? Evidence from microfinance institutions in Sub-Saharan Africa. *International Journal of Finance & Economics*, 26(1), 476-492. https://doi.org/10.1002/ijfe.1800

Karugu, K. P., Muturi, W. D., & Muathe, S. M. (2020). Market Risks, Firms' Size and Financial Performance: Reality or Illusion in Microfinance Institutions in Kenya. *International Journal of Economics and Finance*, *12*(11), 118-118. https://doi.org/10.5539/ijef.v12n11p118

Lieberman, I. (2020). *The growth and commercial evolution of microfinance*. Washington, D.C.: Brookings Institution Press

Mburu, A. N., & Namusonge, D. M. (2023). Corporate Branding Strategy and Performance Of Kenya's Microfinance Banks: A Case of Kenya Women Microfinance Bank Plc. *International Journal of Business Management & Finance, 3*(2), 1-13

Mia, M. A. (2018). Evolution of market concentration and competition in the microfinance industry of Bangladesh. *International Journal of Social Economics*, *45*(6), 989-1007. https://doi.org/10.1108/IJSE-10-2016-0281

Mia, M. A., Rangel, G. J., Nourani, M., & Kumar, R. (2023). Institutional factors and efficiency performance in the global microfinance industry. *Benchmarking: An International* Journal, *30*(2), 433-459. https://doi.org/10.1108/BIJ-06-2021-0326

Milana, C., & Ashta, A. (2020). Microfinance and financial inclusion: Challenges and opportunities. *Strategic Change*, *29*(3), 257-266. https://doi.org/10.1002/jsc.2339

Navin, N., & Sinha, P. (2019). Market Structure and Competition in the Indian Microfinance Sector. *Vikalpa*, *44*(4), 167-181. https://doi.org/10.1177/0256090919896641

Oikawa Cordeiro, B. (2020). Global mobility of microfinance policies. *Policy and Society*, *39*(1), 19–35. https://doi.org/10.1080/14494035.2019.1659472

Parvin, S. S., Hossain, B., Mohiuddin, M., & Cao, Q. (2020). Capital structure, financial performance, and sustainability of micro-finance institutions (MFIs) in Bangladesh. *Sustainability, 12*(15), 6222. https://doi.org/10.3390/su12156222

Pati, A. P. (2019). Market structure and double bottom line commitments: are they aligned in Indian microfinance industry?. *International Journal of Rural Management, 15*(1), 1-22. https://doi.org/10.1177/0973005218819664

Pytkowska, J. (2020). Microfinance in Europe: Survey Report. European Union, 1. https://doi.org/10.13140/RG.2.2.18355.35367

Smolo, E. (2023). Asymmetric impact of microfinance on economic growth: Evidence from Bosnia and Herzegovina. *Heliyon, 9*(12). https://doi.org/10.1016/j.heliyon.2023.e22790

Suesse, M., & Wolf, N. (2020). Rural transformation, inequality, and the origins of microfinance. *Journal of Development Economics, 143*, 102429. https://doi.org/10.1016/j.jdeveco.2019.102429

Terberger, E., & Winkler, A. (2021). *Microfinance and development: policy perspectives.* UK: Edward Elgar Publishing.

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Determinants of the Financial Stability of the Banking Sector of Bosnia and Herzegovina

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Abstract: *This paper investigates the impact of explanatory variables that determine the financial stability of the banking sector in Bosnia and Herzegovina, and the possibility of controlling credit risk, which is a threat to the stability of the financial system for the period from 2009 to 2019 on a quarterly basis. Correlation and panel regression analysis are also applied in this paper. The selected independent (explanatory) variables are the growth rate of savings of the household sector, the growth rate of foreign direct investments, the growth rate of exports, the growth rate of total loans, the growth rate of non-performing loans, the growth rate of capital adequacy ratio, and unemployment growth rate. The GDP growth rate will be used as the dependent variable. The research results showed that the most significant impact on the GDP growth rate was recorded by the following variables: the growth rate of foreign direct investment, the growth rate of exports and the growth rate of total loans. On the other hand, the following variable recorded the most significant negative impact: the growth rate of the household sector. The study also shows that there is a positive causal relationship between the growth rate of non-performing loans and the growth rate of unemployment.*

1. INTRODUCTION

Financial development is an important prerequisite for economic growth, but at the same time, the banking sector is susceptible to the occurrence of financial crises with extremely negative repercussions for the entire economy as a whole (Levine, 2005). Banking crises directly affect all stakeholders from depositors, shareholders, borrowers, and taxpayers, and tend to cause macroeconomic recessions through sharp contractions in lending. The average cumulative loss of output during a financial crisis is estimated to be somewhere between 15 and 20% of annual GDP (Allen & Gale, 2004). Financial stability represents a state where the household sector and businesses can make an optimal choice between consumption and investment in the conditions of a well-functioning financial system that mediates between lenders and borrowers and satisfactorily redistributes risk with an efficient allocation of economic resources. Mishkin (1992) defines financial instability as follows: "A financial crisis is a disturbance in financial markets in which adverse selection and the problem of moral hazard are significantly aggravated so that financial markets are unable to efficiently direct funds to those entities that have the most productive opportunities investments".

Problems in bank operations that can manifest in poor risk management, withdrawal of deposits, and loss of trust can be the cause of the instability of the entire financial system. In this regard, the banking sector is the most regulated and supervised area of business. Macroeconomic policy aimed at achieving and preserving financial stability is called prudential policy. Therefore, prudential policy is a macroeconomic policy aimed at achieving and preserving the stability of the financial system. The goals of price and financial stability may coincide, but they can never be in conflict. The macroprudential policy includes regulatory and supervisory activities that relate to

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an individual financial institution and focus on the risks of the individual institution. The macroprudential policy implies regulatory activities and measures that relate to the entire financial system and are aimed at systematic risks. Both of these policies aim to preserve and strengthen the stability of the financial system (Jović, 2024).

The financial model in Bosnia and Herzegovina is bank-centric and characterized by a high level of competition and moderate concentration. The financial stability of the banking sector in Bosnia and Herzegovina has so far been very rarely, and one might say insufficiently, the subject of empirical research by the domestic academic community. The primary goal of this research is to analyze, based on theoretical and empirical findings, selected macroeconomic and banking variables that determine the financial stability of the banking sector in Bosnia and Herzegovina, and to investigate the possibility of controlling credit risk, which is a threat to the stability of the financial system.

The paper is structured in five parts. The first part refers to introductory considerations with a focus on the importance of the financial stability of banks on the development and stability of economic activity, and the set goal of the research. The second part describes an overview of previous research in terms of the impact of macroeconomic and banking indicators on the financial stability of banks and the economic system. The third part describes the selected research methodology with emphasis on the least squares model, robust least squares, and quantile regression model. The fourth part refers to the data needed for the analysis. The five-part presents the obtained research results, as well as certain observations and recommendations.

2. REVIEW OF RELEVANT LITERATURE

Traditionally, many scholars and regulators have argued that strict competition policies may not be beneficial in the banking sector due to its special nature (Vives, 2001). Banks are usually highly leveraged where risk plays a greater role in the financial sector compared to other sectors of the economy. As a result, a highly competitive banking system can be a source of financial instability with negative consequences for the real economy.

In the past decade, extensive literature has dealt with the issue of identifying the factors of financial stability of banks. In several studies, researchers have tried to investigate the variables that can be limited to the sustainable stability of the bank. A large number of empirical studies consider macroeconomic factors and bank-specific factors as precursors to bank stability. Claire (2004) investigated the macroeconomic variables of bank stability for local banks in Singapore. The results of the multiple regression analysis showed that the unemployment rate, exchange rate, aggregate demand, and interest rate have a significant impact on the bank's stability.

Nkusu (2011) analyzed the determinants of non-performing loans in a sample of 26 advanced economies. The results of his panel research showed that worsening macroeconomic conditions in terms of slowing GDP growth, higher unemployment rates, and falling property prices affect the deterioration of credit quality and problems with financial stability.

Systemic risk factors, such as rising interest rates, deteriorating bank balances, stock market crashes, and growing uncertainty, are seen as the main causes of financial instability. The main reason for the deterioration of banks' balance sheets is risky loans. In the next stages of financial instability, credit losses are expected to increase as a result of the crises and economic downturn. The deterioration of banks' balance sheets is widening and deepening the crisis (Altıntaş, 2012).

Beck et al. (2013) conducted the most comprehensive analysis of non-performing loans in a sample of 75 countries. According to their research, GDP growth, stock prices, changes in exchange rates, and interest rates on loans significantly affect the level of non-performing loans, that is, their share in the total approved loans of the sectors of the analyzed countries.

Messai and Jouini (2013) studied the determinants of non-performing loans in Spanish, Italian, and Greek banks and concluded that problem loans increase when the unemployment rate and the real interest rate increase, and decrease when the GDP rate and bank profitability increase.

According to the research results of Alihodžić and Plakalović (2014) the unfavorable macroeconomic environment, first of all, the high unemployment rate, and the decline of foreign direct investments have an indirect effect on the spread of the inability to repay the loans of economic enterprises in B&H, which leads to an increase in bank provisions that later transform into losses.

Shijaku (2016) investigated the influence of specific, market and macroeconomic indicators on the stability of 16 banks in Albania for the period 2008 - 2015. The results suggest that bank-specific factors as well as macroeconomic factors are found to affect bank stability consistently compared to specific factors for the market.

Buston (2016) investigated the impact of active risk management on bank stability. Examples of banks in the US confirm that banks with active risk management are relatively less exposed to volatility during periods of financial crisis. On the other hand, Ghenimi et al. (2017) examined the main determinants of bank stability in 49 banks of the Middle East and North Africa region in the period 2006 – 2013. Credit risk and liquidity risk were selected as determinants while Z-Score was used as a measure of bank stability. The results of the panel analysis showed that the interaction of the two risks has a significant and negative impact on the bank's stability.

Based on the goal set in the introductory part of the paper, the following hypotheses will be tested with the help of least squares panel regression models, robust least squares model and quantile regression model:

Basic research hypothesis:

BRH *The increase in investment opportunities, the allocation of savings of the household sector, and the growth of export potential positively/negatively affect the growth of economic activity, as well as the increase of financial stability.*

Auxiliary research hypotheses:

ARH1 *The increase in credit growth towards the real sector has positive implications for the increase in economic activity measured by GDP in Bosnia and Herzegovina.*

ARH2 *The increase in the unemployment rate has an impact on the increase/decrease in the rate of non-performing loans.*

ARH3 *An increase in the capital adequacy ratio has a positive/negative impact on the growth of credit placements.*

3. METHODOLOGY

In this empirical chapter, least squares regression is discussed because of the numerous advantages it has over other estimation techniques. All calculations use a significance level of 5%. Therefore,

the test of significance was performed for all variables using the t-test at a significance level of 95% (Chmelarova, 2007). The main goal of this paper is to test the most important macroeconomic and banking variables on the financial stability of the banking sector in Bosnia and Herzegovina. Estimates of potential determinants refer to existing literature. The econometric model is presented as follows:

$$\%\Delta GRGDP = \beta_0 + \beta_1 \cdot (\%\Delta GRFDI) + \beta_2 \cdot (\%\Delta GRSHS) + \beta_3 \cdot (\%\Delta GREXP) \quad (1)$$

An econometric model is a multiple regression model, including two or more explanatory variables. To account for the difference between the observed data and the expected value, a random error term is added $\varepsilon_i = \%\ \Delta GDPgrowth\ rate - E\ (\%\ \Delta GDPgrowth\ rate)$, where the equation of the new econometric model can be written as follows:

$$\%\Delta GRGDP = \beta_0 + \beta_1 \cdot (\%\Delta GRFDI) + \beta_2 \cdot (\%\Delta GRSHS) + \beta_3 \cdot (\%\Delta GREXP) + \varepsilon_i \quad (2)$$

$$\%\Delta GRGDP = \beta_0 + \beta_1 \cdot (\%\Delta GRTL) + \varepsilon_i \quad (3)$$

$$\%\Delta GRNPLs = \beta_0 + \beta_1 \cdot (\%\Delta GRUN) + \varepsilon_i \quad (4)$$

$$\%\Delta GRTL = \beta_0 + \beta_1 \cdot (\%\Delta GRCAR) + \varepsilon_i \quad (5)$$

The basic assumption is that the observed values of the econometric model satisfy the population ratio and adhere to the strict rules of exogeneity, conditionally uncorrelated errors, and normality of errors. In addition, it is important to note that there is no absolutely correct linear relationship between the explanatory variables.

4. DATA

This research focuses on the following variables: the dependent variable will be the growth rate of GDP in Bosnia and Herzegovina (GRGDP), while the growth rate of foreign direct investment (GRFDI), the growth rate of savings of the household sector (GRSHS), the growth rate of exports (GREXP), the growth rate of unemployment (GRUN) and the growth rate of non-performing loans (GRNPLs) should be considered as independent variables. The research covers the period from the first quarter of 2009 to the fourth quarter of 2019. The analysis will be based on quarterly data because annual data is an unreliable sample for econometric evaluation. The data were collected from the official websites of the International Monetary Fund, the Central Bank of Bosnia and Herzegovina, the Banking Agency of the Federation of Bosnia and Herzegovina, the Banking Agency of the Republic of Srpska and the Agency for Statistics of Bosnia and Herzegovina. The measurement and expected effect of the dependent and independent variables are given in Table 1.

From the table 1, it is evident that the rate of real GDP growth showed the lowest growth rate, that is, the biggest drop of about 3.3% in the third quarter of 2009. Also, from Table 2 it is noticeable that the highest volatility in terms of the first measure of risk, i.e. standard deviations was recorded in the growth rate of non-performing loans (8.66%), the growth rate of exports (8.16%) and the growth rate of savings of the household sector (4.66%). The highest mean value was recorded for the growth rate of savings of the household sector of about 7.95% and the growth rate of non-performing loans of about 3.24%. For the observed period from the first quarter of 2009 to the fourth quarter of 2019, non-performing loans increased in relative amounts by about 25%, which still represents a certain potential threat in terms of systematic risk to the stability of the banking system.

Table 1. Brief description of dependent and independent variables in the model

Variable	Abbreviation	Expected effect
The growth rate of GDP	GRGDP	
The growth rate of non-performing loans	GRNPLs	
The growth rate of total loans	GRTL	
The growth rate of foreign direct investment	GRFDI	(+)
The growth rate of savings of the household sector	GRSHS	(-)
The growth rate of exports	GREXP	(+)
The growth rate of unemployment	GRUN	(+)
The growth rate of capital adequacy ratio	GRCAR	(+)

Source: Authors' calculation

5. RESEARCH RESULTS

The results of descriptive statistics, correlation analysis, and panel regression analysis are presented in Tables: 2-6. The total number of observations is 44, which represents a relatively representative sample both from the point of view of available data on the banking market of Bosnia and Herzegovina and in terms of the time frame.

Table 2. Descriptive statistics between dependent and independent variables in the model of the banking sector for the period: 2009:Q1 - 2019:Q4

Indicators	Obs	Mean	Std. Deviation	Skewness	Kurtosis	Max	Min
GRGDP	44	1.622	2.109	-0.774	2.510	4.20	-3.3
GRFDI	44	1.205	1.426	2.292	8.420	4.53	-1.76
GRSHS	44	7.951	4.658	-1.539	6.760	16.14	-7.28
GREXP	44	1.675	8.165	-0.199	2.727	19.35	-20.67
GRTL	44	0.889	1.018	-1.109	4.850	2.65	-2.53
GRUN	44	-0.437	1.494	-0.067	2.561	2.71	-3.48
GRNPLs	44	3.245	8.664	1.173	4.114	26.54	-13.34
GRCAR	44	0.299	3.636	1.355	6.592	12.81	-8.03

Source: Authors' calculation

The highest value of the adjusted coefficient of determination was recorded in the least squares model, which points to the conclusion that the independent variables in the model describe the influence on the dependent variable, i.e., the GDP growth rate of around 60.7%. Also, the F-statistic value is positive for the least squares model (23.20) and the probability is equal to zero, which indicates that the model is significant.

From Table 3 it is evident that macroeconomic indicators as independent variables (growth rate of foreign direct investments and growth rate of exports) had a positive correlation with the growth rate of GDP at a significance of less than 5%. On the other hand, the banking indicator of the savings growth rate of the household sector had a negative correlation with the GDP growth rate at a significance of more than 5%. In terms of testing the first research hypothesis, which reads: The increase in investment opportunities, the allocation of savings in the household sector, and the growth of export potential positively/negatively affect the growth of economic activity, as well as the increase in financial stability in all three models (Least Squares, Robust Least Squares and Quantile Regression Median) one can conclude that the growth rate of direct foreign investments and the growth rate of exports have a positive impact on the GDP growth rate and therefore on economic and financial stability, while the

growth rate of household savings has no significant impact. There is a broad theoretical basis that supports the existence of a positive correlation between FDI and economic growth. Also relevant for the theoretical role is the model of FDI with a positive impact on GDP (Moran, 1998), as well as models of endogenous economic growth (Romer, 1986). Yao (2006) investigated the effects of exports and FDI on economic efficiency using large panel data, including 28 provinces in China from 1978 to 2000. The research results showed that strong exports and FDI had positive effects on economic growth. Therefore, the first research hypothesis can be partially accepted. Foreign direct investments in the absence of domestic investment dynamics are becoming a real source of stronger economic growth in Bosnia and Herzegovina. Likewise, the country's low credit rating determines the inflow of investments. Economic growth and financial stability in B&H are highly correlated with the inflow of foreign investments and the reduction of the unemployment rate (Alihodžić & Plakalović, 2014).

Table 3. Coefficients of independent variables under multiple regression, least squares, robus least squares and quantile regression for the period: 2009:Q1 – 2019:Q4

Regression Model									
Dependent variable - GRGDP	**Least Squares**			**Robust Least Squares**			**Quantile Regression (Median)**		
Independent variables	**Coef.**	**Std. Error**	**Prob.**	**Coef.**	**Std. Error**	**Prob.**	**Coef.**	**Std. Error**	**Prob.**
C	0.029	0.008	0.000	0.032	0.001	0.000	0.041	0.013	0.003
GRFDI	0.232	0.063	0.001	0.243	0.068	0.000	0.273	0.093	0.006
GRSHS	-0,061	0.059	0.310	-0.072	0.064	0.262	-0.129	0.090	0.162
GREXP	0.287	0.054	0.000	0.292	0.059	0.000	0.269	0.096	0.008
R- Squared	0.635			0.530					
Pseudo R- Squared	-			-			0.383		
Adjusted R - Squared	0.607			0.494			0.337		
F-Statistic	23.201			-					
Prob (F-statistic)	0.000			-					
Prob (Rn-squared stat)	-			0.000					
Prob (Quasi -LR stat)	-			-			0.000		

Source: Authors' calculation

According to all three models (Least Squares, Robust Least Squares, and Quantile Regression - Median) a positive correlation was recorded between the rate of credit growth of banks to the real sector and economic activity measured through GDP at a significance of less than 5%, which suggests the conclusion that the first auxiliary is accepted hypothesis in the paper, which reads: The increase in credit growth towards the real sector has positive implications for the increase in economic activity measured through GDP in Bosnia and Herzegovina.

Of all three observed models, the Least Squares model achieved the highest value of the adjusted coefficient of determination of about 30.8%, which explains the impact of the growth rate of total loans on the growth rate of economic activity measured through GDP. Therefore, it practically means that if GRTL increases by 1% then GRGDP will increase by about 1,179 units assuming other variables are considered unchanged. Likewise, the value of the F-statistic is positive for the least squares model (20.18) and the probability is equal to zero indicating that the model is significant. Commercial banks in Bosnia and Herzegovina do not lend to the real sector to the extent that the available reserves allow them due to the presence of increased credit risk, bad debtors, and information asymmetry. For example, the credit growth of banks in B&H according to the real sector in 2019 amounted to about 20.8 billion BAM and is relatively higher by about 47% compared to 2009, when it amounted to 14.1 billion BAM (BiH Directorate for Economic Planning, 2019).

Table 4. Coefficients of independent variable under multiple regression, least squares, robust least squares and quantile regression for the period: 2009:Q1 - 2019:Q4

Regression Model / Dependent variable - GRGDP	Least Squares			Robust Least Squares			Quantile Regression (Median)		
Independent variables	**Coef.**	**Std. Error**	**Prob.**	**Coef.**	**Std. Error**	**Prob.**	**Coef.**	**Std. Error**	**Prob.**
C	0.0057	0.0035	0.112	0.005	0.004	0.176	0.004	0.006	0.489
GRTL	1.179	0.262	0.000	1.254	0.276	0.000	1.477	0.411	0.001
R- Squared	0.324			0.289			-		
Pseudo R- Squared	-			-			0.163		
Adjusted R - Squared	0.308			0.272			0.144		
F-Statistic	20.182			-			-		
Prob (F-statistic)	0.000			-			-		
Prob (Rn-squared stat)	-			-			-		
Prob (Quasi -LR stat)	-			-			-		

Source: Authors' calculation

According to all three models (Least Squares, Robust Least Squares, and Quantile Regression - Median) a positive correlation was recorded between the growth rate of unemployment and the growth rate of non-performing loans at a significance of less than 5%, which points to the conclusion that the second auxiliary hypothesis in the paper is accepted, which reads: The increase in the unemployment rate has an impact on the increase/decrease in the rate of non-performing loans. The F-statistic value is positive for the least squares model (14.17) and the probability is equal to zero, which indicates that the model is significant (Table 5).

Table 5. Coefficients of independent variable under multiple regression, least squares, robust least squares and quantile regression for the period: 2009:Q1 - 2019:Q4

Regression Model / Dependent variable - GRNPLs	Least Squares			Robust Least Squares			Quantile Regression (Median)		
Independent variables	Coef.	Std. Error	Prob.	Coef.	Std. Error	Prob.	Coef.	Std. Error	Prob.
C	0.045	0.011	0.0001	0.019	0.006	0.002	0.026	0.013	0.041
GRUN	2.906	0.772	0.0001	1.734	0.405	0.000	2.432	0.884	0.008
R- Squared	0.252			0.146			-		
Pseudo R- Squared	-			-			0.181		
Adjusted R - Squared	0.234			0.126			0.161		
F-Statistic	14.166			-			-		
Prob (F-statistic)	0.0001			-			-		
Prob (Rn-squared stat)	-			0.000			-		
Prob (Quasi -LR stat)	-			-			0.0003		

Source: Authors' calculation

Of all the three observed models, the Least Squares model achieved the highest value of the adjusted coefficient of determination of about 23.40%, which explains the impact of the growth rate of unemployment on the growth rate of non-performing loans. Therefore this means that if GRUN increases by 1% then GRNPLs will increase by about 2,906 units assuming other variables are considered unchanged. An increase in the unemployment rate leads to an increase in poor-quality loans, because with a decrease in the number of employed people, there is a decrease in the financial

power of the population to settle their obligations to banks in an orderly and legal manner, which consequently leads to an increase in toxic loans. According to the data of the Agency for Statistics of Bosnia and Herzegovina (2019), the total unemployment rate decreased from 24.1% in 2009 to 15.7% in 2019. It is evident that when unemployment decreases, the rate of non-performing loans also decreases because a larger number of employees enables more orderly and timely repayment of loan installments.

Table 6. Coefficients of independent variable under multiple regression, least squares, robust least squares and quantile regression for the period: 2009:Q1 - 2019:Q4

Regression Model / **Dependent variable - GRTL**	**Least Squares**			**Robust Least Squares**			**Quantile Regression (Median)**		
Independent variables	Coef.	Std. Error	Prob.	Coef.	Std. Error	Prob.	Coef.	Std. Error	Prob.
C	0.0386	0.0268	0.157	0.0274	0.024	0.256	0.0251	0.0334	0.456
GRCAR	0.2868	0.1616	0.083	0.2257	0.145	0.120	0.2154	0.1989	0.285
R- Squared	0.0697			0.047			-		
Pseudo R- Squared	-			-			0.031		
Adjusted R - Squared	0.0476			0.024			0.008		
F-Statistic	3.150			-			-		
Prob (F-statistic)	0.083			-			-		
Prob (Rn-squared stat)	-			-			-		
Prob (Quasi -LR stat)	-			-			0.204		

Source: Authors' calculation

The previous table shows that the coefficient of determination and the adjusted coefficient of determination are very low, which indicates the conclusion that the independent variable i.e. banks' legal capital does not have a significant forecast for the dependent variable, i.e., credit growth rate. In addition, for all three models (least squares, robust least squares, and quantile regression), the probability is greater than 5%, which implies a new conclusion that the third auxiliary hypothesis that the growth rate of capital adequacy has a positive/negative impact on the growth of credit placements is rejected. A typical management goal is to assume capital risk as far as the regulator allows while retaining some flexibility to support possible future growth. Analysis data of 2019 shows that banks in Bosnia and Herzegovina have a low risk of capital with a multiplier averaging about 10:1 (Banking Agency of the FB&H, 2019; Banking Agency of Republika Srpska, 2019). The largest banks have a very high capital multiplier, that is, a relatively small share of capital in sources of finance. Given that, capital must absorb potential losses from transactions, the higher the multiplier, the greater the bank's risk of bankruptcy. But on the other hand, with a higher multiplier, shareholder returns are greater (Plakalović & Alihodžić, 2015).

6. CONCLUSION

A strong and stable banking market enables faster and more stable economic growth of the entire economy of a country because it makes it easier for capital holders to connect with parties that need capital. The financial system of Bosnia and Herzegovina is modeled from commercial banks, i.e. the financial market is bank-centric. The banking sector is stable in terms of maintaining the capital adequacy ratio, as well as in the context of liquidity. The main objective of this research was to analyze in detail selected macroeconomic and banking indicators of the stability of the banking sector through the application of panel regression analysis for the period from the first

quarter of 2009 to the fourth quarter of 2019. Therefore, in this study, we used the effects of the independent variables and their effects on the dependent variable using the least squares model, robust least squares, and the quantile regression model. The results of the study showed that of the macroeconomic indicators, the strongest impact on economic and financial stability was achieved by the growth rates of foreign direct investments and exports with a significance of less than 5%, where the first basic hypothesis in the paper was partially confirmed.

Also, the research results showed that the increased credit growth towards the real sector has positive implications on the increase in economic activity and on the increase in economic and financial stability at a significance of less than 5%, and thus the first auxiliary research hypothesis is accepted. In this research, with the help of panel regression analysis, the correlation between the growth rate of unemployment and the growth rate of non-performing loans was tested, where it was concluded that an increase in the unemployment rate consequently leads to the inability to repay loans and an increase in credit risk and toxic loans, which leads to the acceptance of second auxiliary research hypothesis. Despite the reduction in non-performing loans, they still represent a potential threat to the stability of the banking sector, and the creators of banking policy in Bosnia and Herzegovina must find both legal and systematic solutions to further reduce toxic loans. By testing the third auxiliary hypothesis, the results of the analysis showed low coefficients of determination and a significance higher than 5%, therefore rejecting the influence of legal capital on the loan growth rate.

The limited literature on this issue also limits the development of determining factors that affect financial stability. In this regard, further research is needed that would include a longer period and a larger number of countries and variables to supplement and understand the determinants of the financial stability of the banking sector. This research can help assess the stability of the banking sector and economic activities that are primarily conditioned by changes in observed macroeconomic and banking variables.

References

Agency for Statistics of Bosnia and Herzegovina. (2019). Labor force survey. Retrieved from: https://bhas.gov.ba/data/Publikacije/Bilteni/2019/LAB_00_2019_TB_0_BS.pdf

Alihodžić, A., & Plakalović, N. (2014). Testiranje i primena Wilson-ovog modela za banke u BiH pri usporenom ekonomskom rastu. Ekonomski fakultet Univerziteta u Kragujevcu.

Allen, F., & Gale, D. (2004). Competition and financial stability. *Journal of Money, Credit, and Banking*, 36 , pp. 453–480.

Altıntaş, A. (2012). Kredi Kayıplarının Makroekonomik Değişkenlere Dayalı Olarak Tahmini ve Stres Testleri - Türk Bankacılık Sektörü için Ekonometrik Bir Yaklaşım, G.M. Matbaacılık ve Ticaret A.Ş., İstanbul.

Banking Agency of Republika Srpska. (2019). https://abrs.ba/en/

Banking Agency of the FB&H. (2019). https://www.fba.ba/

Beck, R., Jakubik, P., & Piloiu, A. (2013). Non-performing loans: what matters in addition to the economic cycle? *ECB Working Paper Series, No 1515.*

BiH Directorate for Economic Planning. (2019). Bosnia and Herzegovina. Economic trends. Annual report, 2019. Retrieved from: http://www.dep.gov.ba/dep_publikacije/ekonomski_trendovi/Archive.aspx?langTag=bs-BA&template_id=140&pageIndex=2

Buston, C. S. (2016). Active Risk Management and Banking Stability. *Journal of Banking and Finance*, 72. pp. 203-215.

Chmelarova, V. (2007). The Hausman test and some alternatives, with heteroskedastic data. M. S. Louisiana State University, USA.

Claire, R. S. (2004). Macroeconomic Determinants of Banking Financial Performance and Resilience in Singapore. Monetary Authority of Singapore, *Staff Paper* No. 38. pp. 1- 34.

Ghenimi, A., Chaibi, H., & Omri, M. A. B. (2017). The effects of liquidity risk and credit risk on bank stability: Evidence from the MENA region. Borsa Istanbul Review, XX, pp. 1-11.

Jović, Ž. (2024). *Osnovi bankarstva.* Univerzitet u Beogradu – Ekonomski fakultet. Centar za izdavačku delatnost. Beograd.

Levine, R. (2005). Finance and growth: Theory and evidence. In P. Aghion, & S. Durlauf (Eds.), Handbook of Economic Growth, volume 1a pp. 865–934). Amsterdam, Netherlands: Elsevier.

Messai, A. S., & Jouini, F. (2013). Micro and macro determinants of non performing loans. International *Journal of Economics and financial issues, Vol. 3*(4), pp. 852-860.

Mishkin, F. S. (1992). Anatomy of a financial crisis. *Journal of Evolutionary Economics*, 2, pp. 115-130.

Moran, T. H. (1998). Foreign Direct Investment and Development: The New Policy Agenda for Developing Countries and Economies in Transition, The Institute for International Economics, Washington, D.C.

Nkusu, M. (2011). Non-performing Loans and Macrofinancial Vulnerabilities in Advanced Economics. *IMF Working. No. II/161.*

Plakalović, N., & Alihodžić, A. (2015). *Novac, banke i finansijska tržišta.* Ekonomski fakultet u Banjaluci: Banjaluka.

Romer, P. M. (1986). Increasing returns and long-run growth, *Journal of Political Economy*, Vol. *94*(5), pp.1002–1037.

Shijaku, G. (2016). Banking Stability and its Determinants: A Sensitivity Analysis on Methodological Changes. *Economic Review*, pp.18-30.

Vives, X. (2001). Competition in the changing world of banking. *Oxford Review of Economic Policy*, *17*, pp. 535- 547.

Yao, S. (2006). On Economic Growth, FDI, and Exports in China. *Applied Economics*, Vol. 38(3), pp.339-351.

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Enhancing Sustainable Development Through Green Finance Components

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Abstract: *Climate change poses pressing global challenges affecting the environment, economy, and society. Increasingly acknowledged by stakeholders, its risks drive responsible actions towards sustainable development. Addressing these issues demands collective efforts from individuals to international organizations, utilizing various tools to mitigate climate change, reduce pollution, and conserve biodiversity.*

Green Finance emerges as a pivotal tool, supporting environmental projects while fostering economic growth and innovation. It offers financial incentives for sustainability and aligns public policy with private sector investments, innovatively tackling environmental challenges. Public Private Partnerships (PPPs) further amplify green finance initiatives by mobilizing private investments, promoting innovation, and sharing risks and rewards, enhancing long-term sustainability.

This paper explores the significance of green finance instruments, especially for developing countries. Through analyzing green financing components, regulatory frameworks, and case studies, we highlight the role of PPPs in mobilizing funds for green finance in infrastructure, innovation, and waste management projects.

1. INTRODUCTION

Climate change has become one of the most urgent global challenges, due to its long-term impacts on the environment, economy, and society. Therefore, it has been gaining increasing recognition from a broad spectrum of stakeholders, from individuals to international organizations (IPCC, 2021). There is an increasing need for coordinated efforts at all levels, that leverage a diverse array of strategies to mitigate climate change, reduce pollution, and conserve biodiversity. One of the instruments that has been used recently is green finance. Green Finance is seen as a crucial instrument that has been developed and designed as a financial means supporting environmental initiatives, and fostering economic growth and innovation (OECD, 2020). Green Finance contributes to sustainability through green bonds, green loans, and climate funds, investing in renewable energy, waste management, and eco-friendly transportation projects. Through these instruments, green finance aims to minimize the gap between public policy goals and private sector investments in offering innovative solutions to complex environmental challenges. Developing Public-Private Partnerships (PPPs) projects within green finance can enable the amplification of the green finance impact, providing a framework that enables the mobilization of private capital towards public infrastructure projects, including those with environmental objectives (European Investment Bank, 2021).

PPP projects are based on the risk-sharing element, a crucial element in green finance projects, as it allows the private sector to invest in innovative, yet potentially high-risk, green technologies and infrastructure. PPPs as long-term contracts ensure that private sector partners are committed to the

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sustainability of the project over its entire lifecycle; meanwhile, green finance provides funding that is often contingent on the achievement of specific environmental milestones, thereby promoting continuous improvement and accountability in PPP projects. Infrastructure is a key area where the integration of PPPs and green finance can have a significant impact (World Economic Forum, 2022). By leveraging green finance, PPPs can support the development of sustainable infrastructure, such as low-carbon public transportation systems, green buildings, and resilient water management systems. These projects address environmental challenges, contribute to economic growth, and the improvement of life quality. Meanwhile, governments play a crucial role in the public sector's involvement often including regulatory support, subsidies, or guarantees, reducing the financial risk for private investors. Governments can encourage the private sector to prioritize sustainability in their projects, by integrating green finance principles into PPP policies and frameworks,

Traditional financial systems in developing countries may be inadequate to meet the substantial investment needs for types of green projects such as renewable energy, sustainable agriculture, and resilient infrastructure. Green finance offers a solution by mobilizing capital from various sources, including international climate funds, development banks, and private investors. Green finance holds significant potential and plays a crucial role in the sustainable development of developing countries through the provision of the necessary capital aiming to address environmental challenges and therefore ensure economic growth. However, developing countries take opportunities and face challenges in adopting and implementing green finance instruments. The integration of green finance into development strategies is increasingly recognized as essential for achieving global sustainability goals, outlined in the Paris Agreement and the United Nations Sustainable Development Goals (Green Climate Fund Annual Report, 2023).

This paper delves into the importance of green finance, particularly in developing countries, and examines how PPPs can be instrumental in channeling funds into key sectors such as infrastructure, innovation, and waste management. Through an analysis of green finance instruments, regulatory frameworks, and case studies, this study underscores the potential of PPPs in advancing sustainable development through targeted green investments.

2. GREEN FINANCE INSTRUMENTS AND THEIR IMPORTANCE

Green finance has two main goals: internalization of environmental externalities and reduction of risk perceptions. Its implementation enables transparency procedures, systems, and long-term thinking of investments toward environmental objectives and all sustainable development criteria identified by the United Nations Sustainable Development Goals (Green Finance Platform, 2023). This concept is based on financing green investments in environmental goods and services, financing of public green policies based on prevention, minimization and compensation of damages to the environment and to the climate and green financial system.

Green finance is recognized as a critical component of global efforts addressing environmental challenges while enabling sustainable economic development. Therefore its instruments are crucial for enabling the transition to a low-carbon economy and achieving global environmental goals (OECD, 2020). They are designed:

- To support initiatives for the reduction of greenhouse gas emissions';
- To support efforts of transitioning to a low-carbon economy;
- To support initiatives that can enable the conservation of natural resources;
- To ensure the economic growth without having expenses of environmental degradation;

- That through provision of research, development, and deployment of new green technologies funds can enable innovation;
- To support the transition to a green economy, without environmental degradation;
- To facilitate collaboration between the public and private sectors, enabling the implementation of PPP projects. In this case, Public-private partnerships (PPPs) can mobilize private capital, share risks, and ensure that both sectors work together toward common sustainability goals, which is vital for financing infrastructure projects, renewable energy initiatives, and other large-scale sustainability projects;
- To attract more international investments;
- To improve social equity by funding projects that are profitable for vulnerable communities. Types of such projects are renewable energy projects in rural areas or sustainable agriculture initiatives supporting smallholder farmers.



Figure 1. What does green finance comprise?
Source: German Development Institute (n.d.)

According to Green Finance Platform (2023), the financial products and services of green finance can be divided into:

- Investment products
- Banking products
- Insurance products

According to Neufin (2023), instruments of green financing are categorized as below:

- Traditional instruments: green bonds, green loans, green insurance, green grants;
- Innovative new age instruments: crowdfunding, green venture capital;
- Instruments exclusive to climate change mitigation: carbon credits, carbon offsets.

The European Investment Bank introduced the concept of green bonds in 2007. These instruments are issued by governments, corporations, and financial institutions. Due to their ability to attract environmentally conscious investors, they have become one of the most popular green finance instruments. By providing a dedicated funding source, green bonds enable the implementation of large-scale projects that might otherwise lack the necessary financial resources. Green bonds can raise funds that can be crucial for financing the needed infrastructure and technologies to move toward a low-carbon economy. These funds can include as well investments in renewable energy,

energy efficiency, and sustainable transport systems useful for the reduction of greenhouse gas emissions. In this case, green bonds play a key role in helping countries and companies meet their climate commitments under international agreements like the Paris Agreement.

Since 2008, the World Bank has issued over $13 billion in green bonds, funding projects in areas like renewable energy and clean transportation and since then the market for green bonds has constantly expanded (Climate Bonds Institute, 2023). According to Statista (2023), the value of green bonds issued worldwide increased dramatically in the last few years, specifically in 2014, green bonds worth 37 billion U.S. were issued. In 2021, this figure peaked at approximately 633 billion U.S. dollars, and decreased slightly in 2022 and 2023, when green bonds issued amounted to 487 billion and 620 billion U.S. dollars.

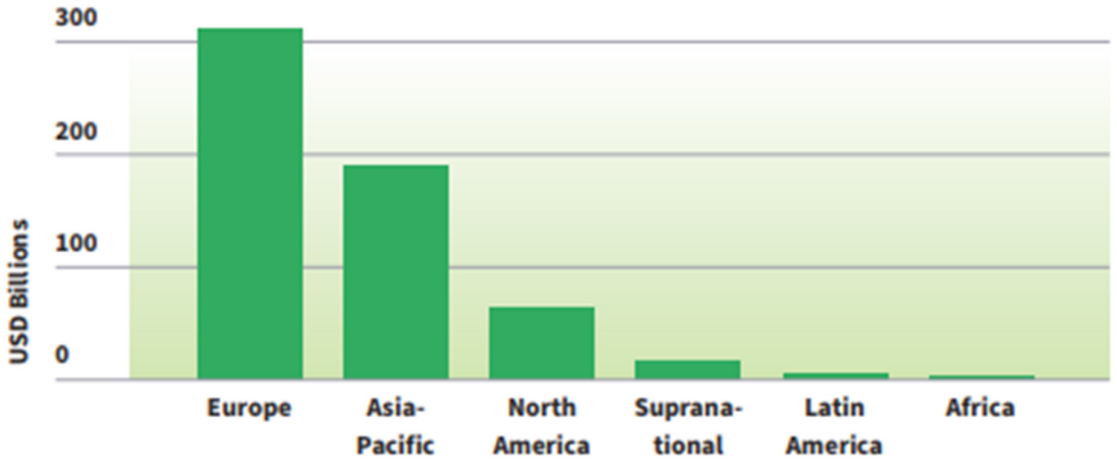


Figure 2. Aligned green volume 2023
Source: Climate Bonds Institute (2023)

In 2023, the aligned annual volume reached USD587.6bn breaking through the half-trillion mark for the third consecutive year and demonstrating an increase of 15% YOY (Year-over-year). Aligned sovereign green volume increased by 45% to USD120bn against USD83bn in 2022. According to the above figure, Europe dominated the aligned green bond market with a volume of USD309.6bn. The largest individual issuer was the United Kingdom with aligned issuance of GBP18.3bn (USD22.5bn) composed entirely of taps. In 2023, developing countries have issued billions of dollars in green bonds. China, India, and Brazil were the largest issuers in the developing world (Climate Bonds Initiative, 2024).

The main institutions supporting the issuance of green bonds in developing countries are the World Bank, the International Finance Corporation and the Green Climate Fund, providing technical assistance, risk guarantees, and co-financing. The main aim is to help developing countries access the green bond market, but despite the growing interest, developing countries face several challenges in issuing green bonds, such as:

- high transaction costs,
- limited access to capital markets,
- a lack of capacity in monitoring and reporting on green projects.

Developing international partnerships and capacity-building initiatives can help overcome these barriers. The expansion of green bond frameworks and the development of local green bond markets are also critical instruments for unlocking the potential of green finance in these regions (IFC, 2023).

Another type of green finance instrument is green loans which are similar to traditional loans but used exclusively in financing projects that have a positive environmental impact and often come with lower interest rates. One of the main institutions that offers green loans is the European Investment Bank, supporting projects in renewable energy, energy efficiency, and pollution prevention. It uses rigorous criteria, intending to ensure the projects' sustainability and positive environmental impact. For developing countries, green loans can attract foreign investors interested in sustainable and impact investments which means access to capital and economic development while promoting environmental sustainability. Green loans can make possible the reduction of carbon footprint through the facilitation of the financing of climate-resilient infrastructure and renewable energy projects.

Green investment funds as part of green finance can attract private sector investment into sustainable projects with the advantage of perceived risk reduction. They also offer potential returns that align with investors' environmental, social, and governance goals, which is crucial in developing countries. By financing projects in emerging sectors like renewable energy, sustainable agriculture, and eco-tourism, they can also contribute to economic growth and job creation.

Instruments such as insurance for renewable energy projects, coverage for pollution liability, or incentives for companies that implement sustainable practices can provide coverage for environmental risks or offer premium discounts for environmentally friendly practices. These instruments are adopted to enhance environmental risk management through a process that explicitly the implicit costs and internalizes the negative externalities of pollution. The most common green insurance instrument in China is environmental liability insurance, which requires polluting sectors to buy insurance to indemnify them against the expenses associated with a pollution event. In addition, green insurance can provide an effective mechanism for managing long-term risks, such as those associated with natural disasters, floods and windstorms exacerbated by climate change (Hu et al., 2023).

Despite the type of instruments used, there are differences between developed and developing countries, specifically in:

- Access to capital,
- Policy and regulation,
- Market maturity,
- Scale of Projects,
- Risk perception,
- International support.

3. PPPS IN MOBILIZING FUNDS FOR GREEN FINANCE

A PPP project can enhance a sustainable infrastructure development and therefore can foster economic growth (Ibrahimi, 2023). Public-Private Partnerships (PPPs) and green finance are increasingly linked in the development of sustainable infrastructure. This connection is vital for both governments and private sector entities as they seek to address challenges such as economic growth and environmental sustainability. PPPs in green finance:

- Allow governments to leverage private sector capital and expertise for the development of large-scale infrastructure projects,
- Can accelerate the adoption of innovative technologies in infrastructure projects,
- Can align infrastructure projects with international sustainability standards and frameworks, such as the Paris Agreement and the United Nations' Sustainable Development Goals (UNEP, 2022).

3.1. Example: Solar Energy Projects in India

Public-Private Partnerships have been a key mechanism for financing and implementing solar projects, where the private sector companies are often responsible for project development and the government provides land, infrastructure, and policy support. The Indian solar energy sector has attracted significant investment from both domestic and international players.



Figure 3. Pavagada Solar Park in Karnataka, India
Source: Mercom Clean Energy Insights (n.d.)

Profits: Under this PPP arrangement, private developers were responsible for the construction and operation of solar power plants within the park. This project increased the capacity for solar energy generation and attracted significant private investment in the renewable energy sector.

Challenges: Despite the success, the project faced challenges regarding water management, as the solar panels require regular cleaning in a region already struggling with water scarcity. This project did not fully materialize the expected local employment benefits, because of many jobs went to migrant workers instead of residents.

Public-Private Partnerships (PPPs) have played a crucial role in fostering green technology innovation, particularly by:

- Facilitating the development and deployment of sustainable technologies across various sectors.

These partnerships combine the resources and expertise of the public and private sectors, creating a conducive environment for innovation, especially in areas of renewable energy, sustainable infrastructure, and energy efficiency.

3.2. Example: CleanTech incubators in the United States

PPPs have been instrumental in supporting green technology innovation through the establishment of CleanTech incubators in the United States, such as Greentown Labs, Los Angeles Cleantech Incubator, Clean Energy Trust, Elemental Excelerator, and Cyclotron Road.

Profits: These projects provide funding, mentorship, and access to resources for start-ups and entrepreneurs that develop environmentally friendly technologies (U.S. Department of Energy, 2023).

Challenges: CleanTech incubators in the United States face several challenges as they strive to support the growth and development of sustainable technology start-ups. These incubators encounter obstacles such as limited access to capital, longer timelines to reach commercialization compared to other sectors like software or consumer goods, specialized infrastructure, such as testing facilities or access to clean energy sources, which may not be readily available (National Renewable Energy Laboratory, 2023).

The profits from Public-Private Partnerships (PPP) and green finance in waste management can be realized in several ways, benefiting both financial stakeholders and the environment.

- Environment: Reduced environmental impact by promoting sustainable waste management practices. This helps the achievement of regulatory compliance and also improves public health and quality of life.
- Economy: Increased efficiency, cost savings, and revenue generation contribute to the overall profitability of waste management projects, making them attractive investments for both public and private stakeholders.

3.3. Example: Jakarta, Indonesia – Waste Management and Recycling Initiative

Jakarta's waste management and recycling initiative is a PPP involving the Jakarta City Government, private recycling firms, and local NGOs. This project aims to enhance recycling rates, reduce environmental pollution, create jobs in the recycling sector, and lower landfill costs, while also involving community participation and education on sustainable waste management practices (Asian Development Bank, 2023).

Profits: This project enhances recycling rates and reduces environmental pollution, creates jobs in the recycling sector and reduces landfill costs, and involves community participation and education on waste management practices.

Challenges: Despite green finance initiatives, securing adequate and consistent funding for large-scale projects can be challenging. Limited financial resources can hinder the expansion and maintenance of waste management systems.

4. CONCLUSION AND RECOMMENDATIONS

Green finance instruments are seen as an important tool for realizing projects that enhance environmental protection therefore achieving sustainable development. Green finance isn't just about the environment; it brings economic and ecological advantages. Public-Private Partnerships (PPPs) play a crucial role in mobilizing funds for green finance in various crucial sectors such

as infrastructure, energy, waste management, etc. From the analysis done about some examples of implementation of PPPs and green finance, we can conclude that even though these projects have been successful, they have undergone different challenges, differing from developed and developing countries. Some challenges are limited financial resources, limited natural resources, limited access to capital, etc. Developing markets for green finance products can be challenging, particularly in emerging economies with less mature financial systems.

Some key lessons and recommendations from the implementation of such projects and instruments in developing countries:

- Successful projects often involve collaboration between multiple stakeholders, including government entities, private companies, NGOs, and international organizations.
- Access to green finance is crucial for funding infrastructure and technology improvements, making projects more viable and sustainable.
- Involving local communities and providing education on waste management practices are essential for a successful and sustainable initiative.
- Effective integration of PPPs and green finance requires robust regulatory frameworks ensuring some crucial elements such as transparency, accountability, and alignment with sustainability goals.

References

Asian Development Bank. (2023). *Waste Management in Indonesia and Jakarta: Challenges and Way Forward*. Retrieved from https://asef.org/wp-content/uploads/2022/01/ASEFSU23_Background-Paper_Waste-Management-in-Indonesia-and-Jakarta.pdf

Climate Bonds Initiative. (2024). *Developing countries issue billions in green bonds in 2023, with China, India, and Brazil leading the way*. Climate Bonds Initiative. https://www.climatebonds.net.

Climate Bonds Institute. (2023). *Sustainable debt global state of the market, 2023*. Retrieved from https://www.climatebonds.net/files/reports/cbi_sotm23_02h.pdf

European Investment Bank. (2021). *Green finance and public-private partnerships*. Retrieved from https://www.eib.org/attachments/publications/epec_guide_to_ppp_en.pdf

German Development Institute. (n.d.). *Green finance*. Retrieved from https://www.idos-research.de/uploads/media/Lindenberg_Definition_green_finance.pdf

Green Climate Fund. (2023). *Annual report*. Retrieved from https://www.greenclimate.fund/document/gcf-1-progress-report

Green Finance Platform. (2023). *Green finance*. Retrieved from https://www.greenfinanceplatform.org/page/explore-green-finance

Hu, L., Liu, Z., & Liu, P. (2023). Environmental pollution liability insurance pilot policy and enterprise green transformation: evidence from Chinese listed corporates. Frontiers in Ecology and Evolution, 11. https://doi.org/10.3389/fevo.2023.1294160

Ibrahimi, E. (2023). Implementation of PPP Contracts: Pros and Cons. In V. Bevanda (Ed.), International Scientific-Business Conference – LIMEN 2023: *Vol 9. Conference Proceedings* (pp. 413-421). Association of Economists and Managers of the Balkans. https://doi.org/10.31410/LIMEN.2023.413

IFC. (2023). *Green bonds and the development of local green bond markets*. Retrieved from https://www.ifc.org/en/about/investor-relations/green-bonds

IPCC (Intergovernmental Panel on Climate Change). (2021). *Climate change 2021: The physical science basis. Contribution of Working Group I to the Sixth Assessment Report of the*

Intergovernmental Panel on Climate Change. Cambridge University Press. https://www.ipcc.ch/report/ar6/wg1/

Mercom Clean Energy Insights. (n.d.). *Pavagada solar park in Karnataka, India*.

National Renewable Energy Laboratory. (2023). *CleanTech incubators in the United States*.

Neufin. (2023). *Instruments of green financing*. Retrieved from https://neufin.co/blog/green-financing-instruments/

OECD. (2020). *Green finance and investment: Mobilizing private sector investment in climate-smart infrastructure*. OECD Publishing. https://www.oecd.org/environment/green-finance/

Statista. (2023). *Value of green bonds issued worldwide*.

UNEP. (2022). *Public-private partnerships and sustainability*.

U.S. Department of Energy. (2023). *CleanTech incubators and green technology innovation*.

World Economic Forum. (2022). *The role of PPPs in sustainable infrastructure development*.

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Partnerships for Sustainable Finance as an Impetus for SDGs Acceleration – The Way Forward Based on Selected International Practices

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Partnership;
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Public Private Partnerships;
ESG;
International financial institution

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Abstract: *The purpose of this paper is to analyze and to enlighten the main question of progress in SDGs implementation from the industry and market point of view. The research has three parts: sustainability agenda with a focus on sustainable finance, analysis on state of progress in SDGs implementation, and impetus factors for SDGs acceleration. The last part is particularly analysed with a focus on strengthening capacities through partnerships for sustainable financing – three case studies are shown from the following aspects: the importance of collaboration with International Financial Institutions (such as IFC, EBRD, UNECE), the role of universities and science and professional education, and international partnership platform. This evidence-based research shows that partnerships and capacity strengthening may be considered important impetus factors for the acceleration of SDGs.*

1. INTRODUCTION

Sustainability and Environmental, Social and Governance factors (ESG) became leading paradigms, particularly in this decade, in activities of governmental, business, non-governmental and multilateral organizations worldwide. That sort of homogeneity in terms of the agenda and prioritization is of the utmost importance for the development agenda, and particularly for the Agenda 2030 on Sustainable Development and 17 Sustainable Development Goals (SDGs) as a global platform for both public and private sectors. Although the system of measurement of impact of activities towards SDGs realization is fully designed and functioning efficiently, due to the complexity of the ESG action, dynamic and efficiency of the implementation itself differs from one to another SDG. It is obvious that acceleration is needed, particularly in some of the SDGs, and the search for impetus factors and accelerating impacts is ongoing.

In this paper, the following methodology is used. It is evidence based, knowledge based and desktop research. The main research questions are: How far/close we are from the SDGs 2030 goals? Are we aware and ready for the post-SDG 2030 period? Based on this motivation, a hypothesis for the research is set:

Hypothesis one (H1): Market players, academia, international development banks and/organizations, do already have solutions and mechanisms that can accelerate further SDGs implementation (that are not visible enough as the best practice or not known enough to the public). The role of science and

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academia is of the utmost importance and their relevance is growing in the context of the connection with the real sector, market changes, various industry's needs, labor market changes, Future of Work and so on. At the same time, international development banks, institutions and market players do have very useful tools that are rather well known within their ecosystem or sector and deserve to be more spread and shared as the best practice useful for the SDGs acceleration. Therefore, this H1 states that many solutions and important mechanisms for SDG Acceleration are already discovered and available, so our further efforts should go in the direction or rather disclosure of the existing works of academia, research, IFIs, and industry. Instead of starting the discussion by looking for the impetus as the problem per se.

Hypothesis two (H2): Their cooperation and partnerships are the impetus that positively impacts the realization of SDGs and identify further other impetus factors (more visible as the best practice and more known to the public). In other words, individual actions and efforts of institutions in various sectors are very important and meaningful contributions to SDGs implementation and acceleration, but the bigger impact may be made only by implementing cooperation and partnership among institutions and existing and new solutions they deliver individually and jointly. Collaboration usually involves additional visibility and marketing activities, which additionally attract other opportunities and generate high potential for future endeavors.

Using the case study method, an analysis of selected international practice is conducted and in the findings, some impetus factors are identified: Partnerships for sustainable finance and SDGs, and Capacity strengthening.

2. UN AGENDA FOR SUSTAINABLE DEVELOPMENT 2030 AND SUSTAINABLE FINANCE – LITERATURE OVERVIEW

2.1. Sustainability and the 2030 Agenda for Sustainable Development

On the basis of the global development initiative Transforming our world: the 2030 Agenda for Sustainable Development adopted at the UN Sustainable Development Summit in New York in September 2015, there are 17 Sustainable Development Goals (SDGs). They are integrated and indivisible and balance the three dimensions of sustainable development: the economic, social and environmental (United Nations, 2015).



Figure 1. UN Graphical Illustration of the 17 SDGs.
Source: United Nations Department of Economic and Social Affairs (2024)

In order to inform and report on the status of the implementation of the SDGs on an Indicator Framework and all three dimensions of sustainable development (economic, social and environmental) and after the adoption of the Resolution (The formal resolution adopted by the UN General Assembly in September 2015 was published on 21 October 2015), the United Nations Statistical Commission created an Inter-Agency and Expert Group on SDG Indicators (IAEG-SDGs), which will coordinate proposals of a global indicator framework on international level to support the SDGs, while all countries are 'expected to take ownership and establish a national framework for achieving the 17 goals' (Morton et al., 2017, p. 85). Also, the UN has launched several portals (web-sites) with the same goal: a) a dedicated United Nations website on sustainable development (United Nations, n.d.), b) a sustainable development knowledge platform (https://sustainabledevelopment.un.org/) with updates on the High Level Political Forum, on individual topics and milestones, and a directory of resources including recent publications.

Also, in the document of the Rio+20 Conference, in 2012, entitled "The future we want", and again in "Transforming our world: the 2030 Agenda for Sustainable Development", in 2015, United Nations Member States decided that the High-Level Political Forum on Sustainable Development would be informed by the Global Sustainable Development Report (United Nations, 2015). In the Ministerial Declaration of the 2016 Forum, Member States decided that the report would be produced each four years by an independent group of fifteen experts' scientists representing a variety of backgrounds, scientific disciplines and institutions, with geographical and gender balance and appointed by the United Nations Secretary-General.

2.2. Drivers of the Paradigm Shift – Sustainability Enabling Environment Factors

The change of the paradigm towards sustainability has been subject rather to evolution than revolution. The concept of sustainability is present in practice already, driven by various factors that have various natures, such as:

i. Companies officially continued to align with the United Nations General Assembly sustainable development goals (SDGs) set in 2015
ii. As we face irreversible changes in the Earth's system, the threat of climate change has become too risky to ignore.
iii. Voluntary practices based on Corporate Social Responsibility activities, and other international principles (UNEPFI principles etc) evolved further.
iv. Compulsory factors – Regulation is emerging and developing in various segments, covering fields from environmental requirements, and social to governmental and financial.
v. Demand - Particularly important segment is on the side of demand for sustainability, so demand driven factors can be considered as the various requests coming from: a) Clients, b) Markets – investors, c) Employees - global trend – professionals "looking for the purpose and impact".

2.3. Sustainable Finance for Sustainable Development

Engagement of both the public and the business community and private finance sector in the realization of development goals is not new action related only to Sustainable Development Goals; awareness and joint actions of these sectors in financing development and reduction of poverty, together with other development goals was highly present also in time of previous UN development agenda named UN Millenium Development Goals (UN MDGs) targeted for 2015. Furthermore, international practice shows that the private sector opportunities in financing development goals at the national and

international level are great, and that the development goals are synchronized with business goals (Sredojevic, 2006, p. 22). The range of potential numbers and forms of sustainable finance products is big and diversified, and in constant development. Besides the introduction and promotion of specific credit lines (e.g. energy efficiency, renewable energy sources), there is a growing trend in developing various specific financial products and services targeted to sustainable development: Green Bonds, Social Bonds, Sustainable Bonds, Blue Bonds, Project Finance, Public Private Partnership/ Special purpose vehicle financing etc. Which of these financial instruments will be appropriate for a certain project, client and/or SDGs should be assessed on a case basis, since each of them has its own characteristics, terms and conditions and impact. In the text below, we will show the impact of three different financial instruments: Green Bonds, Social Bonds and Sustainable Bonds on SDGs.

i. Green bonds' contribution to UN SDGs



Figure 2. Green bonds' contribution to UN SDGs H1 2022
Source: Luxembourg Stock Exchange (2023)

As data in Figure 2 show, the contribution of Green bonds to SDGs are truly relevant and impactful within areas such as Affordable Clean Energy (Goal 7), Sustainable Cities and Communities (Goal 11), Climate Action (Goal 13) and Responsible Consumption and Production (Goal 12). Potential of Green Bonds is significant and positively affects all SDGs, so we can expect soon further expansion of this part of the financial and capital markets development.

ii. Social Bonds contribution to UN SDGs



Figure 3. Social Bonds contribution to UN SDGs H1 2022
Source: Luxembourg Stock Exchange (2023)

At the same time, Social Bonds as securities on the capital market and other forms of Sustainable Finance tools have a very strong impact on some other segments such as Decent Work and Economic Growth (Goal 8), Sustainable Cities and Communities (Goal 11), Reduced inequalities (Goal 10), Good Health and Well-being (Goal 3), Quality Education (Goal 4), as presented in Figure 3. above.

iii. Sustainable Bonds contribution to the UN SDGs



Figure 4. Sustainable Bonds contribution to the UN SDGs
Source: Luxembourg Stock Exchange (2023)

While Green and Social Bonds have a positive and specific impact on specific SDGs, the impact of Sustainable Bonds is more diversified and covers a wider spectrum of SDGs, as shown in Figure 4. Sustainable Bonds' contribution to UN SDGs is present in each of the 17 UN SDGs.

Based on the above analysis of both public and private finance market trends for particular financial instruments aimed for direct contribution to UN SDGs and related goals (such as Green Transition, ESG implementation and so on), such as Green Bonds, Social Bonds and Sustainable Bonds are available and present on the markets worldwide. These financial instruments/securities, together with the specific credit lines dedicated to energy efficiency, renewable energy sources, etc., do represent a great example of the collaboration of the public and private sectors for the sustainable development known as sustainable finance.

3. ANALYSIS OF THE STATE OF PROGRES IN SUSTAINABLE DEVELOPMENT GOALS IMPLEMENTATION

3.1. Challenges in implementation

Although the Sustainability paradigm is becoming "New normal", challenges (still) prevail, such as the following:

i. Various perception(s) and understanding(s) of Sustainability,
ii. Various perception(s) and understanding(s) of ESG,
iii. Sustainability in the eyes of employees (including DEI policies),
iv. Sustainability Vis-a-vis stakeholders,
v. Expectations of various stakeholders vary,
vi. Expectations of shareholders – plain vanilla or ESG based?
vii. Is "One size fit all" in sustainability practices (and SDGs implementation) desirable and possible model?

Challenges in implementation have various natures and they are the subject of research. Some researchers identified that understanding the meaning of SDGs and their purpose matters a lot "Many countries have yet to understand the difference between the MDGs and the SDGs, particularly their universality, the huge potential of new data methods to help with their implementation, and the systems thinking that is needed to deliver the vision". (Morton et al., 2017, p. 81). Similarly, some researchers emphasize that due to the complex nature of 17 SDGs which are "integrated, indivisible, and interact in intricate ways", their implementation is complex and therefore require the involvement of almost all parts and sectors of the system such as "science, technology, engineering, and policy" (Fu et al., 2024, p. 157). Interconnection of states is particularly mentioned by the same author "No nation or region can isolate itself from this collective challenge for humanity" (Fu et al., 2024, p. 157).

3.2. Need for Acceleration in SDGs Implementation

Despite impressive engagement around the Sustainable Development Goals, the world is far off track. Much more effort, investment and systemic change are required. The report Times of crisis, times of change: Science for accelerating transformations to sustainable development (United Nations, 2023a), as the second quadrennial Global Sustainable Development Report prepared by an independent group of scientists (the first report, The future is now: Science for achieving sustainable development, was published in 2019), finds that "the world is far off track as shown

in the figure which captures current status of the Sustainable Development Goals at this critical juncture, midway to 2030, incremental and fragmented change is insufficient to achieve the SDGs in the remaining seven years".

- Based on the targets for which we have public data available, the gap between planned goals for 2030 and achieved results so far are the following goals: Goal 2, Goal 11, Goal 13, Goal 16 and Goal 17. (United Nations, 2023a, p. 34).
- The same source mentions that of the 36 targets reviewed in the report, only two are on track to being achieved, while progress on eight is deteriorating. Implementation was too slow, and even regressing in some areas like climate action, biodiversity loss and inequality before the pandemic and has now suffered significant setbacks including in poverty eradication, gender equality, education and eliminating hunger. Most other targets are either at a moderate distance to the goal post or far from it as shown in Figure 5 bellow, in the column Distance from Target.

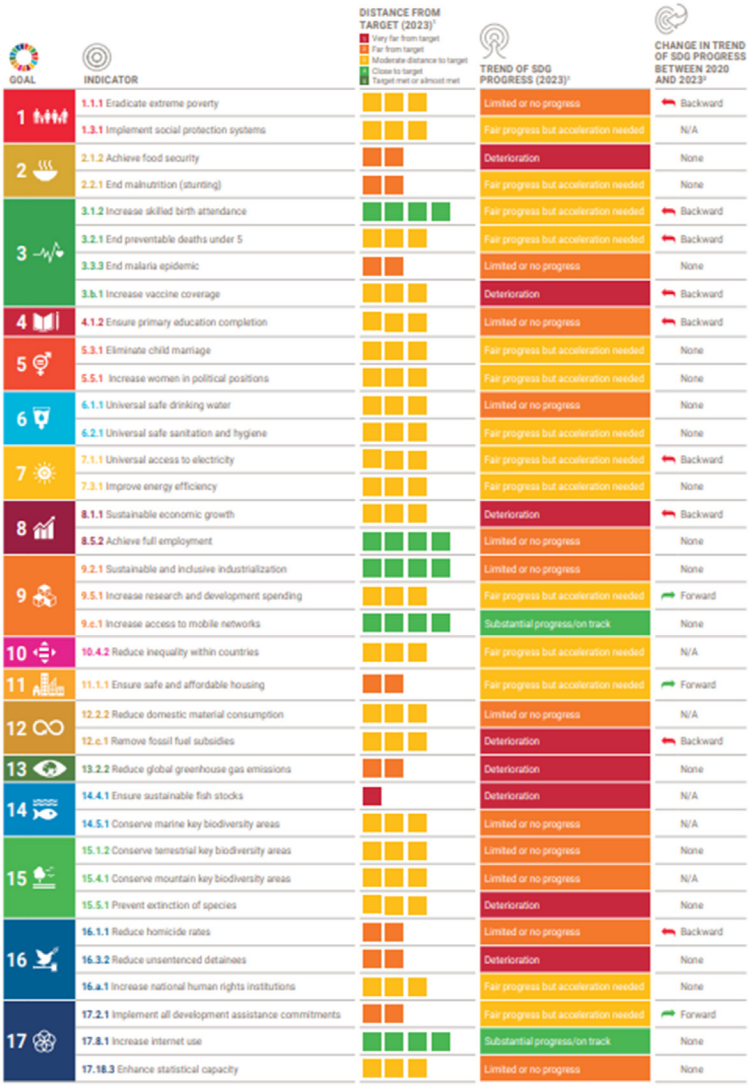


Figure 5. Current state of progress toward the sustainable development goals

Source: United Nations (2023a, p. 21)

At the mid-point to 2030, progress toward achieving the SDGs varies significantly across countries and regions, with different strengths and weaknesses (Wu et al., 2023). The 2023 SDG Summit took place on 18-19 September 2023 in New York. It marked the beginning of a new phase of accelerated progress toward the Sustainable Development Goals with high-level political guidance on transformative

and accelerated actions leading up to 2030. *Also, as UN Secretary-General, Mr. Guterres warned during the SDG Summit 2023 that only 15% of SDG targets are on track, about half are moderately or severely off track, and more than one-third have yet to see any movement or regressed below the 2015 starting line. Urgent actions are required to address the cascading and interlinked crises dominated by pandemics, climate change, and conflicts* (United Nations, 2023b).

3.3. Accelerating SDGs Agenda Realization

The literature highlights that existing system configurations comprise dominant policies and institutions, technologies and infrastructure, and behaviours and social norms which are oriented towards (or stabilised around) the emergent goals that the system is currently achieving (Allen & Malekpour, 2023, p. 1949). Therefore, impetuses and accelerators are needed beside the existing system configurations. In the lead up to the SDG Summit, UN Department of Economic and Social Affairs Sustainable Development (UN DESA) set up an online platform (United Nations Department of Economic and Social Affairs Sustainable Development, 2019) to capture new and ambitious SDG Acceleration Actions. Similar initiative has been established as well around the world, such as:

i. in 2019 the United Nations Global Compact established the platform SDG Ambition Accelerator which has been joined by more than ninety countries and two thousand companies from various sectors so far (United Nations Global Compact, 2019).
ii. UNDP established the platform SDG Accelerator, which provides "acceleration programs or targeted support to partners in support of companies at different growth/maturity stages, which enables the acceleration of sustainable innovation and business development delivering on the SDG targets" (UNDP, 2024a). The same organization established also the platform "SDG Acceleration Toolkit" as a set of 100 useful tools to move SDG commitments to action (UNDP, 2024b).

Efficient implementation of ESG considerations in financial decision-making requires a whole new spectrum of capabilities and organizational capacities needed.

- Strengthening knowledge and understanding – horizontally and vertically
- Turning the knowledge into the *Organized action* – building the system
- Capacity to adapt to new practices/transform and to measure the progress
- Continuous management of the process and engagement with stakeholders.

For transformative changes, knowledge co-creation with stakeholders is also essential. It will help fill the gaps in data and literature and provide context- and location-specific insights, supporting the localization of SDGs to implement the 2030 Agenda at the local level. Further, stakeholders will share ownership of co-created knowledge. This ownership is crucial for implementing transformative actions to achieve SDGs and co-creating a science-based post-2030 Agenda. Various stakeholders must be engaged during the knowledge co-creation process and SDG localization (Pradhan, 2023, p. 2).

4. IMPETUS FACTORS FOR SDGS ACCELERATION: STRENGTHENING CAPACITIES THROUGH PARTNERSHIPS FOR SUSTAINABLE FINANCING – CASE STUDIES

a. Accelerating the SDGs agenda realization - Case study I: Partnership for capacity strengthening in the banking sector for the implementation of ESG and sustainable finance through education and other initiatives

International Finance Corporation IFC signed in 2021 the Agreement on capacity strengthening in the banking sector for the implementation of ESG and sustainable finance through education

and other activities with the Association of Serbian Banks (ASB), established in 1921 and representing the banking industry (all banks operating in Serbia). Agreement foreseen and realized successfully several lines of activities:

i. Online education at the global level is accessible to local banks, too
ii. Training of Trainers for partner institutions – local level capacity strengthening
iii. Creation of the Working group with the aim of exchanging practices and actions that are bottom-up based. Working group, represented by banks, IFC and ASB has conducted: Survey on the local market needs identification in sustainability; Sectorial Guidelines for capacity strengthening in ESG and sustainable development implementation (Association of Serbian Banks, 2024).
iv. Synergy with Sustainable Banking and Finance Network SBFN – Facilitated by IFC as secretariat, and supported by the World Bank Group, SBFN helps mobilize information, resources, and practical support for members to design and implement national initiatives that advance sustainable finance at national, regional, and global levels (SBFN, 2024). Membership of ASB in SBFN additionally complemented activities of ASB and banks in capacity strengthening for ESG and sustainable finance implementation, and therefore, SDGs implementation.

Banking industry involvement in sustainable financing development is direct, proactive and productive: policies, conferences, Task Forces, Raising Awareness and help in implementation are some of the forms in which banking industry is involved directly, besides its funding potential. In this way, the banking sector is influencing actively further development of sustainable finance market so that the relationship between sustainable financing and banking became mutual and reflexive, exchanging impact in both directions (Sredojevic & Sredojevic, 2021, p. 146).

This case study illustrates the impact of IFI as a source of knowledge and best practices to local banking sector, and by joint institutionalized action (Working group) contribution to bottom-up and tailor-made approach to SDGs implementation by developing a common voluntary set of principles in ESG and sustainability implementation (Guidelines).

b. Accelerating the SDGs agenda realization - Case study II: Partnerships for Capacity Strengthening in Formal and Professional Education

Around 2010, the International Master Program in Public Procurement Management (IMPPM) was launched at the University of Rome Tor Vergata and supported by the EBRD to strengthen capacity building among Public Sector Professionals in public procurement worldwide (IMPPM, 2024). IMPPM is organized through Modules on various subjects, one of them being Public Private Partnerships (PPPs) which explores PPPs in the context of Sustainability, Stakeholder Engagement, and their impact on SDGs. Master thesis of students is dedicated further to the research of relevant issues concerning the contribution of PPP to SDGs. Due to the benefit created, the initiative spread to the Republic of Serbia where the same IMPPM was launched in 2018 and implemented for the professionals at the international and regional level (spreading positive effects through internalization).

This case study illustrates the impact of partnerships (academia and IFIs), cooperation of science and profession hand in hand (students as professionals improving directly their environments worldwide), and SDGs acceleration through these channels of cooperation and activities.

c. Accelerating the SDGs agenda realization - Case Study III: UN Economic Commission of Europe UNECE Evaluation and Rating System for the Sustainable Development Goals

The contribution of Public Private Partnerships (PPPs) to SDGs is well known. Among many sources and initiatives, the UN Economic Commission for Europe (UNECE) has a particular approach to PPPs and their contribution to society, the planet and people through the concept "People first PPPs" (PfPPPs) that ensures that out of all stakeholders, 'people' are on the top. Within this approach, UNECE also developed PPP and Infrastructure Evaluation and Rating System (PIERS) as an Evaluation Methodology for the SDGs and demand-driven capacity building and policy advisory services to member States. Developed by the UNECE with the support of more than one hundred experts from public and private sectors, academia and civil society organizations, the PIERS methodology is a unique platform for scoring infrastructure projects against the SDGs (UNECE for SDGs, 2024). The criteria identified below are grouped under each of the five outcomes that together summarise the contribution and impact of PPPs for the SDGs, through (a) Access and equity; (b) Economic effectiveness and fiscal sustainability; (c) Environmental sustainability and resilience; (d) Replicability; (e) Stakeholder engagement.

This case study shows how international organization impact, such as UNECE, may trigger synergy action of independent international experts and create very useful and powerful tool – PIERS methodology. Also, this case emphasizes the truly relevant aspect of PPP – its direct impact on SDGs.

5. FUTURE RESEARCH DIRECTIONS

Accelerating the implementation of SDGs is an emerging issue and should be considered as a "new normal" and mainstream in both research and practice of various industries. The focus should be on the power and organization of partnerships. As we can see from the above, there are already available tools, mechanisms and solutions for the SDGs acceleration, our further efforts should go in the direction or rather a disclosure of the existing works of academia, research, IFIs and industry instead of the starting discussion on looking for the impetus as the problem per se. Academic and scientific research are particularly important, where master thesis and other research of relevant issues in relation to the contribution of PPP to SDGs can contribute to further promotion of SDGs acceleration impetus.

6. CONCLUSION

Based on the findings of various research, relevant official reports and research of this study, there is an obvious global call to embrace further transformations with the urgency needed to accelerate progress towards the SDGs. Based on the cases analyzed in this paper, some of the messages can be drawn. Understanding the situation of the local market in ESG and SDGs implementation is an especially important starting point. Capacity strengthening is needed to support needed transformation and all related actions, where education and training are needed. Ensuring Institutionalization and continuity can be done through: Organizational aspect, Partnership with other institutions/IFIs and Mapping stakeholders and creating Stakeholders engagement communication/plan. Role of Science for Accelerating Transformations to Sustainable Development is crucial. As Mr. LI Junhua, Under-Secretary-General for Economic and Social Affairs stated in the Preface of the Global Sustainable Development Report 2023 "*As we enter the second half of the journey towards the SDGs, world leaders are reexamining their commitments and reimagining the possibilities. The 2023 Global Sustainable Development Report serves as a reminder that the scientific community is a key ally in this collective responsibility*" (United Nations, 2023a, p. 17).

Based on the financial market insight and cases studies analyzed in this paper, we do see that various solutions for SDGs acceleration are available: a) beside specific credit lines for energy efficiency and Renewable Energy Sources, many financial instruments are developed and available within sustainable

finance spectrum, such as Green Bonds, Social Bonds and Sustainable Development Bonds; b) some specific solutions and important mechanisms for the SDGs Acceleration are already discovered and available, such as UNDP SDG accelerator; c) tools and solutions for capacity strengthening for the implementation of the sustainable development are developed in the domain of the industry - such as Toolkits and Educational programs within IFC ESG Integrated program in Serbia and other countries; in the domain of the Formal Education - such as the Program of International Master Program for Public Procurement Management – Module on PPP and Sustainable Infrastructure Development, which includes the SDGs implementation and the role of the PPP for SDGs; and in the domain of the international organizations catalyzing role – such as the UNECE Policy level document PPP and Infrastructure Evaluation and Rating System (PIERS), as an Evaluation Methodology for the SDGs and demand-driven capacity building and policy advisory services to member States. Based on the above examples, H1 is confirmed - Market players, academia, international development banks and/organizations, do already have solutions and mechanisms that can accelerate further SDGs implementation.

Furthermore, a deeper analysis of the three case studies in this chapter shows that the component of the collaboration between institutions is a key factor and impetus for SDGs acceleration. We may see value-added and new mechanisms that have been created by merging various individual institutions' contributions in all three analyzed cases: a) Partnership for capacity strengthening in banking sector for the implementation of the ESG and sustainable finance through education of banking sector employees, where global experience of IFC ESG Integrated program was locally adapted and created new value added for the benefit of the Serbian Banking Sector; b) Partnerships for Capacity Strengthening in Formal and Professional Education – collaboration between University of Tor Vergata in Rome and EBRD as an IFI, brought new International Master program (IMPPM) with Modules on various subjects, one of them being PPPs which explores PPPs in the context of Sustainability, Stakeholder Engagement, and their impact on SDGs. In this case, the collaboration between academia and IFIs spread further, so the same IMPPM was launched in 2018 in the Republic of Serbia, Faculty of Law University of Belgrade, and implemented for the professionals at the international and regional level (spreading positive effects through internalization); c) UN Economic Commission of Europe UNECE Evaluation and Rating System for the Sustainable Development Goals – PIERS methodology as a great example of international guidelines that apply to the project level to maximize its contribution to the SDGs, predominantly for PPP but also for other infrastructure projects, proving their concrete impact on Access and equity, Economic effectiveness and fiscal sustainability; Environmental sustainability and resilience; Replicability; Stakeholder engagement. All these findings from case studies illustrate the specific benefits and value-added that have been created due to the collaboration and partnership among institutions in various sectors which particularly delivered a direct impact on SDGs acceleration and also disclosed new forms of partnerships, new initiatives, and new potentials for further cooperation and SDGs acceleration. Therefore, cooperation and partnership may be considered as the impetus for further SDGs acceleration, and based on these findings, we do accept and confirm H2: Their cooperation and partnerships are impetus that positively impact realization of SDGs and identify further other impetus factors (more visible as the best practice and more known to general public).

References

Allen, C., & Malekpour, S. (2023). Unlocking and accelerating transformations to the SDGs: a review of existing knowledge. *Sustain Sci* 18, 1939–1960. https://doi.org/10.1007/s11625-023-01342-z

Association of Serbian Banks. (2024). Guidelines for Strengthening capacities in ESG and sustainable finance implementation. Retrieved August 13, 2024, from https://www.ubs-asb.com/o-nama/centar-za-bankarsku-obuku/integrisani-esg-standardi-ifc

Fu, B., Wu, X., Wang, S., & Zhao, W. (2024). Scientific principles for accelerating the Sustainable Development Goals. *Geography and Sustainability*, *Volume 5, Issue 2,* 157-159. ISSN 2666-6839, https://doi.org/10.1016/j.geosus.2024.01.005.

IMPPM. (2024). International Master in Public Procurement Management. Faculty of Economics and Finance of Tor Vergata University in Rome, Italy. https://masterprocurement.eu/

Luxembourg Stock Exchange. (2023). LGH Data Hub. Retrieved August 8, 2024, from https://www.luxse.com/discover-lgx/additional-lgx-services/lgx-datahub

Morton, S., Pencheon, D., & Squires, N. (2017). Sustainable Development Goals (SDGs), and their implementation: A national global framework for health, development and equity needs a systems approach at every level, *British Medical Bulletin*, Volume 124, Issue 1, December 2017, Pages 81–90, https://doi.org/10.1093/bmb/ldx031.

Pradhan, P. (2023). A threefold approach to rescue the 2030 Agenda from failing. *National Science Review*, Volume 10, Issue 7, July 2023, wad015, https://doi.org/10.1093/nsr/nwad015

SBFN. (2024). Sustainable Banking and Finance Network. Retrieved July 16, 2024, from https://www.sbfnetwork.org/

Sredojević, S. (2006). Doprinos bankarskog sektora razvojnim ciljevima. Bankarstvo br. 11/12-2006, pp. 18-28.

Sredojevic, S., & Sredojevic, D. (2021). Sustainable finance – Evolution or revolution in the banking sector**.** Journal *Bankarstvo,* 2021, vol. 50, Issue 2, pp. 114-151, DOI: 0.5937/bankarstvo2102114S

UNDP. (2024a). SDG Accelerator. Retrieved August 18, 2024, from https://www.undp.org/sdg-accelerator.

UNDP. (2024b). SDG Acceleration Toolkit. Retrieved August 18, 2024, from https://sdgintegration.undp.org/sdg-acceleration-toolkit

UNECE for SDGs (United Nations Economic Commission for Europe Sustainable Development Goals). (2024). PIERS methodology. Retrieved August 18, 2024, from https://unece.org/ppp/em

United Nations. (n.d.). Sustainable Development Goals. United Nations. https://www.un.org/sustainabledevelopment/

United Nations. (2015). Transforming our world: The 2030 Agenda for Sustainable Development. 21 October 2015. Retrieved July 19, 2024, from https://sdgs.un.org/2030agenda

United Nations. (2023a). Times of crisis, times of change science for accelerating transformations to sustainable development. *The Global Sustainable Development Report 2023.* UN Department of Economic and Social Affairs. https://sdgs.un.org/sites/default/files/2023-09/FINAL%20GSDR%202023-Digital%20-110923_1.pdf

United Nations. (2023b). UN SDG Summit 2023. Retrieved August 3, 2024, from https://www.un.org/en/conferences/SDGSummit2023

United Nations Department of Economic and Social Affairs. (2024). The 17 Goals. Retrieved August 3, 2024, from https://sdgs.un.org/goals

United Nations Department of Economic and Social Affairs Sustainable Development. (2019). Platform SDG Acceleration Actions. Retrieved July 19, 2024, from https://sdgs.un.org/partnerships/action-networks/acceleration-actions

United Nations Global Compact. (2019). SDG Ambition Accelerator. Retrieved August 19, 2024, from https://unglobalcompact.org/take-action/sdg-ambition

Wu, X., Fu, B., Wang, S., Song, S., Lusseau, D., Liu, Y., Xu, Z., & Liu, J. (2023). Bleak prospects and targeted actions for achieving the Sustainable Development Goals, *Science Bulletin,* Volume 68, Issue 22, 2838-2848, ISSN 2095-9273, https://doi.org/10.1016/j.scib.2023.09.010.

https://doi.org/10.31410/ERAZ.2024.103

Crypto Assets as a Sustainable Investment and Its Future Potential for Fund Investing

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Abstract: *The authors discuss the nature of crypto assets and their functioning after the adoption of the European Union MiCA regulation also concerning its sustainability. This paper tries to capture all aspects and intricacies of the functioning of the crypto assets market and address the potential problems related to sustainability. The paper also addresses the issue of crypto assets from the point of view of the inclusion of crypto assets in collective investment funds and the possibility of pooling crypto assets in funds. The authors look for a dividing line between the legitimate collection of crypto assets and the provision of services in this area and the unauthorized business of a "black" fund.*

1. INTRODUCTION

Crypto assets represent the widespread and very popular means of investment that is connected to new technological inventions (particularly distributed ledger technology, blockchain, machine learning and artificial intelligence usage). Crypto assets and their legal nature in various legal systems are addressed in several scientific articles (Štrkolec, 2022). The stability of value of crypto assets varies significantly depending on the type of the crypto asset, the credibility of the issuer of the crypto asset and general acknowledgment and acceptance of the crypto asset based on (or in some cases not) their inner economic value. Therefore, pursuing business in crypto assets raised serious questions on the side of legislative bodies and institutions responsible for securing the stability of the financial market in the European Union (hereinafter referred to as the "EU") (Bočánek, 2021). The Slovak Republic is not an exemption. The Slovak Republic adopted its unilateral legal regulation that covers some parts of business activities that relate to crypto assets. Based on the fact that the significance of crypto assets can be a potential systematic risk for the stability of financial market at the level of the EU, the EU also adopted an original legal regulation of crypto assets and institutions providing services related to crypto assets in a form of Regulation (EU) 2023/1114 of the European Parliament and of the Council of 31 May 2023 on markets in crypto-assets, and amending Regulations (EU) No 1093/2010 and (EU) No 1095/2010 and Directives 2013/36/EU and (EU) 2019/1937 (hereinafter referred to as "MiCA regulation"). MiCA regulation is entering into force to its full extent on 30 December 2024. Hence Member States of the EU must ensure that their legal orders (regardless of whether the Member State adopted unilateral legislation of crypto assets before MiCA regulation or not) are prepared to apply MiCA regulation in order to achieve the goals as set out in MiCA regulation, mainly security and stability of the financial system and trust in the financial system that acknowledges and sets legal framework for investing in crypto assets.[3]

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[3] Recitals of MiCA regulation, particularly point 5 -6.

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Moreover, with the growth of interest of the regular people in investments and the increasing number of regulatory requirements for entities operating on the financial market, there is also an increase in the number of entities that carry out their business activities without the appropriate authorization, i.e. without the license obtained by the respective regulatory authority. The motivation of these entities (in our case mostly the entities pooling the crypto assets into the mutual fund) is to take advantage of the interest of financial consumers to invest in the products offered by these entities and at the same time to avoid the regulatory burden borne by regulated entities licensed by the respective regulatory authority. These include regulation in the entity's necessary professional competence, the entity's capital requirements, the procedures for offering products to consumers, risk management, the prohibition of the sale of certain financial products to a certain range of clients, and the required IT infrastructure.

The respective regulatory authority within the legal framework of the Slovak Republic is the National Bank of Slovakia (hereinafter referred to as "NBS"). In addition to evaluation of the potential unauthorized entrepreneurship, NBS also assesses, within the framework of its supervision, cases that have the character of a financial-legal innovation (like crypto assets), where the performance of the activity in question has either not yet been legally defined and is therefore not regulated or requires a legal assessment and subsequent legal subsumption under the existing legal situation (like MiCA regulation*).*

Within the framework of the article, it is possible to identify the analytical-synthetic method as the basic research method, where the authors worked with the synthetic method of information processing and with the analytical method in the study of relevant legislation and case law and the method of comparison. The main aim of the article is to provide a comprehensive approach to the interaction of MiCA regulation with particularly legal order of the Slovak Republic and to point out at current regulatory approach of NBS towards financial technologies, particularly fund investing and crypto assets.

2 LEGAL REGULATION OF CRYPTO ASSETS – CURRENT STATE AND EXPECTATIONS IN CONNECTION TO THE SLOVAK REPUBLIC

The Slovak Republic is the EU Member State that, even before the adoption of MiCA regulation, applied a national form of legal regulation of certain types of services related to crypto assets. The provision of these services must be in accordance with the Slovak Act No. 455/1991 Coll., on trade (Trade Act), as amended, (hereinafter referred to as the "Trade Act").

Under the relevant provisions of the Trade Act, it is necessary to dispose of the so-called regulated trades (i.e. a type of trade license for the issuance of which it is necessary to fulfill, in addition to the general prerequisites for the performance of any free trade, also special conditions of professional competence for the operation of a given trade), namely:

- provision of virtual currency[4] exchange services (i.e. carrying out trades with crypto assets in the form of sale and purchase of crypto assets for euros or foreign currency), and
- provision of virtual currency wallet services (i.e. provision of services in connection with the wallet for storage, holding and transfer of crypto assets).

[4] Authors point our that the Slovak legal system terminologically incorrectly instead of term crypto asset uses in various acts (particularly covering tax related matters) term "*virtual currency*". This terminological incorrectness then evokes that the usage of virtual currency is anyhow connected with the official monetary policy of the Slovak Republic and the monetary authority itself – the central bank (i.e. NBS). This approach is also criticized in the scientific works of various authors that lean towards usage of the term crypto asset instead of virtual currency (Štrkolec, 2022, p. 113.).

Despite the fact that both trades are, in terms of the legislation of the Trade Act, regulated trades with the necessity of demonstrating professional competence for the possibility of operating them, the professional competence for these regulated trades is set elementary to the person of the responsible representative, who will guarantee the expertise of running the activities in question, who must prove to the relevant district office, that he/she completed a complete secondary general education or a completed secondary vocational education (i.e. basically completed secondary school with a matriculation exam with no connection to investing or experience with financial services provision).

The current professional qualification for operating these regulated trades can be considered only formal, without any relevant link to activities, the subject of which is the practical investment of temporarily free funds on the financial market through a specific instrument – crypto assets. Moreover, it is necessary to add the fact that in the Slovak Republic, the Trade Act expressly designates 2 types of activity that are expressly regulated, any consulting and intermediary activities with crypto assets remain unregulated or are regulated in the least strict way in the Slovak Republic, i.e. within the framework of free trades according to the Trade Act. Hence it can be concluded that the existing legal regulation of the field of crypto assets and the provision of crypto asset services in the Slovak Republic does not provide a relevant distinguishing element for possible fraudulent models of the provision of services associated with crypto assets.

In accordance with Article 143 par. 3 of MiCA regulation, entities that have a trade license in the scope of the above-mentioned regulated trades according to the Trade Act will be able to provide these services until 1 July 2026, if they have not been granted or refused a permit under MiCA regulation by then, if the relevant Member State of the EU does not reserve the shortening of the transitional regime in question until 30 June 2024 (as of the date of submission of this article, the Slovak Republic did not apply this reservation to shorten the transitional regime). In this sense, the legal conditions will inevitably create a two-track regulation of the provision of crypto asset services in the Slovak Republic in the period from 30 December 2024 to 1 July 2026 (the operation of entities with a permit under MiCA regulation regime and at the same time entities with regulated trades licences according to the Trade Act allowing them to pursue the business in the scope of the regulated trades exclusively in the Slovak Republic).

From the point of view of the existing regulation of the provision of services related to crypto assets in the Slovak Republic in the form of the Trade Act, i.e. provision of virtual currency exchange services and the provision of virtual currency wallet services, both these activities are fully covered by the regulation in MiCA regulation within the legal definitions of crypto asset services, and therefore all of the current entities possessing the related trades licences in question in the Slovak Republic will have to apply to the relevant regulatory authority for permission to provide crypto asset services according to MiCA regulation. Furthermore, if these entities do not comply with the regulation of crypto assets introduced by MiCA regulation in the transitional regime (i.e. the entities will not obtain the relevant authorization for the provision of one or more crypto asset services in accordance with MiCA regulation), after the transition period, their regulated trade licenses will automatically expire *ex lege* and they will have to stop carrying out these business activities; otherwise, they could commit an administrative offense, possibly depending on the scope and seriousness of the action, up to the criminal offense of unauthorized business.

MiCA regulation also brings a new challenge to the Member States of the EU to harmonize the national legislation and national regulations of crypto assets and provision of services related to

crypto assets covered by MiCA regulation. The Slovak Republic reacted by preparing and starting a legislative process No. LP/2024/86 the outcome of which should be adoption of a draft Act on some obligations and rights in area of crypto assets and on amendments to certain laws (hereinafter referred to as the "Draft Act"). The adoption of the national legislation in certain areas is predicted by MiCA regulation explicitly (i.e. naming the supervisory and regulatory authority in the area of crypto assets covered by MiCA regulation) and is also a necessity since various Member States of the EU have chosen different regulatory approaches to crypto assets before adoption of MiCA regulation.

The Draft Act particularly regulates and amends the following areas of the Slovak legislation in the area of crypto assets and crypto asset services providers:

- NBS is going to be the relevant supervisory and regulatory authority in the Slovak Republic covering the agenda of MiCA regulation;
- terminology of crypto assets is going to be finally aligned and the term virtual currency will be replaced with the term crypto asset in all relevant Slovak laws;
- the regulated trades provision of virtual currency exchange services and provision of virtual currency wallet services are going to automatically expire *ex lege* on 1 July 2026 (i.e. these regulated trades will be deleted from the Trade Act and no subject will be able to apply for these regulated trades and also no subject will be able to continue to operate the regulated trades if the regulated trade licenses were issued before the MiCA regulation effective date).

The Draft Act has not been adopted yet, but it is anticipated the Draft Act will be passed in the wording as it was proposed. After the adoption of the Draft Act it can be concluded that the Slovak legal order should be in full conformity with MiCA regulation and therefore the regulation of crypto assets and provision of services related to crypto assets should be fully applicable in the Slovak Republic.

3. GREY FUNDS AND CRYPTO ASSETS

Within the framework of financial market supervision, NBS encounters entities that show signs of unauthorized business on the financial market. The most frequent activity appears to be the unauthorized business in the field of collective investment (Čunderlík, 2019, p. 45) in the form of so-called "*grey funds*" that violate the legislative framework. In some cases (Decision of the National Bank of Slovakia, No.: 100-000-254-206, NBS1-000-048-225 dated October 8, 2020, and Decision of the National Bank of Slovakia, No.: 100-000-654-175, NBS1-000-064-255 dated February 12, 2024), NBS already performed sanction proceedings against such. For example, in a recent case, NBS, as a supervisory authority decided to impose a fine for the violation of the Slovak Collective Investments Act in the form of a continuing offence by the entity that unlawfully carried out the activity of collective investment. The entity collected financial means from the investors/members of the cooperative (as an entity) in the form of membership deposits in various investment strategies[5] based on the investors' instructions and for the benefit of these investors/members, the return on the funds so collected and the profit of the investors/members depended on the value and yield of the assets in the investment strategies that were acquired with the funds collected. The most common form of activity of grey funds and their offer consists of active offering to the general public the possibility of investing funds in various investment projects, from which the investor is then supposed to profit according to the performance and profitability of the project. Projects tend to vary in nature, including crypto assets (Čunderlík, 2017, p. 122).

[5] One of the strategies presented publicly by the entity was the crypto assets for those that were willing to invest in crypto assets.

It should be noted that NBS, within the framework of its supervision, also considers cases that are of the nature of a financial-legal innovation or a start-up, where the performance of the activity in question has not yet been legally defined, and is therefore not regulated, or requires legal assessment and subsequent legal subsumption under the existing legal status (so-called "*fintech*"). Such innovations are not considered by NBS at the time of the absence of regulation and the impossibility of subsumption under the unauthorized status as an entity carrying out unauthorized entrepreneurship. They are awarded such status only if they violate the applicable financial market regulations that are valid and enforceable.

A similar issue in relation to fintech was the regulation of crypto assets.

In 2018, NBS, in relation to the issuance and trading of virtual currencies that use cryptography/encryption operations, so-called crypto currencies (e.g. Bitcoin, Ethereum, IOTA, Ripple), stated that this activity is not regulated and supervised by NBS. It also stated that virtual currencies are not national currencies and therefore do not fall under national regulation and European legislation, including Slovak legislation, did not regulate and define virtual currency activities. The authorization to carry out regulated activities, whether a foreign exchange license, a payment services license, an electronic money license or other authorization issued by NBS, is not related to the issuance and trading of cryptocurrencies, even if cryptocurrencies are bought or sold for euro or foreign currency. The purchase or sale of cryptocurrencies for euro or foreign currency was not authorized at this time by any entity supervised by NBS as part of its authorized activities. NBS also pointed out that virtual currencies do not have a physical counterpart in the form of legal tender and participation in such a virtual currency scheme is at the own risk of the parties involved (investors). Exchanges or purchases of virtual currencies represent the investors' own business risk and investors' money is not protected by anything (NBS, 2018).

In 2024, the issue regarding crypto-assets is completely different, as NBS has supervised crypto-asset service providers (CASPs) since 30 December 2024 and asset-linked token issuers and issuers of electronic money tokens from 30 June 2024. In addition to the obligations imposed on all commercial companies under common law, tax, accounting and other regulations, supervised entities must comply with regulatory requirements under MiCA regulation, e.g. comply with minimum own funds requirements, comply with prescribed corporate governance requirements, ensure the security of client funds and crypto-assets, comply with regulatory requirements under the DORA (effective from 17 January 2025), e.g. they must have in place ICT business continuity policies and plans to ensure that in the event of an interruption to their systems and processes, data and functions are preserved and that they continue to carry out their activities or allow for timely recovery, they must also report serious ICT-related incidents, comply with the obligations set out in the TFR, e.g. to send data on the sender and receiver of crypto-assets, comply with the rules on the protection against money laundering and the financing of terrorism, and comply with the financial consumer protection rules (NBS, 2024).

4. FUTURE RESEARCH DIRECTIONS

The adoption of MiCA regulation and steps by the Member States of the EU to ensure that their legal orders comply with MiCA regulation poses a significant area for further scientific research, particularly in order to assess the legislative changes in all the Member States of the EU that adoption of MiCA regulation brought to analyze whether there a potential for regulatory arbitration is created and thus one of the main goals of MiCA regulation within the EU could threaten to be achieved effectively.

Furthermore, it could be interesting to analyze how market participants (particularly financial consumers and institutional investors) and other jurisdictions react to MiCA regulation application, particularly whether MiCA regulation will serve as a milestone and the template of the regulatory approach in the area of crypto assets also for example for the USA and their regulatory approach.

Time will show whether the step the EU has taken with MiCA regulation adoption will promote or demote investors (including institutional investors) to invest in crypto assets or further increase business activity in the crypto assets area. Early stages of full applicability of MiCA regulation can be a decisive further research determinant that will allow making relevant conclusions about whether crypto assets regulation was needed in the EU or there should be any significant revisions of crypto assets regulation introduced by MiCA regulation since the legal regulation in the financial market is always a step back in comparison to economic reality and technological trends (i.e. whether the time lag between adoption of MiCA regulation and entering into force resulted in the ineffectiveness of the legal regulation or a need for its revision).

5. CONCLUSION

The authors focused on the analysis of crypto assets as a means of investment with regards to its sustainability also in connection with new MiCA regulation focusing particularly on the EU level and specific legal and economic conditions of the financial market in the Slovak Republic and activities of NBS as a competent regulatory and supervisory authority in this area.

In the first part of the article, the authors pointed out the main aspects of MiCA regulation also in connection to existing regimes of regulation of crypto assets and provision services connected to crypto assets, focusing on the Slovak Republic as a use case model. The authors expect that the reaction of investors and crypto assets services providers in the early stages of MiCA regulation full applicability could determine whether MiCA regulation has the potential to become a template for crypto assets regulation also in other jurisdictions or the regulation approach introduced by MiCA regulation at the EU level will need a significant revision.

The authors further discussed several aspects of business in the financial market. The key objective was to delineate and distinguish between unauthorized capital market entrepreneurship versus new fintech solutions, which are seen as a step forward and should not be and cannot be confused. In the absence of regulation, these fintech solutions are not considered by NBS to be an unauthorized financial market business model. However, the opposite is the case for unauthorized business, for which regulation exists and is enforced by NBS.

The authors have also looked at both the activities indicative of unauthorized financial market business and financial innovation in the financial market from the perspective of the fine line between authorized business, unauthorized business and the possible perception of this business as a kind of grey area in relation to crypto assets.

The label "*fintech*" is sometimes used by the entities as the cover for the fact that they do not need to be regulated when in reality they are not fintech solutions in these cases. As we have seen from the above, NBS does not prevent fintechs or startups from developing, as we have seen from past attitudes towards crypto assets, but monitors the financial market for unauthorized business.

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References

Bočánek, M. (2021). First Draft of Crypto-Asset Regulation (MiCA) with the European Union and Potential Implementation. *Financial Law Review*, Issue 22 (2)/2021, p. 37 - 53. https://doi.org/10.4467/22996834FLR.21.011.13979

Čunderlík, Ľ. & C. C. (2017). *Právo finančného trhu*. Bratislava, the Slovak Republic: Wolters Kluwer. 257 pages, ISBN: 978-80-8168-753-2

Čunderlík, Ľ. & C. C. (2019). *Inovatívne a atypické modely správy majetku na finančnom trhu a súvisiace otázky*. Praha; the Czech Republic: Leges. 183 pages, ISBN 978-80-7502-405-3

Decision of the National Bank of Slovakia, No.: 100-000-254-206, NBS1-000-048-225 dated October 8, 2020

Decision of the National Bank of Slovakia, No.: 100-000-654-175, NBS1-000-064-255 dated February 12, 2024

NBS. (2018). *Statement of NBS in relation to regulation of the crypto assets*. Retrieved August 8, 2024, from https://nbs.sk/dohlad-nad-financnym-trhom/upozornenia-a-oznamenia/informacia-narodnej-banky-slovenska-k-regulacii-podnikania-v-oblasti-kryptomien/

NBS. (2024). *Statement of NBS in relation to oversight of the crypto assets*. Retrieved August 8, 2024, from https://nbs.sk/dohlad-nad-financnym-trhom/dohlad/kryptoaktiva/dohlad-kryptoaktiv/

Štrkolec, M. (2022). Virtuálne meny (právna podstata, regulačný rámec a zdaňovanie). *Acta Universitatis Carolinae – Iuridica*, No. 4, 2022. p. 99 - 115. https://doi.org/10.14712/23366478.2022.49

Additional Reading

Huang, R. H., Deng, H., & Foon Lok Chan, A. (2023). The legal nature of cryptocurrency as property: Accounting and taxation implications. *Computer Law & Security Review, 51*, Article 105860. https://doi.org/10.1016/j.clsr.2023.105860

Karpuntsov, V., & Veresha, R. (2023). Legal aspects of virtual assets regulation in Ukraine. *Danube, 14*(3), 235–252. https://doi.org/10.2478/danb-2023-0014

https://doi.org/10.31410/ERAZ.2024.111

Transforming Finance- Exploring the Global Influence of Fintech and Its Role in the Western Balkans

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Abstract: *This paper explores the profound influence of Financial Technology (Fintech) on the financial sector's evolution amidst rapid technological and economic shifts. Fintech merges finance with cutting-edge technology, driving the sector's rapid growth by transforming financial services with innovations like blockchain, AI, and big data analytics. These advancements not only improve operational efficiency, security, and service accessibility but also democratize access to financial services, fostering economic empowerment. Yet, this progress brings challenges, including security vulnerabilities and regulatory complexities. The study particularly examines Fintech's role in promoting economic growth and inclusion in the Western Balkans. This avocation for robust regulatory frameworks, digital infrastructure development and financial education to maximize Fintech's benefits. In conclusion, it emphasizes the need for enhanced security measures, regulatory flexibility and a commitment to a more inclusive financial ecosystem. Meanwhile stressing the balance between leveraging technological progress and mitigating associated risks for sustainable financial sector development.*

1. INTRODUCTION

The field of finance is going through a dynamic and permanent transformation aligned with shifts in economic landscapes and technological advancements. This relentless evolution plays a pivotal role in shaping our financial operations in today's world, underscoring the critical importance of finance as an academic discipline and practical tool for economic progress and personal goal attainment. Finance experiences profound modifications that significantly influence its principles and practices (Patel, 2023).

The technological advancements in finance present a profound and comprehensive process of change. Most importantly, technology influences how financial operations are conducted and how capital is distributed on a global scale. These advancements have yielded considerable effects on various facets of the financial sector and the broad economy. Over the past few decades, the pace of technological innovation in finance has accelerated altering the operational frameworks of financial institutions. The roles of finance professionals and the delivery of financial services to consumers have made a significant progression. This ongoing wave of transformation has ushered in a new era characterized by enhanced efficiency and remarkable transparency. A greater capacity has been required to meet the diversified needs of users in this evolving landscape (Gomber et al., 2018).

The financial sector is navigating towards a future that promises not only to streamline and optimize financial processes but also to democratize access to financial services. Through leveraging innovation and technology the contribution has brought a more inclusive economic development.

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As these technological evolutions continue to permeate the finance industry, they pave the way for groundbreaking changes, in interaction and benefits from the financial systems that underpin our daily lives.

What is Fintech? Fintech is a terminology that comes from the combination of two words: "finance" and "technology". This field includes the use of technology to improve and provide financial services. Fintech is the integration of technology with finances to create new and efficient solutions for consumers or businesses. It has become one of the fastest-growing industries in the world (Jalal et al., 2023).

There has been a rapid development of fintech companies, which offer financial services through technology. These include payment applications, money transfer services, investment tracking and other services tailored for consumers.

At its core, Fintech is used to help companies, business owners and consumers to better manage their operations and processes by using specialized software and algorithms used on computers. Therefore, Fintech is used to describe the new technology that seeks to improve and automate the delivery and use of financial services. Fintech can be applied to innovate the way people do business such as the invention of digital money to double-entry bookkeeping or the cell phone revolution to internet/smartphone (Awotunde et al., 2021).

Nowadays, Fintech has announced a fundamental transformation in the financial sector by using technology in how financial information is processed and how customers access and use financial services.

This field of innovation has extended the spectrum of financial services from banking and electronic payments to investments, lending, insurance, and other services. Fintech companies specialize in using technology by creating innovative solutions and offering easier and more convenient services for users.

In recent times, financial technology, known as Fintech has been a transformative force in the financial sector. Recently it has brought radical changes in the way people, companies or financial institutions operate, invest and communicate. This new wave of innovation and technological development has created a new environment where ease of access and efficiency of information have become fundamental viewpoints (Goralski & Tan, 2020).

FinTech has catalyzed the development and improvement of many financial services, to a more convenient, transparent, and innovative financial ecosystem. In this context, the role of FinTech is essential to announce a new financial era.

2. FINTECH ADOPTION AND TECHNOLOGICAL ADVANCEMENTS IN FINANCIAL SERVICES

The trend towards mobile banking and artificial intelligence is opening up new avenues for enhanced interaction among the key stakeholders in the financial sector.

Banks are leveraging Fintech for both backend processes and consumer-facing services. This can be done by monitoring account activities behind the scenes and enhancing user experience without the need for traditional banking interventions. This utilization of Fintech spans a broad spectrum of activities, such as making various payments and transfers to calculating taxes to eliminate the necessity for direct banker involvement (Ilollari & Kociaj, 2022).

The advent of Fintech has been transformative in breaking down long-standing barriers to financial service access. This technological evolution has led to the democratization of finance, enabling even those with lower incomes to venture into the realms of investment and banking services more easily. The changes propelled by technology have significantly leveled the playing field, offering unprecedented access and opportunities in the financial landscape.

Blockchain and Cryptocurrencies: Blockchain technology has changed the way financial data is stored and verified. Cryptocurrencies like Bitcoin and Ethereum are used as alternatives to traditional currency and have become a subject of great interest in finance.

Artificial Intelligence (AI): AI is used for the analysis of financial data, risk identification, and the automation of certain processes. These include improved trading algorithms and automated response systems for customers.

Big Data: Financial institutions use big data analysis to better understand customer habits and preferences, as well as to discover new business models and potential risks.

Robots and Job Automation: In finance, robots and automation are used to reduce the cost and risk of errors in routine processes, such as document processing and simple transactions.

Cloud Services: Data transfer services in the cloud have enabled financial institutions to use the capacity and scale of their infrastructure as needed, reducing costs and improving efficiency.

Technology Distribution in Mobile: Banks and financial institutions offer services more tailored to mobile devices, including bank applications and mobile phone payment services.

Online Finance Regime: The development of the online finance market has changed the way people invest, lend, and use online financial services.

These technological changes have brought several advantages, including efficiency improvements, and easier access to financial data and services in finance. However, they have also brought new challenges, including security risks and privacy issues related to the use of big data and financial technology (Sangwan et al., 2020).

The digital revolution has dramatically widened and simplified the pathway to financial services for both individuals and businesses by unlocking a myriad of opportunities in investments, loans and diverse financial transactions. This transformative shift has notably elevated the financial health and opportunities for a broad swath of the global population. Being at the front of this change, financial institutions harness automation to refine processes, slash operational costs and boost overall efficiency. This translates into tangible benefits for customers through reduced fees and expedited services. The financial domain has been invigorated by technology, catalyzing the creation of groundbreaking products and services. These products include automated investment platforms, mobile payment solutions, and the rise of cryptocurrencies (Kumar et al., 2023).

These technological strides have opened a new horizon for investors, offering them an expanded palette of options to diversify their investments and venture into novel financial instruments thereby amplifying their potential for earnings and risk mitigation. Concurrently, the advent of

specialized software and digital platforms for portfolio management has equipped investors with sophisticated analytical tools based on real-time data and insights.

Yet, this era of progress is not devoid of challenges and risks. The proliferation of online transactions and the extensive reliance on big data have escalated concerns regarding the security and privacy of financial information. They spotlighted the vulnerabilities to breaches and misuse in an increasingly interconnected world. Moreover, the swift pace of innovation in the financial sector introduces regulatory dilemmas. The formulation of new legislation aimed at safeguarding consumer interests and preserving the integrity of financial markets (Dhayanidhi, 2022).

Additionally, the expansive use of digital technologies in finance risks inundates analysts and investors with an overload of information, complicating decision-making processes and the risk of analytical errors. The deployment of algorithms and artificial intelligence in financial services harbors its own set of risks. The unethical use of personal data and the propagation of algorithmic inaccuracies lead to consequential financial losses (Fernández, 2019).

Addressing these complexities requires a concerted effort from financial institutions, regulatory authorities and individuals. This helps to devise and implement effective strategies focused on enhancing security, privacy, and the responsible use of technology. The surge in financial education applications and investment platforms represents a significant leap forward in democratizing financial literacy, empowering a wider audience with the knowledge and tools to engage in investment activities confidently. Despite the hurdles, Fintech remains a formidable force of innovation within the financial sector, incessantly pushing the boundaries and catalyzing profound changes.

Through this era of relentless technological advancement in finance, it becomes paramount for all stakeholders such as financial institutions, regulatory authorities and individual participants to remain vigilant and adaptable. It is considered important to be ready to embrace both the challenges and opportunities that this evolution entails on a worldwide scale (Anagnostopoulos, 2018).

With all these positive changes, it is important to note that FinTech has also faced some challenges and concerns.

Technological evolution continues to change the way the world of finance functions. Financial institutions, regulators and individuals need to be prepared for the challenges and advantages of the global economy (Gomber et al., 2018).

2.1. The Digital Evolution of Financial Services: a New Era of Convenience and Accessibility

This shift from the traditional financial services sector driven by digital innovation, underscores the transition to online and mobile banking. The digitalization of investment and portfolio management, the introduction of digital payment systems and innovative methods lead to lending and crowdfunding.

Online and mobile banking services have marked a drastic change in how people use and connect with financial services. Bank apps and websites make it possible for customers to manage their accounts, make transactions and seek loans from their mobile devices. This has reduced the need for physical visits to bank branches, giving users further freedom and flexibility in their finances (Ilollari & Bello, 2014).

Investments and Digital Portfolios: In the world of Fintech, investments have shifted towards a fully digital experience. Automated investment platforms, known otherwise as robo-advisors, have become a commonly used tool for investors. These platforms objectively analyze financial markets and offer personalized advice to manage investment portfolios. Users can follow market developments and make informed decisions with a simple click from their phone (Sironi, 2016).

Digital payment: Services have changed the paradigms of financial transactions. Payment apps and cryptocurrencies offer a fast, secure, and easy way to perform payments. This not only has increased the security of transactions but also has facilitated the exchange of value at an international level. Users can make their payments using just an app on their phone by eliminating the need for physical coins or credit cards (Riemer et al., 2017).

Online Lending and Crowdfunding: Fintech has heralded a revolution in how loans and project funding are financed. The use of online lending platforms has made it easier for individuals and businesses to access financial resources. Crowdfunding has brought a new way to finance projects. Thus, allowing creators to gather funds from a wide group of potential investors. This has opened doors for the development of creative and innovative projects that might lack traditional bank support (Griffiths, 2020).

3. FINTECH ADOPTION IN THE WESTERN BALKANS

The Western Balkans offer considerable market opportunities and potential for the growth of Fintech. Fintech solutions can address the issue of financial exclusion by offering access to financial services for the underserved population. The region has a large unbanked or underbanked population, presenting opportunities for Fintech companies to offer innovative and accessible financial products. The Western Balkans are characterized by a high volume of cross-border trade and remittances. Fintech companies can benefit from this by offering efficient and cost-effective cross-border payment solutions. This can be done by reducing transaction costs and improving financial connectivity within the region (Erkan et al., 2022).

The growth of e-commerce presents opportunities for Fintech companies to offer secure and convenient digital payment solutions. Fintech can facilitate the growth of online businesses and improve the overall digital economy in the Western Balkans. Small and medium enterprises (SMEs) are essential for economic growth. Fintech can enable easier access to finance SMEs through innovative lending platforms, crowdfunding, and peer-to-peer lending. Meanwhile, these methods incentive to stimulate entrepreneurship and economic development.

Governments should create clear and supportive regulatory frameworks that encourage innovation, consumer protection and financial stability. This includes collaboration with relevant stakeholders, such as regulatory authorities, industry players, and international organizations (Arner et al., 2016).

Furthermore, governments can offer financial incentives, grants and financing programs to support Fintech startups. This can encourage innovation in research and the growth of Fintech companies in the region. Therefore, governments should prioritize the development of digital infrastructure, including internet connectivity, digital payment systems and cybersecurity measures. This infrastructure is vital for Fintech companies to offer their services effectively and securely.

Easy Pay, as a leading Fintech company in Albania, can explore expanding its service offerings to include additional financial products, such as microloans or insurance, to meet the diverse needs of its

customer base. By doing so, strategic partnerships with banks, e-commerce platforms, and other Fintech companies can enhance Easy Pay's reach and offer integrated solutions for customers. This company can focus on expanding its services to reach previously underserved populations (Troplini et al., 2020).

3.1. Future Perspectives for Fintech in the Western Balkans

The Fintech industry in the Western Balkans is expected to witness several trends and developments in the future, including:

- *Digital Banking:* The shift towards digital banking services, including mobile banking and digital wallets is likely to accelerate. Fintech companies can benefit from this trend by offering innovative and user-friendly digital banking solutions.
- *Blockchain and Distributed Ledger Technology (DLT):* Blockchain technology has the potential to revolutionize various aspects of financial services, including secure transactions, and smart contracts. Fintech companies can explore integrating blockchain and DLT solutions to increase efficiency, transparency and security.
- *Artificial Intelligence (AI) and Machine Learning (ML):* AI and ML technologies can be used by Fintech companies to automate processes, personalize services and improve risk assessment and fraud detection. These technologies can enhance the overall customer experience and streamline operations.
- *Open Banking and API Integration:* Open banking initiatives and the use of Application Programming Interfaces (APIs) enable the sharing of financial data between banks and third-party providers. Fintech companies can use online banking to develop innovative products and services in the financial ecosystem (Zachariadis & Ozcan, 2017).
- *Regtech and compliance solutions:* The increasing regulatory complexity requires advanced regulatory technology (Regtech) solutions to simplify compliance processes. Fintech companies can develop Regtech tools to help financial institutions efficiently meet regulatory requirements (Arner et al., 2018).
- *The Internet of Things (IoT):* IoT devices can enable seamless and secure financial transactions, such as contactless payments and asset tracking. Fintech companies can integrate IoT to enhance customer experiences and develop innovative services (Gubbi et al., 2013).
- *Biometrics:* Biometric authentication methods, such as fingerprints and facial recognition, offer increased security and convenience in financial transactions. Fintech companies can use biometrics to improve identity verification and strengthen the security of their services.
- *Big data analytics*: The use of big data analytics enables Fintech companies to gain insights into customer behavior, risk assessment and personalized financial recommendations. Advanced analytics can help in better decisions and improve customer satisfaction.
- *Robotic Process Automation (RPA):* RPA can automate repetitive tasks, such as data entry and document processing, reducing operational costs and increasing efficiency. Fintech companies can use RPA to improve their operations and enhance service delivery (Huang & Vasarhelyi, 2019).

Several key factors will influence the growth and success of Fintech companies in the Western Balkans, including:

- *Regulatory Environment:* A supportive and adaptable regulatory framework that encourages innovation, ensures consumer protection and provides clarity is essential for Fintech companies.
- *Access to Capital:* Adequate funding sources, including venture capital and angel investors, are crucial for Fintech companies. They assist in scaling their operations, invest in technology, and drive innovation.

- *Digital Infrastructure:* The development of a strong digital infrastructure such as internet connectivity, mobile penetration and secure payment systems are vital for Fintech companies for more efficient services.
- *Talent and Skills:* Access to a skilled workforce in areas such as technology, finance, and compliance is important for Fintech companies in order to thrive and innovate.
- *Customer Trust and Adoption:* Building and maintaining trust, through transparent and secure services are critical for wider adoption of Fintech services by customers (Nicoletti et al., 2017).

The international payment system industry stands as a multifaceted domain. It encompasses a wide array of stakeholders including financial institutions, technology firms, payment processors, card networks and mobile payment solutions like Apple Pay, Google Pay, and Samsung Pay. The prominence of these players can fluctuate across different regions whereas banks, payment processors, card networks, mobile payment providers, NFC technology and e-commerce platforms consistently mark their significance on a global scale (Chandrashekar, 2021).

The rise of Fintech startups introduces a wave of innovation within the payment system sector, challenging the status quo with cutting-edge payment solutions, peer-to-peer transfer mechanisms and digital wallet services. This disruption underscores the transformative impact of Fintech, driving a shift toward more accessible in efficient financial services.

Focusing on the Balkans, it's imperative to recognize the pivotal role that central banks and payment clearing systems play in maintaining the efficiency of payment systems. The region faces challenges that need to facilitate the entry and success of major players, including interoperability issues, limited payment infrastructure, regulatory constraints, and the need for enhanced financial literacy (Ilollari et al., 2024).

Despite the Balkans being located in a strategically significant region, it has a relatively smaller market size. By seeking quicker returns in larger markets this potentially leads to a more gradual and measured approach to the expansion of payment system services in the Balkans (World Bank Group, 2019).

Table 1. Advantages and Disadvantages of Using Fintech

Advantages of Using Fintech	**Disadvantages of Using Fintech**
Ease of Access: Fintech has made it easier to access financial services for individuals and businesses	***Data Security:*** The increase in online transactions has raised concerns about data security and the possibility of cybercrimes.
Personalized Services: Fintech has enabled the provision of personalized services by analyzing and using data about users.	***Impact on Employment:*** The development of technology could lead to a reduction in employment in some traditional financial sectors.
Innovation in Investments: Automated investments and robo-advisors have brought innovations in the management of investment portfolios.	***Impact on Traditional Banks****:* The rise of Fintech has brought competition for traditional banks, forcing them to adapt more quickly to innovations.
Lower Costs: Fintech has the potential to reduce the costs of transactions and financial services.	***Regulatory Risk:*** Rapid changes and innovations in Fintech can create challenges for regulators and necessitate new standards.
	Market Risk: Rapid changes and competition can pose risks to the stability of the financial market.

Source: Nahornyi (2021)

Nonetheless, the payment system landscape in the Balkans, especially in Albania is on a path of evolution and growth. The gradual expansion of services by various providers as the emergence

of local Fintech startups signals a promising direction toward addressing the unique financial needs of the region. The Fintech revolution is redefining the financial sector, heralding a new era of convenience, accessibility, and efficiency for consumers. Meanwhile, they offer businesses and institutions avenues for enhanced operational efficiency and service improvement. However, the exhilarating pace of innovation brings with it the need for vigilance against security risks and potential impacts on financial stability. This can emphasize the importance of fostering a sustainable and beneficial fintech ecosystem (Rajendran et al., 2023).

Table 1 provides an overview of the advantages and disadvantages of using Fintech. An organization or individuals are exploring the benefits and challenges of this technology, it's important to consider these aspects and manage risks carefully to maximize the benefits of innovation in their financial field.

4. CONCLUSION

In this study, we conclude that the financial sector is undergoing a significant transformation driven by the integration of finance and technology, such as Fintech. This convergence has catalyzed a revolutionary change in how financial services are delivered, characterized by increased efficiency, security, and accessibility. Fintech's emergence as a powerful force within the global financial industry is largely attributed to advancements in blockchain, artificial intelligence (AI), and big data analytics. They have collectively enhanced the operational landscape of financial institutions and services.

Moreover, Fintech has played a crucial role in democratizing financial services, thus promoting economic empowerment and inclusivity. Despite its numerous benefits, the rise of Fintech also presents challenges. These include security vulnerabilities and regulatory complexities that necessitate ongoing vigilance and adaptation. The potential of Fintech remains unequivocal. It presents an avenue for the provision of more personalized financial services, reduction in service costs and enhancement in operational efficiency. Most importantly, it acts as a pivotal force for financial inclusion and extends an array of financial products and services to populations previously marginalized by traditional financial systems.

Particularly noteworthy is Fintech's potential to stimulate economic growth and financial inclusion in the Western Balkans, suggesting a promising avenue for leveraging technology to foster a more equitable financial ecosystem. This requires robust support in the form of regulatory frameworks, digital infrastructure development and financial literacy initiatives.

Ultimately, the evolving nature of the payment system industry significantly influenced by Fintech innovations highlights the importance of enhanced security measures. The pursuit of a more efficient and inclusive financial landscape is the core of Fintech (Ilollari et al., 2022). As we navigate these changes, it is imperative to balance innovation with the safeguarding of financial stability and integrity, ensuring that the benefits of Fintech are realized across the board.

Standing at the precipice of this new financial era, the concerted efforts of all stakeholders will be indispensable in guiding the trajectory of Fintech. The future wherein technology not only powers the financial sector but also facilitates the empowerment of global communities and economies.

References

Anagnostopoulos, I. (2018). Fintech and regtech: Impact on regulators and banks. *Journal of Economics and Business*, *100*, 7-25.

Arner, D. W., Barberis, J., & Buckey, R. P. (2016). FinTech, RegTech, and the reconceptualization of financial regulation. Nw. J. Int'l L. & Bus., 37, 371.

Arner, D. W., Barberis, J., & Buckley, R. P. (2018). RegTech: Building a better financial system. In *Handbook of blockchain, digital finance, and inclusion, Volume 1* (pp. 359-373). Academic Press.

Awotunde, J. B., Adeniyi, E. A., Ogundokun, R. O., & Ayo, F. E. (2021). Application of big data with fintech in financial services. In *Fintech with Artificial Intelligence, Big Data, and Blockchain* (pp. 107-132). Singapore: Springer Singapore.

Chandrashekar, Y. (2021). Analysis of payment start-ups in the world: an empirical study of the current players and the anticipated trend.

Dhayanidhi, G. (2022). Research on IoT threats & implementation of AI/ML to address emerging cybersecurity issues in IoT with cloud computing.

Erkan, B., Burçak, B., & Kestel, S. A. (2022). Resilience into disaster risk management (Master's thesis, Middle East Technical University).

Fernández, A. (2019). Artificial intelligence in financial services. *Banco de Espana Article*, *3*, 19.

Gomber, P., Kauffman, R. J., Parker, C., & Weber, B. W. (2018). On the fintech revolution: Interpreting the forces of innovation, disruption, and transformation in financial services. *Journal of management information systems*, *35*(1), 220-265.

Goralski, M. A., & Tan, T. K. (2020). Artificial intelligence and sustainable development. *The International Journal of Management Education*, *18*(1), 100330.

Griffiths, P. (2020). The Fintech industry: crowdfunding in context. *Advances in Crowdfunding*, 241.

Gubbi, J., Buyya, R., Marusic, S., & Palaniswami, M. (2013). Internet of Things (IoT): A vision, architectural elements, and future directions. *Future generation computer systems, 29*(7), 1645-1660.

Huang, F., & Vasarhelyi, M. A. (2019). Applying robotic process automation (RPA) in auditing: A framework. *International Journal of Accounting Information Systems*, *35*, 100433.

Ilollari, O., & Bello, K. (2014, October 23). MOBILE BANKING AS A RESULT OF TECHNOLOGY ADVANCEMENT. *Challenges Toward the Future*.

Ilollari, O., & Kociaj, I. (2022). Digital Banking: The Continued Growth of Digital Transformation in the Banking Industry-Case Albania. *Euro Mediterranean*, *19*, 61–73.

Ilollari, O., Meçe, M., & Ribaj, A. (2022). Implications related to Bank's Customers Satisfaction (The case of Albanian banks grouped by the origin of shareholder's capital). *WSEAS Transactions on Business and Economics*, *19*, 837-851.

Ilollari, O., Papajorgji, P., & Civici, A. (2024). Stimulating the Post-COVID-19 Economic Recovery Scenarios to Evaluate Students' Understanding. *International Journal of Sociotechnology and Knowledge Development (IJSKD)*, *16*(1), 1-14.

Ilollari, O., Papajorgji, P., Civici, A., & Moskowitz, H. (2022). Measuring Client's Feelings on Mobile Banking. *Review of Applied Socio-Economic Research*, *23*(1), 28-39.

Jalal, A., Al Mubarak, M., & Durani, F. (2023). Financial technology (fintech). In Artificial Intelligence and Transforming Digital Marketing (pp. 525-536). Cham: Springer Nature Switzerland.

Kumar, R., Kaur, S., Erceg, Ž., & Mirović, I. (2023). Industry 4.0 and its impact on entrepreneurial ecosystems: An examination of trends and key implications. *J. Organ. Technol. Entrep*, *1*(1), 12-34.

Nahornyi, P. (2021). Fintech: trends and prospect of development in the transition to a touchless economy.

Nicoletti, B., Nicoletti, W., & Weis, A. (2017). Future of FinTech. Basingstoke, UK: Palgrave Macmillan.

Patel, K. (2023). Bridging Data Gaps in Finance: The Role of Non-Participant Models in Enhancing Market Understanding. *International Journal of Computer Trends and Technology*, *71*(12), 75-88.

Rajendran, P., Thomas, R., Marimuthu, K. N., & Jamal, N. (2023). Financial Technology (Fintech) Revolution: Reshaping the Landscape of Financial Services. *European Economic Letters (EEL)*, *13*(4), 636-644.

Riemer, K., Hafermalz, E., Roosen, A., Boussand, N., El Aoufi, H., Mo, D., & Kosheliev, A. (2017). The Fintech Advantage: Harnessing digital technology, keeping the customer in focus.

Sangwan, V., Prakash, P., & Singh, S. (2020). Financial technology: a review of extant literature. *Studies in Economics and Finance*, *37*(1), 71-88.

Sironi, P. (2016). *FinTech innovation: from robo-advisors to goal based investing and gamification*. John Wiley & Sons.

Troplini, R., Tota, I., & Zyko, M. (2020). FinTech Should we accelerate their development?.

World Bank Group. (2019). *Western Balkans Regular Economic Report No. 15, Spring 2019: Reform Momentum Needed*. World Bank.

Zachariadis, M., & Ozcan, P. (2017). The API economy and digital transformation in financial services: The case of open banking.

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On the Synergy Between Renewable Energy and Npl Reduction in the Maritime Industry

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Abstract: *The recent geopolitical tensions, the rising uncertainties and climate risks pose challenges to all industries. The shipping industry faces challenges such as rising fuel costs and tightening environmental regulations, which decrease the ability of shipping borrowers to meet their loan repayment obligations, exacerbating the likelihood of increased non-performing loans (NPLs). Drawing on existing literature, this study examines the synergy between renewable energy adoption and NPLs in the maritime industry. The findings underscore that the increased renewable energy dependency will bolster the resilience of maritime borrowers. Vessels adopting renewable sources and aligning with tightened environmental regulations may avert the regulatory disruptions that could hinder loan repayments. Renewable sources' adoption will also attract investors and enhance access to additional financing. Consequently, reduced NPLs will stimulate banks' financial stability and foster economic growth. This study also identifies challenges related to renewable energy adoption, offering practical pathways to adoption and outlining the channels of NPL reduction.*

1. INTRODUCTION

The marine industry, being crucial to international trade, currently confronts numerous challenges due to increasing geopolitical tensions, economic uncertainties and the negative spillovers of climate change (Bošnjaković, 2012; Germond & Mazaris, 2019). A key pressing issue arising as an accumulation of these challenges is the bank non-performing loans (NPLs), which present substantial financial risks to both marine borrowers and lending institutions (Campbell, 2007). Within this context, the incorporation of renewable energy sources (RES), arises as a crucial strategy of NPL reduction and simultaneously promotes sustainability goals in the maritime industry.

The scientific literature confirms that the maritime industry is currently grappling with significant economic challenges. These concerns include the rising cost of fuel and the increasing burden of regulatory compliance (Halff et al., 2019). These are exacerbated due to the recent geopolitical tensions and the increasing frequency and severity of the physical and transitional effects of climate change. Borrowers face economic challenges due to the combinational negative effects of geopolitical and climate risks, resulting in the proliferation of NPLs related to maritime borrowers (Shabir et al., 2024).

In response to these challenges, there is a growing interest in the literature, in harnessing the potential of RES to enhance the current maritime operations. The current literature has highlighted the advantageous benefits of adopting RES in the maritime industry. Among them the reduced operational costs (Issa et al., 2022), enhanced regulatory compliance (Yusoff, 2006), as well as

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increased investments (Shahbaz et al., 2020). Vessels that utilize RES are in a more advantageous position to handle the changing regulations and the rising financial uncertainties in the maritime industry, by addressing environmental concerns by lowering their dependence on fossil fuels (Issa et al., 2022; Shahbaz et al., 2020; Yusoff, 2006).

The objective of this study is to explore the synergy between RES and the bank NPLs related to the maritime industry. This exploration is conducted through a systematic literature review (SLR), of the existing literature on empirical, theoretical as well as case studies revolving around the economic, environmental and financial dimensions of the RES-NPL relationship. The ultimate aim is to demonstrate how adopting RES, can enhance the financial stability and resilience of the banking system, by reducing the bank NPLs related to the maritime industry.

Through an in-depth analysis of the current literature on emerging trends, the secondary aim of this paper is also to provide practical insights and recommendations for stakeholders who are inclined to promote sustainable finance practices in the maritime industry. Moreover, financial institutions can navigate the complexities of maritime lending with greater confidence and resilience and therefore contributing to the stability and sustainability of the maritime industry.

We form the following main research questions to be answered: (RQ1) What is the impact of incorporating RES into maritime operations and the decline of NPLs? (RQ2): How can the primary challenges associated with the deployment of RES in the maritime industry be mitigated, to successfully promote sustainable finance?

This study contributes to the current literature, by being the first to in-depth utilize key scientific studies to shed light on the RES-NPL relationship. Second, it examines this relationship by considering a large amount of scientific literature analyzed, comprised of 1467 scientific studies. Third, it accounts for various scientific studies, comprised of theoretical and empirical nature, as well as case studies. Fourth, it also accounts for diverse studies revolving around the economic, environmental and financial dimensions of RES-NPL.

The structure of this paper is organized as follows: Section 2 details the methodology, including the research paper identification, the evaluation strategy and the assessment of the investigated research. Section 3 presents and discusses the main findings based on the analysis from Section 2. Section 4 presents the fulfillment of the research questions. Finally, Section 5 provides concluding remarks and suggestions for future research.

2. METHODOLOGY

The research methodology employed in this study is a Systematic Literature Review (SLR) following the guidelines recommended by Tranfield et al. (2003) and Denyer and Tranfield (2009). This approach ensures a rigorous, transparent and fact-based synthesis of the existing research, facilitating a deep understanding of the current state of research on the integration of renewable energy in the maritime industry and its impact on NPLs.

The SLR was composed of two main phases: (1): Literature identification, comprising of database identification and database search, initial screening, selection of studies meeting specific inclusion criteria, relevant to the research objectives; (2) Mapping of the identified literature into three themes. Specifically, Theme 1: “The Influence of Incorporating Renewable Energy on the

Reduction of Non-Performing Loans (NPLs)"; Theme 2: "Tackling Obstacles and Advantages in the Implementation of Renewable Energy"; Theme 3: "Pragmatic Suggestions for Ensuring Sustainable Funding in the Maritime Industry".

The three themes were then evaluated in accordance with the research questions of this study.

2.1. Phase 1: Identification

Table 1 presents the steps of the paper selection process related to phase (1) and Table 2 presents the paper inclusion/exclusion criteria.

Table 1. Phase 1: Selection Process

Stage	Description
1. Database Identification	Selection of the databases to perform the literature search and initial filtering.
2. Comprehensive Search	A comprehensive search was conducted on the selected academic databases using predefined keywords and combinations.
3.a. Screening	Initial screening of the research papers, based on their titles and their abstracts, to identify potentially relevant papers for full-text assessment.
3.b. Eligibility	Full-text assessment to determine eligibility, based on inclusion and exclusion criteria to ensure both relevance to the research questions and methodological rigor.
4.a. Included	Selection of studies meeting all inclusion criteria and deemed relevant to the research objectives to ensure consistency and reliability.
4.b. Excluded	Studies excluded during full-text assessment due to not meeting inclusion criteria, being duplicates, non-English, or unrelated to the research topic.

Source: Own calculations

Table 2. Inclusion Exclusion Criteria

Criteria	Inclusion Criteria	Exclusion Criteria
Publication Type	Peer-reviewed journals published in the English language.	Non-peer-reviewed sources, non-English publications and research papers from non-academic sources.
Topic Relevance	Research papers addressing the integration of renewable energy in the maritime industry and its impact on non-performing loans (NPLs) among maritime borrowers.	Research papers unrelated to renewable energy adoption, NPL reduction, or maritime finance.
Methodological Rigor	Studies with empirical data or theoretical analysis related to the research questions, employing robust methodologies.	Studies lacking substantive analysis or employing methodologies deemed methodologically weak or unreliable.
Publication Year Range	Research published between 2014 and 2024, to ensure a comprehensive review of relevant literature while capturing recent developments.	Outdated publications or publications published after the year 2024.

Source: Own calculations

The above steps are presented below in detail:

1. Database Identification

a. The literature search was performed utilizing the EBSCO and ABI Inform Global PROQUEST databases based on their comprehensive coverage of up-to-date journals, their capacity to employ Boolean operators, and their strong search functionalities.

2. Comprehensive Search

a. Two search strings were developed to retrieve relevant research studies:
   String 1: ("Renewable energy" OR "Non-performing loans" OR "Maritime industry" OR "Financial stability" OR "Shipping finance");
   String 2: ("Climate change" OR "Regulatory compliance" OR "Operational expenses" OR "Investment attraction" OR "Maritime industry").

The above search strings were designed to encompass peer-reviewed journals scholarly journals in the fields of RES, maritime, sustainable finance and NPLs.

The initial search resulted in 1467 studies (EBSCO: 976, ProQuest: 491). After initial research, 323 duplicate records were removed.

264 research studies were also excluded from further analysis. Surveys, qualitative analysis, proceeding papers and papers not explicitly focusing on the maritime industry were the ones being excluded during this stage.

3. Screening Based on Eligibility

a. Title and Abstract Review: The titles and the abstracts of the identified publications were examined to determine their relevance to the primary topic.
b. Full-Text Assessment: The selected publications were carefully examined to ensure that they were both relevant in terms of topic and methodology.
c. The studies included in the analysis were restricted to publications published between 2014 and 2024 to cover a wide range of relevant literature.
d. Studies focused on diverse ethnic groups and minorities, or studies with only study design descriptions, as well as those only providing a methodology description were also excluded.

Out of the steps outlined above, 59 studies were identified as potentially eligible based on their relevance to the incorporation of renewable energy sources (RES) in the marine industry and their effects on NPLs, aligning with our research goals.

Following a detailed quality appraisal, 39 studies were excluded. Specifically, 33 studies focused on diverse ethnic groups and minorities, 5 studies included only study design and 1 study provided only a description of the methodological outlines.

As a result, only twenty studies (20) met the eligibility criteria and were chosen for further analysis and synthesis, to ensure a comprehensive investigation of the topic. The selected papers encompass a wide range of perspectives and methodologies, thereby enhancing both the breadth and depth of the study's findings, which will be presented in the subsequent sections.

2.2. Phase 2: Mapping

In phase 2, the twenty (20) selected papers were synthesized and mapped into the three aforementioned themes based on the objectives, methodologies, findings and implications of each paper.

Theme 1 (10 papers): Influence of Incorporating Renewable Energy on the Reduction of Non-Performing Loans (NPLs)

Includes studies highlighting financial stability, operational cost reduction, regulatory compliance and environmental reputation.

Theme 2 (5 papers): Tackling Obstacles and Advantages in the Implementation of Renewable Energy

Includes papers related to initial costs, regulatory hurdles and the need for collaborative efforts and financial incentives.

Theme 3 (5 papers): Pragmatic Suggestions for Ensuring Sustainable Funding in the Maritime Industry

Includes research providing actionable recommendations on ESG factors, capacity building, training programs and green investments.

This comprehensive mapping ensured a broad and in-depth understanding of the relationship between renewable energy adoption and financial sustainability in the maritime industry.

3. FINDINGS

This section presents the findings from the twenty (20) selected studies, thematically categorized.

Theme 1

Integrating renewable energy sources into maritime operations significantly affects the performance of borrowers in terms of loan repayments. The selected papers highlight the diverse advantages of this transition, demonstrating that RES can lead to NPL reduction by strengthening financial resilience and promoting regulatory and environmental stewardship.

Key findings include:

a. Reduction of Operational Costs: Hassan et al. (2023) emphasize that the maritime borrowers utilizing RES, can significantly experience increased profitability and enhance financial stability, while simultaneously reducing their operational expenses. Sikiru et al. (2024) agree that vessels utilizing RES witness a significant decrease in fuel costs, which are a major component of their operational expenses.
b. Financial Stability: RES improves profitability and enhances marine borrowers' capacity to fulfill their loan repayment requirements, thus reducing the NPLs (Schwerhoff & Sy, 2017).
c. Economic Resilience: Li et al. (2022) emphasize that the integration of RES in maritime operations can act as a protective shield against external risks since it allows maritime borrowers to adapt and traverse unpredictable market conditions. Consequently, financial institutions view these borrowers as less risky, leading to more advantageous loan conditions, thus reducing the likelihood of non-performing loans (Settembre-Blundo et al., 2021).
d. Regulatory Compliance: Liu et al. (2023a) state that vessels that adopt RES are in a better position and can better comply with the varying environmental regulations. This reduces the risk of incurring penalties while also enhancing their financial stability. Moreover, by

complying with the environmental regulations, maritime borrowers can avoid costly fines, while at the same time, they may an increase in their financial position.

e. Environmental Reputation: Complying with the environmental regulations, improves the environmental reputation related to the maritime borrowers. Borrowers with a strong environmental reputation may attract more investors interested in supporting environmentally responsible firms. This secures additional financing for the maritime borrowers, while at the same time improving the overall financial reputation of maritime companies. These imply decreased volumes of NPLs (Ketterer, 2017).

f. Building Trust: Liu et al. (2023b) state that maritime companies that utilize RES, imply reduced greenhouse gas emissions emitted in the atmosphere. This enhances their brand reputation and builds trust among the company and the investors. As a result, it becomes easier to obtain loans with better conditions. Iqbal and Nosheen (2023) state that the integration of RES in maritime operations is a strategic necessity with significant positive financial consequences. Durrani et al. (2020) add that RES reduces operational costs and improves the resilience of maritime borrowers. They also state that RES assists borrowers in aligning with the regulatory requirements and achieving long-term financial stability. These imply a significant reduction in NPLs.

Theme 2

While RES offers significant advantages, there numerous obstacles regarding their implementation. The selected papers, propose methods to alleviate these obstacles while also exploiting opportunities for sustainable financial practices.

Key findings include:

a. Encouragement of RES Adoption: The literature identified various methods to alleviate the barriers to RES adoption. Feng et al. (2022) propose that financial institutions might encourage investments in RES by providing marine borrowers interested in adopting RES, with advantageous loan conditions.

b. Regulatory Hurdles: Zhu et al. (2022) and Abdmouleh et al. (2015) propose the implementation of global regulatory frameworks that encourage the adoption of RES, while also offering financial incentives to facilitate its implementation.

c. Collaborative Efforts: Sen and Ganguly (2017) and Journeault et al. (2021) emphasize the necessity of collaborative endeavors among stakeholders, such as governments, financial institutions and industry participants, to collectively address the obstacles that hinder the adoption of RES. These partnerships can promote the exchange of knowledge, technology transfer and investment attraction, leading to lower implementation costs and increased viability of RES utilization in the maritime industry.

Theme 3

The selected literature provides practical suggestions to promote long-lasting sustainable finance practices in the maritime industry. The integration of ESG criteria in bank lending decisions as well as the facilitation of capacity building and training programs emerge as the most prominent.

Key findings include:

a. Integration of ESG criteria: According to Ziolo et al. (2019) and Anagnostopoulos et al. (2018), financial institutions should incorporate and consider the ESG criteria when providing new

loans to maritime borrowers. By utilizing ESG criteria, banks can evaluate the sustainability levels of maritime borrowers and extend preferential interest rates to those actively engaging in sustainable practices. Moreover, they could advance RES adoption, by offering preferential loan conditions to maritime borrowers willing to incorporate RES into their operations.

b. Capacity Building and Training Programs: According to Mallouppas and Yfantis (2021) and Majid (2020), the implementation of RES in the maritime industry can be facilitated by undertaking capacity-building. Moreover, Li and Umair (2023) and Majid (2020) suggest that training programs that target the integration, maintenance and optimization of RES can provide maritime personnel with the knowledge and skills needed to adopt sustainable practices and fully capitalize on the advantages of green investments.

4. FULFILMENT OF RESEARCH QUESTIONS

RQ1: What is the impact of incorporating RES into maritime operations on the decline of NPLs?

Research Question 1 (RQ1) is extensively covered in the first theme. This theme illustrates that maritime borrowers utilizing RES, report increased financial stability, due to lower operational costs, enhanced regulatory compliance and increased access to finance. The literature also demonstrates that RES integration reduces financial risks while also strengthening the borrowers' resilience to economic and regulatory pressures.

RQ2: How can the primary challenges associated with the deployment of RES in the maritime industry be mitigated to successfully promote sustainable finance?

Research Question 2 (RQ2) is covered in the second theme. The literature highlights barriers of maritime borrowers to RES adoption such as high initial investment costs, technology constraints and regulatory challenges. The literature also suggests strategies to overcome those barriers, such as the initiation of collaborative initiatives, regulatory frameworks and financial incentives. Additionally, the literature emphasizes the significance of stakeholder involvement and capacity-building to assist the maritime industry in sustainable transition. Strategic interventions and coordinated measures can also assist stakeholders in overcoming barriers while seizing the existing opportunities, to boost RES adoption.

RQ1 and RQ2

The third theme covers Research Question 1 (RQ1) and Research Question 2 (RQ2), by offering fact-based suggestions for ensuring sustainable funding in the maritime industry. The literature provides actionable recommendations including the integration of environmental, social, and governance (ESG) criteria into bank lending decisions. The literature also suggests banks incentivize RES investments with preferential loan terms, while also encouraging stakeholder collaboration to overcome RES adoption barriers. It also emphasizes the significance of capacity building and skill development. By investing in training and knowledge-sharing platforms, stakeholders may assist marine professionals adopt sustainable practices. Regulators and policymakers may also assist in the incorporation of RES in the maritime industry while also offering financial aid and environmental sustainability.

5. CONCLUSION & FUTURE RESEARCH

In the face of geopolitical tensions, economic instability and climate change, this paper investigates the relationship between RES and the reduction of NPLs related to maritime borrowers. Throughout a comprehensive SLR, this paper demonstrates that the NPLs of the maritime borrowers decrease as the rate of adoption related to RES increases. This is based on the examination and analysis of extensive academic and empirical evidence, highlighting the numerous advantages of renewable energy in marine operations. Specifically, the results of this paper show that the RES minimize the operational costs due to lower fuel prices. This ensures compliance with environmental regulations and leads to increased financing options for maritime firms. Environmental stewardship also elevates the reputation of the maritime borrowers, facilitating easier access to funding, while decreasing the risk of default.

Despite the advantages of RES, the paper shows significant impediments to its adoption by the maritime industry/borrowers. Among the major obstacles are the high initial investment costs, the technological limitations, as well as the complex regulatory frameworks. However, these challenges can be effectively addressed by taking proactive measures such as collaborative partnerships, supportive legislative frameworks and through financial incentives that promote sustainability practices within the maritime industry.

This research translates these findings into actionable solutions for stakeholders aiming for sustainability in the marine industry. Key strategies include incorporating Environmental, Social, and Governance (ESG) criteria into lending practices, strengthening regulatory frameworks for reducing vessel emissions and offering favourable loan conditions for renewable energy investments, while also fostering stakeholder engagement and raising public awareness regarding sustainable practices are crucial strategies. Moreover, allocating funds for capacity building, technological innovation and skill development will support maritime borrowers in mitigating the barriers to RES adoption. As a result, they will not only achieve enhanced resilience but also a long-term transition to renewable energy.

Future research could quantify the financial benefits of RES adoption; build robust economic models that quantify the cost savings and revenue potential associated with RES in maritime operations; and develop regional analyses by investigating the specific challenges and opportunities for RES adoption for vessels operating in diverse regions.

References

Abdmouleh, Z., Alammari, R. A., & Gastli, A. (2015). Review of policies encouraging renewable energy integration & best practices. *Renewable and Sustainable Energy Reviews*, *45*, 249-262. https://doi.org/10.1016/j.rser.2015.01.035

Anagnostopoulos, T., Skouloudis, A., Khan, N., & Evangelinos, K. (2018). Incorporating sustainability considerations into lending decisions and the management of bad loans: Evidence from Greece. *Sustainability*, *10*(12), 4728. https://doi.org/10.3390/su10124728

Bošnjaković, B. (2012). Geopolitics of climate change: a review. *Thermal Science*, *16*(3), 629-654. https://doi.org/10.2298/TSCI120202127B

Campbell, A. (2007). Bank insolvency and the problem of nonperforming loans. *Journal of Banking Regulation*, *9*, 25-45. https://doi.org/10.1057/palgrave.jbr.2350057

Denyer, D., & Tranfield, D. (2009). Producing a systematic review. In D. A. Buchanan & A. Bryman (Eds.), *The Sage Handbook of Organizational Research Methods* (pp. 671–689). Sage Publications Ltd.

Durrani, A., Rosmin, M., & Volz, U. (2020). The role of central banks in scaling up sustainable finance–what do monetary authorities in the Asia-Pacific region think?. *Journal of Sustainable Finance & Investment*, *10*(2), 92-112.

Feng, S., Zhang, R., & Li, G. (2022). Environmental decentralization, digital finance and green technology innovation. *Structural Change and Economic Dynamics, 61*, 70-83. https://doi.org/10.1016/j.strueco.2022.02.008

Germond, B., & Mazaris, A. D. (2019). Climate change and maritime security. *Marine Policy, 99*, 262-266. https://doi.org/10.1016/j.marpol.2018.10.010

Halff, A., Younes, L., & Boersma, T. (2019). The likely implications of the new IMO standards on the shipping industry. *Energy Policy*, *126*, 277-286. https://doi.org/10.1016/j.enpol.2018.11.033

Hassan, Q., Algburi, S., Sameen, A. Z., Salman, H. M., & Jaszczur, M. (2023). A review of hybrid renewable energy systems: Solar and wind-powered solutions: Challenges, opportunities, and policy implications. *Results in Engineering*, 101621. https://doi.org/10.1016/j.rineng.2023.101621

Iqbal, S., & Nosheen, S. (2023). Moderating impact of non-performing loans on the relationship between sustainable development goals and the financial performance of banks. *Future Business Journal*, *9*(1), 46. https://doi.org/10.1186/s43093-023-00224-1

Issa, M., Ilinca, A., & Martini, F. (2022). Ship energy efficiency and maritime sector initiatives to reduce carbon emissions. *Energies*, *15*(21), 7910. https://doi.org/10.3390/en15217910

Journeault, M., Perron, A., & Vallières, L. (2021). The collaborative roles of stakeholders in supporting the adoption of sustainability in SMEs. *Journal of Environmental Management*, *287*, 112349. https://doi.org/10.1016/j.jenvman.2021.112349

Ketterer, J. A. (2017). Digital finance: New times, new challenges, new opportunities (IDB Discussion Paper No. IDB-DP-501). Inter-American Development Bank. http://dx.doi.org/10.18235/0007028

Li, C., & Umair, M. (2023). Does green finance development goals affect renewable energy in China. *Renewable Energy*, *203*, 898-905. https://doi.org/10.1016/j.renene.2022.12.066

Li, L., Wu, B., & Patwary, A. K. (2022). How marine tourism promote financial development in sustainable economy: new evidences from South Asia and implications to future tourism students. Environmental Science and Pollution Research, 29(1), 1155-1172. https://doi.org/10.1007/s11356-021-15709-1

Liu, H., Mao, Z., & Li, X. (2023a). Analysis of international shipping emissions reduction policy and China's participation. *Frontiers in Marine Science*, 10, 1093533. https://doi.org/10.3389/fmars.2023.1093533

Liu, W., Shen, Y., & Razzaq, A. (2023b). How renewable energy investment, environmental regulations, and financial development derive renewable energy transition: Evidence from G7 countries. *Renewable Energy*, 206, 1188-1197. https://doi.org/10.1016/j.renene.2023.02.017

Majid, M. (2020). Renewable energy for sustainable development in India: current status, future prospects, challenges, employment, and investment opportunities. *Energy, Sustainability and Society*, *10*(1), 1-36. https://doi.org/10.1186/s13705-019-0232-1

Mallouppas, G., & Yfantis, E. A. (2021). Decarbonization in Shipping Industry: A Review of Research, Technology Development, and Innovation Proposals. *Journal of Marine Science and Engineering, 9*(4), 415. https://doi.org/10.3390/jmse9040415

Schwerhoff, G., & Sy, M. (2017). Financing renewable energy in Africa–Key challenge of the sustainable development goals. *Renewable and Sustainable Energy Reviews*, *75*, 393-401. https://doi.org/10.1016/j.rser.2016.11.004

Sen, S., & Ganguly, S. (2017). Opportunities, barriers and issues with renewable energy development–A discussion. *Renewable and Sustainable Energy Reviews*, *69*, 1170-1181. https://doi.org/10.1016/j.rser.2016.09.137

Settembre-Blundo, D., González-Sánchez, R., Medina-Salgado, S., & García-Muiña, F. E. (2021). Flexibility and resilience in corporate decision making: a new sustainability-based risk management system in uncertain times. *Global Journal of Flexible Systems Management*, *22*(Suppl 2), 107-132. https://doi.org/10.1007/s40171-021-00277-7

Shabir, M., Jiang, P., Shahab, Y., Wang, W., Işık, Ö., & Mehroush, I. (2024). Diversification and bank stability: Role of political instability and climate risk. *International Review of Economics & Finance*, *89*, 63-92. https://doi.org/10.1016/j.iref.2023.10.009

Shahbaz, M., Raghutla, C., Chittedi, K. R., Jiao, Z., & Vo, X. V. (2020). The effect of renewable energy consumption on economic growth: Evidence from the renewable energy country attractive index. *Energy*, *207*, 118162. https://doi.org/10.1016/j.energy.2020.118162

Sikiru, S., Oladosu, T. L., Amosa, T. I., Olutoki, J. O., Ansari, M. N. M., Abioye, K. J., Rehman, Z. U., & Soleimani, H. (2024). Hydrogen-powered horizons: Transformative technologies in clean energy generation, distribution, and storage for sustainable innovation. *International Journal of Hydrogen Energy*. https://doi.org/10.1016/j.ijhydene

Tranfield, D., Denyer, D., & Smart, P. (2003). Towards a methodology for developing evidence-informed management knowledge by means of systematic review. *British Journal of Management*, *14*(3), 207-222. https://doi.org/10.1111/1467-8551.00375

Yusoff, S. (2006). Renewable energy from palm oil–innovation on effective utilization of waste. *Journal of Cleaner Production*, *14*(1), 87-93. https://doi.org/10.1016/j.jclepro.2004.07.005

Zhu, Q., Chen, X., Song, M., Li, X., & Shen, Z. (2022). Impacts of renewable electricity standard and Renewable Energy Certificates on renewable energy investments and carbon emissions. *Journal of Environmental Management, 306*, 114495. https://doi.org/10.1016/j.jenvman.2022.114495

Ziolo, M., Filipiak, B. Z., Bąk, I., & Cheba, K. (2019). How to design more sustainable financial systems: The roles of environmental, social, and governance factors in the decision-making process. *Sustainability*, *11*(20), 5604. https://doi.org/10.3390/su11205604

https://doi.org/10.31410/ERAZ.2024.131

The Impact of Financial Risk Disclosures on Corporate Value: Evidence for Portugal

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Abstract: *The purpose of this paper is to investigate the impact of financial risk disclosures on corporate value. Based on content analysis of 2021 annual reports of 29 nonfinancial companies listed on Euronext Lisbon, the authors construct a global disclosure index that captures financial risk disclosures, as well as 3 sub-indices to capture credit, liquidity and market risks disclosures. Using multiple linear regression models, the authors investigate the impact of financial risk disclosures on corporate value, as measured by Tobin's Q. The results show that financial risk disclosures are still parsimonious, with corporations disclosing mainly qualitative information. The results also show a negative and statistically significant impact of market risk disclosures on corporate value. When we consider credit risk and liquidity risk disclosures, as well as the global disclosure index, the impact is not statistically significant.*

1. INTRODUCTION

Recent events, such as the pandemic crisis, the Russian invasion of Ukraine and the war between Israel and Hamas, have contributed to an increase in the (already high) uncertainty. The volatility in commodity prices, interest rates, exchange rates, experienced in recent years, naturally increase financial risks for companies. Financial risks are associated with the possibility of losses in financial transactions (Bacic et al., 2010), stemming from unfavorable changes in interest and exchange rates, the probability of default or the lack of liquidity, among others. Financial risk disclosures are a way of communicating information about risk exposures that may affect expected results (Beretta & Bozzolan, 2004). The availability of information about the actual level of corporate risk helps reduce information asymmetry and increase investor confidence, which can result in a higher company value (Abdel-Azim & Abdelmoniem, 2015; Dey et al., 2018), also contributing to the efficiency of capital markets (Moumen et al., 2015). In this scenario, the topic of financial risk disclosures in annual reports continues to gain prominence in the field of financial management.

In this study, we aim to provide recent empirical evidence on the compliance with the requirements of International Financial Reporting Standard (IFRS) 7 (International Accounting Standards Board, 2005), as well as to contribute to a better understanding of the relationship between financial risk disclosures and firm value, using a sample of non-financial corporations in Portugal. To the best of our knowledge, the analysis of the impact of financial risk disclosures on corporate value has never been studied in the Portuguese context. There is only one study in Portugal on this topic (Oliveira et al., 2021), but its focus is on the narrative tone, whereas, in the present study, the focus is on the narrative content. Additionally, this study also contributes to the literature by analyzing the impact of the disclosure of each type of financial risk, namely credit risk, liquidity risk, and market risk, on corporate value. Previous empirical studies tend to focus on financial risks aggregately or on only one specific type of financial risk.

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This paper is structured as follows. Section 2 revises the theoretical and empirical literature. Section 3 presents the research design, namely the sample, the variables, and the methodology. Section 4 presents and discusses the results. Finally, section 6 concludes, with the presentation of the main findings and limitations of the study, as well as suggestions for future research.

2. LITERATURE REVIEW

The relationship between financial risk disclosures and corporate value can be explained in the light of two economic theories: the agency theory and the signaling theory (Al-Dubai & Abdelhalim, 2021).

The agency theory, proposed by Jensen and Meckling (1976), suggests that when there is a separation between ownership (shareholders, or "principal") and control (managers, or "agents") of a company, conflicts of interest may arise. Managers may act in their interest to the detriment of shareholders, thereby reducing the company's value. Disclosing financial risks can help mitigate these conflicts by increasing transparency and allowing shareholders to better monitor managers' actions (Pratama et al., 2020). This reduces agency conflicts, which can result in a higher company value (Sheu et al., 2010).

On the other hand, the signaling theory is related to the information asymmetry between managers, who hold privileged information about the company, and stakeholders, who could make better decisions if that information was available (Connelly et al., 2011; Pratama et al., 2020). According to Connelly et al. (2011), the essence of signaling theory is that the signaler (i.e., managers) holds information that the receiver (i.e., stakeholders) considers useful for the decision-making process. The signaler decides whether to communicate this information by providing positive or negative signals to reduce information asymmetry between the parties. According to Bravo (2017), disclosing information about risks provides a positive signal to the capital market, leading stakeholders to conclude that managers are concerned about risk management. Furthermore, companies that disclose information about risks reduce information asymmetry between management and stakeholders (Fasihi & Hosseini, 2020), decrease uncertainty regarding the company, and establish greater commitment to stakeholders. Consequently, the reputation and value of the company increase (Abdullah, 2019; Sulistyaningsih & Gunawan, 2016). Given these arguments, it is expected that financial risk disclosures promote an increase in corporate value (Bravo, 2017).

Empirical studies have already been conducted to investigate if financial risk disclosures effectively have a positive impact on firm value. Nevertheless, the results are not consensual. Some studies indicate that risk disclosures contribute to increasing firm value (Abdullah, 2019; Bravo, 2017; Fasihi & Hosseini, 2020), while others find the opposite result, i.e. financial risk disclosures negatively impact financial performance (Makhlouf et al., 2020; Suttipun & Nicholson, 2020). Some studies find that the disclosure of financial risks does not have a significant effect on the firm value (Al-Dubai & Abdelhalim, 2021; Hasibuan, 2020).

In Portugal, to the best of our knowledge, there is only one study on this topic. Oliveira et al. (2021) studied the impact of risk reporting tone (activity, optimism, certainty, realism, and communalism) on firm market value. The results revealed a significant negative relationship between the activity tone and firm market value: the more managers use a linguistic style that obscures bad news and emphasizes good news, the lower the market value of the firm. The authors suggest that this linguistic style is perceived by investors as a manipulation strategy, affecting the credibility of the report, which contributes to reducing the firm's market value. The results also showed that

the tone of optimism, certainty, realism, and communalism does not have a statistically significant relationship with firm value.

Table 1 provides a summary of the reviewed empirical studies on the impact of financial risk disclosures on firm value and the main results.

Table 1. Previous empirical studies

Study	Sample	Methodology	Corporate Value	Risk	Control variables	Result
Bravo (2017)	95 corporations listed on the S&P 500 2009	Content analysis Disclosure index OLS regressions	Tobin's Q Market-to-book value ratio	Number of sentences related to risk in annual reports	Growth Liquidity CAPEX Governance	+
Abdullah (2019)	73 non-financial corporations listed on ISSI 2015-2017	Content analysis Path analysis and multiple group analysis	Tobin's Q	Number of sentences related to risk in annual reports		+
Hasibuan (2020)	33 transport corporations listed in IDX 2013-2015	Content analysis Disclosure index OLS regressions	Tobin's Q	Financial and operational risk index		0
Suttipun and Nicholson (2020)	160 corporations listed on SET 2017-2019	Content analysis Panel data regressions	ROA	Number of words related to risk	Size Age Auditor (*Big* 4 and committee) Leverage Liquidity Activity Sector	-
Makhlouf et al. (2020)	13 banks listed in ASE 2014-2018	Content analysis OLS regressions	Tobin's Q	Number of sentences related to risk in annual reports	Size Leverage	-
Fasihi and Hosseini (2020)	59 corporations listed in TSE 2010-2016	Content analysis Disclosure index OLS regressions	Tobin's Q	Number of words related to risk	Size Growth Leverage CAPEX ROA	+
Al-Dubai and Abdelhalim (2021)	72 non-financial corporations listed in Tadawul 2018	Content analysis Disclosure index OLS regressions	EPS	Dichotomous scoring scheme for disclosure of 8 types of risks. Score ranges from 0 to 8	Size Age Size of BoD Auditor (*Big* 4) Activity sector	0
Oliveira et al. (2021)	34 non-financial corporations listed in *Euronext Lisbon* 2018	Content analysis Disclosure index OLS regressions	Tobin's Q	Number of words related to risk	Size Size of BoD Number of non-executive directors ROA Leverage Activity sector	- / 0

Source: Own processing

3. RESEARCH DESIGN

3.1. Sample

For data availability reasons, this study considers only publicly traded corporations. As of December 31st, 2021, there were 55 corporations listed in Euronext Lisbon. As in Oliveira et al. (2021)

and Silva et al. (2015), we excluded financial services companies, sports public limited companies and real estate investment companies. We also excluded corporations for which 2021 and/or 2022 reports and annual accounts (necessary for analyzing financial risk disclosures and collecting financial information) were not available. Considering these criteria the sample has 29 corporations. Of these, 23 companies (79%) engage in export and/or import activities, exposing them to higher financial risks. Companies in the sample belong to the following sectors: Industry (8), Basic Materials (5), Telecommunications (5), Cyclical Consumer Goods (3), Public services (3), Technology (3), Non-Cyclical Consumer Goods (1) and Energy (1).

3.2. Variables

3.2.1. Dependent Variable

The dependent variable is corporate value. As Fasihi and Hosseini (2020), Hasibuan (2020), Makhlouf et al. (2020), and Oliveira et al. (2021), among others, corporate value is assessed by the simplified version of Tobin's Q for the year 2022. Tobin's Q, developed by Tobin (1969), captures the market value of a company relative to the replacement value of its assets. According to Lindenberg and Ross (1981), Tobin's Q offers several advantages over other measures usually used to assess corporate value and performance (such as return on assets or return of equity) since it reflects market expectations rather than historical accounting performance and is difficult to be manipulated by management. Nevertheless, Tobin's Q has some limitations, notably the complexity in measuring the market value of debt and the replacement value of assets. To overcome these limitations, Chung and Pruitt (1994) proposed a simplified version of Tobin's Q in which the market value of debt is proxied by its book value and the replacement value of assets is assessed by the book value of the total assets of the firm.

We calculate the simplified version of Tobin's Q for the year 2022 as follows: market value of equity (proxied by market capitalization, i.e., the product of a firm's share price and the number of shares outstanding) plus the book value of debt divided by the book value of the total assets of the firm. To calculate market capitalization, we multiplied the last available closing price on the Euronext website for the year 2022 by the number of shares outstanding reported in financial statements as of December 31, 2022. The book value of debt and assets is also from financial statements as of December 31, 2022. So, the higher the value of Tobin's Q, the better is the market value of the company (Florio & Leoni, 2017).

3.2.2. Independent Variables

The independent variable is the disclosure of financial risks. As Hasibuan (2020), Al-Dubai and Abdelhalim (2021), and El-Haddad (2021), among others, we use an index to capture the disclosure of financial risks. In this study, a comprehensive disclosure index was constructed based on a list of qualitative and quantitative information required by IFRS 7 for financial risk disclosure. The Global Disclosure Index (GDI) considers 36 information items (18 qualitative and 18 quantitative). For each type of financial risk, namely credit risk, liquidity risk, and market risk, we constructed sub-indices. The Credit Risk Disclosure Index (CRDI) includes 19 items (8 qualitative and 11 quantitative); the Liquidity Risk Disclosure Index (LRDI) includes 7 items (5 qualitative and 2 quantitative); and the Market Risk Disclosure Index (MRDI) includes 10 items (5 qualitative and 5 quantitative).

To construct these indices, we use content analysis of 2021 annual reports, assigning a score of 1 (or 0) to each item included in the index if the firm discloses the item (or not). Given that some

entities are not clear about the reasons associated with the non-disclosure of a certain item, a score of 0 is assigned in two situations: i) the entity does not disclose because, despite complying with IFRS 7 requirements, a particular item is not applicable in the context of its activities, and ii) the entity does not disclose because it does not comply with IFRS 7 requirements. After attributing a score to all items, the index value is calculated by dividing the sum of the total items disclosed by the firm by the sum of the total items composing the index or sub-indices (36 in GDI, 19 in CRDI, 7 in LRDI, and 10 in MRDI). Thus, the index value for each entity ranges from 0 (indicating no disclosure) to 1 (complete disclosure of the considered items).

3.2.3. Control Variables

We use five control variables, three related to the characteristics of the firm – size, growth and debt – and two related to corporate governance – the quality of external audit and the size of the Board of Directors (BoD). Corporate size, growth and debt was captured, respectively, by the natural logarithm of total assets, the growth rate of revenues and the ratio of debt to assets. Data is from SABI database. The quality of external audit was proxied by a dummy variable that takes the value 1 when the auditing firm belongs to the Big 4 (Deloitte, Ernst & Young, KPMG, and PricewaterhouseCoopers), and 0 otherwise. Finally, board size was assessed by the number of members in the BoD. This information is from annual reports.

Table 2 presents the variables used in this study, the respective calculation method, and the data source, as well as the indication of previous studies that use the same measure.

Table 2. Variables

Variable	Calculation	Data	Studies that use the same measure
Corporate Value	Tobin Q = (market value of equity + book value of debt)/book value of assets in 2022	Euronext 2022 annual reports	Bravo (2017), Abdullah (2019), Fasihi and Hosseini (2020), Hasibuan (2020), Makhlouf et al. (2020), Oliveira et al. (2021
Financial risk disclosure index - GDI - CRDI - LRDI - MRDI	Index = sum of the total items disclosed by that firm/sum of the total items composing the index or sub-indices (36 in GDI, 19 in CRDI, 7 in LRDI, and 10 in MRDI).	2021 annual reports	Lombardi et al. (2016), Bravo (2017), Dey et al. (2018), Hasibuan (2020), Al-Dubai and Abdelhalim (2021), El-Haddad (2021), Meilani and Wiyadi (2017)
Size	Natural logarithm of Assets	SABI	Al-Dubai and Abdelhalim (2021), Fasihi and Hosseini (2020), Makhlouf et al. (2020), Oliveira et al. (2021), Suttipun and Nicholson (2020)
Growth	Growth rate of revenues	SABI	Bravo (2017), Fasihi and Hosseini (2020)
Debt	Debt / Assets	SABI	Fasihi and Hosseini (2020), Makhlouf et al. (2020), Oliveira et al. (2021)
Quality of external audit	Dummy, that takes the value 1 if the company is audited by a big 4; 0 otherwise	2021 annual reports	Al-Dubai and Abdelhalim (2021), Suttipun and Nicholson (2020)
Board Size	Number of members in the BoD	2021 annual reports	Al-Dubai and Abdelhalim (2021), Oliveira et al. (2021)

Source: Own processing

3.3. Methodology

To analyse the impact of financial risk disclosures on firm value, we use multiple linear regression models. We run four multiple linear regression models in the software Statistical Package for Social Sciences (SPSS):

$$Value = \alpha + \beta 1\ GDI + \beta 2\ Size + \beta 3\ Growth + \beta 4\ Debt + \beta 5\ Audit + \beta 6\ Board + \varepsilon \quad (1)$$

$$Value = \alpha + \beta 1\ CRDI + \beta 2\ Size + \beta 3\ Growth + \beta 4\ Debt + \beta 5\ Audit + \beta 6\ Board + \varepsilon \quad (2)$$

$$Value = \alpha + \beta 1\ LRDI + \beta 2\ Size + \beta 3\ Growth + \beta 4\ Debt + \beta 5\ Audit + \beta 6\ Board + \varepsilon \quad (3)$$

$$Value = \alpha + \beta 1\ MRDI + \beta 2\ Size + \beta 3\ Growth + \beta 4\ Debt + \beta 5\ Audit + \beta 6\ Board + \varepsilon \quad (4)$$

where: Value is corporate value in 2022 as measured by Tobin's Q simplified measure; GDI is the global disclosure index; CRDI is the Credit Risk Disclosure Index; LRDI is the Liquidity Risk Disclosure Index; MRDI is the Market Risk Disclosure Index; Size is the natural logarithm of total assets; Growth is the growth rate of revenues in 2021; debt is the debt to assets ratio in 2021; Audit is a dummy variable that takes the value 1 if annual accounts are audited by a Big 4 (0 otherwise); Board is the number of members in the BoD.

4. RESULTS

Table 3 presents the results of the multiple linear regression models. Descriptive statistics and a correlation matrix are present in an appendix.

Table 3. Results

	(1) GDI		(2) CRDI		(3) LRDI		MRDI	
Variable	**Coef.**	**t-stat**	**Coef.**	**t-stat**	**Coef.**	**t-stat**	**Coef.**	**t-stat**
Constant	0,077	0,044	0,364	0,205	0,299	0,166	-0,970	-0,577
Index	-1,641	-1,446	-0,859	-0,919	-0,467	-0,545	-2,545	-2,532**
Size	0,059	0,357	0,009	0,056	0,015	0,089	0,162	1,010
Growth	-0,406	-0,387	-0,228	-0,208	-0,467	-0,427	-1,234	-1,213
Debt	1,287	4,331***	1,260	4,130***	1,210	3,980***	1,363	4,940***
Audit	1,119	2,179**	1,042	1,979*	0,942	1,827*	1,180	2,535**
Board	-0,027	-0,379	-0,024	-0,332	-0,020	-0,266	-0,003	-0,051
N	29		29		29		29	
Z	3,486**		3,116**		2,954**		4,769**	
R^2	0,487		0,459		0,446		0,565	
Adjusted R^2	0,348		0,312		0,295		0,447	
Mean VIF	1,798		1,765		1,748		1,942	

Source: Own processing

The results of model 1, which considers GDI as an independent variable, suggest that the disclosure of financial risks has no significant impact on corporate value. This result is consistent with Al-Dubai and Abdelhalim (2021) and Hasibuan (2020), as well as Oliveira et al. (2021) when they consider the reporting tone of optimism, certainty, realism, and communalism. As for the control variables, only debt and the quality of external audit show a positive and statistically significant

relationship with the corporate value. The results for debt suggest that the higher the proportions of assets financed by debt, the higher is corporate value, which is in line with the results of Fasihi and Hosseini (2020) and Oliveira et al. (2021). This result can be explained by the leverage effect. The positive relationship between corporate debt and value can be underpinned by signaling theory: higher levels of debt contribute to discipline managers, sending a positive signal to investors, which is reflected in a higher company value.

Table 3 presents the unstandardized coefficients, the t-statistic values and the respective significance level, (*, ** and *** indicates that the coefficient is significant at 10%, 5% and 1%, respectively). The dependent variable is corporate value. The independent variable is the financial risk disclosure index: model 1 considers the global disclosure index (GDI); model 2 the credit risk disclosure index (CRDI), model 3 the liquidity risk disclosure index (LRDI); and model 4 the market risk disclosure index (MRDI). The control variables are corporate size, revenue growth and debt as well as quality of external audit and the size of the Board of Directors. In the last rows, we present the number of observations, the values of the Z statistic, the R-squared and adjusted R-squared, and mean Variance Inflation Factor (VIF).

The results also suggest that the Portuguese capital market positively values companies audited by one of the Big 4. This result seems aligned with agency theory. Indeed, it is expected that companies audited by one of the Big 4 will disclose more credible information, which allows to mitigate agency problems and reduce information asymmetry between managers and stakeholders and, consequently, positively influence firm value. Al-Dubai and Abdelhalim (2021) also found a positive, albeit not significant, relationship between the Big 4 auditing and company performance. On the contrary, Suttipun and Nicholson (2020) found a negative and non-significant relationship between the Big 4 variable and company financial performance.

Finally, the results suggest that corporate size, growth and the size of the BoD do not significantly affect corporate value. Al-Dubai and Abdelhalim (2021) and Suttipun and Nicholson (2020) also found a non-significant relationship between corporate size and value. Although it is expected that larger companies disclose more risk information (Oliveira et al., 2021), this result does not guarantee that the larger the company, the higher its value. The statistical insignificance of growth is contrary to the results of Fasihi and Hosseini (2020), who found a negative and significant relationship between growth and firm value, and Bravo (2017), who found a positive and significant relationship between growth and firm value.

Finally, Al-Dubai and Abdelhalim (2021) and Oliveira et al. (2021) also found a non-significant relationship between the size of the BoD and firm value. The relationship between the size of the BoD and firm value can be explained from the point of view of agency theory. A larger size of the BoD can result in communication and coordination problems, lack of cohesion, and difficulties in making strategic decisions that can maximize firm value. This can contribute to the existence of information asymmetries and higher agency costs, leading to a lower company value.

Note that model 1 is statistically significant and can explain 34.8% of the variation in firm value. This value is not very high, but it is in line with previous empirical studies. Finally, the mean VIF indicates the absence of multicollinearity.

The results obtained when using the sub-indices related to credit and liquidity risk (model 2 and 3, respectively) are similar to those obtained when using the global index (model 1).

When using the sub-index related to market risk (model 4) the results show that the market risk disclosures negatively and significantly affect corporate value. Thus, the market negatively values the disclosure of market risks. This result may be associated with projections for the evolution of market risk in the year 2022. In a statement released by the Portuguese Securities Market Commission (CMVM) in January 2022, the regulator identified market risk as the most significant financial risk for 2022. It is also worth noting that model 4 has the best adjusted R-squared coefficient (44.70%), among all estimated regressions.

5. FUTURE RESEARCH DIRECTIONS

For future research, we suggest increasing the sample size and including non-listed companies or companies listed on other financial markets. It would also be interesting to analyze and compare financial risk disclosures in individual and consolidated financial statements. Furthermore, we suggest going further and analyze not only financial risk disclosures but also how such risks are managed. Al-Dubai and Abdelhalim (2021) demonstrate a positive and significant relationship between the moderating effect of risk management on the relationship between risk disclosures and firm performance. This result suggests that stakeholders are probably more concerned with how risks are managed.

6. CONCLUSION

The objective of this paper was to investigate the impact of financial risk disclosures on corporate value. The results indicate that financial risk disclosures do not significantly impact corporate value when we consider the Global Disclosure Index, as well as the sub-indices related to credit risk and liquidity risk disclosures. However, when we consider the sub-index related to market risk, the results show a significant negative impact on corporate value. This suggests that the market negatively values the disclosure of market risks. This result may be due to the uncertainty and volatility experienced in 2022. In fact, due to the increased volatility in interest rates, exchange rates, and commodity and raw material prices in 2022, investors may have attributed greater risk to companies that were exposed to market risk, causing a negative reaction in stock prices and consequently in the value of the company. Regarding the control variables, debt ratio and external audit quality showed a positive and significant impact on corporate value, whereas other variables such as corporate size, growth, and the size of BoD did not have a significant impact on corporate value.

We believe this paper offers an important contribution to the literature. To the best of our knowledge, the analysis of the impact of financial risk disclosures on corporate value has never been studied in the Portuguese context, with the notable exception of Oliveira et al. (2021). Nevertheless, they focus on narrative tone, whereas we focus on content. Additionally, this study also contributes to the literature by analyzing the impact of the disclosure of each type of financial risk, namely credit risk, liquidity risk, and market risk, on corporate value. Previous empirical studies tend to focus on financial risks aggregately or on only one specific type of financial risk.

Nevertheless, this study has some limitations, such as the small sample size and the analysis of only one year. There were also limitations related to the content analysis methodology, due to its subjective nature, and the dichotomous scoring used in data collection.

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References

Abdel-Azim, M. H., & Abdelmoniem, Z. (2015). Risk management and disclosure and their impact on firm value: The case of Egypt. *International Journal of Business, Accounting, and Finance, 9*(1), 30-43.

Abdullah, M. D. F. (2019). The Effect of Corporate Risk Disclosure toward Firm Value in Indonesia Sharia Stock Index. *IOP Conference Series: Materials Science and Engineering,* 662, Indonésia. https://doi.org/10.1088/1757-899X/662/3/032070

Al-Dubai, S. A., & Abdelhalim, A. M. (2021). The Relationship between Risk Disclosure and Firm Performance: Empirical Evidence from Saudi Arabia. *Journal of Asian Finance, Economics and Business*, *8*(6), 255-266.

Bacic, M. J., Silveira, R. L., & Souza, M. C. (2010). Gestão Imprudente do risco financeiro como elemento de destruição de valor: uma reflexão a partir do uso de derivativos por empresas líderes brasileiras. *Revista del Instituto Internacional de Costos, 6*, 49-68.

Beretta, S., & Bozzolan, S. (2004). A framework for the analysis of firm risk communication. *The International Journal of Accounting*, *39*, 265–88. https://doi.org/10.1016/j.intacc.2004.06.006

Bravo, F. (2017). Are risk disclosures an effective tool to increase firm value?. *Managerial and Decision Economics*, *38*(8), 1116–1124. https://doi.org/10.1002/mde.2850

Chung, K. H., & Pruitt, S. W. (1994). A Simple Approximation of Tobin's q. *Financial Management, 23*(3), 70-74. https://doi.org/10.2307/3665623

CMVM. (2022). Risk Outlook 2022. https://www.cmvm.pt/PInstitucional/PdfViewer?Input=0838ACA4E5A49D0DB084C8730F9D08F3D7F643E551BF0674079B83755372D145

Connelly, B. L., Certo, S. T., Ireland, R. D., & Reutzel, C. R. (2011). Signaling Theory: A Review and Assessment. *Journal of Management*, *37*(1), 39-67. https://doi.org/10.1177/0149206310388419

Dey, R. K., Hossain, S. Z., & Rezae, Z. (2018). Financial risk disclosure and financial attributes among publicly traded manufacturing companies: evidence from Bangladesh. *Journal of Risk and Financial Management*, *11*(3), 1–16. https://doi.org/10.3390/jrfm11030050

El-Haddad, R. M. H. (2021). The determinants of financial risk disclosure in annual reports in emerging economies: Evidence from Egypt. *Accounting and Auditing Journal of the Association of Arab Universities*, *10*(2), 36-58. https://doi.org/10.21608/naus.2021.186287

Fasihi, S., & Hosseini, S. (2020). Does risk disclosure increase firms' value?. *Iranian Journal of Finance*, *4*(2), 67-76. https://doi.org/10.22034/ijf.2020.232416.1132

Florio, C., & Leoni, G. (2017). Enterprise risk management and firm performance: The Italian case. *The British Accounting Review*, *49*(1), 56-74. https://doi.org/10.1016/j.bar.2016.08.003

Hasibuan, A. M. (2020). Effect of Risk Management Disclosures on Firm Value in Bei Listed Transportation Companies. *International Journal of Applied Finance and Business Studies*, *8*(1), 9-15.

International Accounting Standards Board. (2005). *International Financial Reporting Standard (IFRS) 7, Financial Instruments: Disclosures* https://www.ifrs.org/content/dam/ifrs/publications/pdf-standards/english/2022/issued/part-a/ifrs-7-financial-instruments-disclosures.pdf?bypass=on

Jensen, M. C., & Meckling, W. H. (1976). Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure. *Journal of Financial Economics*, *3*(4), 305-360. https://doi.org/10.1016/0304-405X(76)90026-X

Lindenberg, E., & Ross, S. (1981). Tobin's Q ratio and industrial organization. *Journal of Business*, *54*, 1–32. http://dx.doi.org/10.1086/296120

Lombardi, R., Coluccia, D., Russo, G., & Solimene, S. (2016). Exploring Financial Risks from Corporate Disclosure: Evidence from Italian Listed Companies. *Journal of the Knowledge Economy*, *7*(1), 309-327. https://doi.org/10.1007/s13132-015-0329-5

Makhlouf, M. H., Oroud, Y., & Soda, M. Z. (2020). Does the board independence influence the association between risk disclosure and firm value? Evidence from Jordan. *Humanities & Social Sciences Reviews*, *8*(4), 46-54. https://doi.org/10.18510/hssr.2020.846

Meilani, S. E., & Wiyadi, W. (2017). Financial risk disclosure determinants: study on companies listed in Morgan Stanley capital international (MSCI) Indonesia index on 2014-2016 periods. *South East Asia Journal of Contemporary Business, Economics and Law*, *14*(1), 38-47.

Moumen, N., Othman, H. B., & Hussainey, K. (2015). The value relevance of risk disclosure in annual reports: Evidence from MENA emerging markets. *Research in International Business and Finance*, *34*, 177-204. https://doi.org/10.1016/j.ribaf.2015.02.004

Oliveira, M. G., Azevedo, G., & Oliveira, J. (2021). The Relationship between the Company's Value and the Tone of the Risk-Related Narratives: The Case of Portugal. *Economies*, *9*(2), 1-28. https://doi.org/10.3390/economies9020070

Pratama, B. C., Sasongko, K. M., & Innayah, M. N. (2020). Sharia firm value: the role of enterprise risk management disclosure, intellectual capital disclosure, and intellectual capital. *Journal of Economics and Business*, *5*(1), 101-124. https://doi.org/10.22515/shirkah.v5i1.302

Sheu, H., Chung, H., & Liu, C. (2010). Comprehensive disclosure of compensation and firm value: the case of policy reforms in an emerging market. *Journal of Business Finance & Accounting*, *37*(9), 1115–1144. https://doi.org/10.1111/j.1468-5957.2010.02213.x

Silva, M. L., Albuquerque, F. H. F., Marcelino, M. M., & Quirós, J. T. (2015). A divulgação do risco nas demonstrações financeiras: uma análise ao anexo das sociedades não financeiras portuguesas. *Revista de Educação e Pesquisa em Contabilidade*, *9*(3), 331-354. http://hdl.handle.net/10400.21/4619

Sulistyaningsih, S., & Gunawan, B. (2016). Analisis faktor-faktor yang memengaruhi risk management disclosure. *Riset Akuntansi dan Keuangan Indonesia*, *1*(1), 1-11. https://doi.org/10.23917/reaksi.v1i1.1973

Suttipun, M., & Nicholson, G. (2020). Relationship between risk management disclosures and financial performance of listed companies in Thailand. *Academy of Accounting and Financial Studies Journal*, *24*(4), 1528- 2635.

Tobin, J. (1969). A general equilibrium approach to monetary theory. *Journal of Money, Credit and Banking*, *1*(1), 15-29. http://www.jstor.org/stable/1991374

https://doi.org/10.31410/ERAZ.2024.141

An Insight Into Sustainability Reporting in Waste Management Industry

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Abstract: *The paper focuses on the analysis of sustainability awareness in the field of waste management, which can be observed also through sustainability reporting. Special attention is given to providers of services of general economic interest in the waste management industry in Slovenia. The methodology involves reviewing the information and publications available on the organizations' websites, where annual reports and sustainability reports are taken into consideration. The research population includes all 65 waste management service providers in Slovenia. This research aims to recognize whether organizations produce any form of sustainability reporting, and to what extent are they compliant with the European directives in this domain. Results indicate that most of the analyzed organizations include sustainability reporting in their annual reports, either as a separate chapter or as part of other content in the annual report.*

1. INTRODUCTION

The sustainable operation of an organization represents its contribution to the social, environmental, and economic aspects of sustainable development. It is a key to the long-term sustainable development of the economy and society. Therefore, sustainability reporting is an important measurement of organization's performance in implementation of the sustainable development goals. It is a management tool and a tool to ensure accountability. The focus of the paper is on the analysis of awareness of sustainability in the field of waste management, which can be observed also through sustainability reporting. Special attention is given to providers of services of general economic interest in the waste management industry in Slovenia. The sustainability report is considered an important tool for sustainable management of every organization. Transparency of reporting and spreading awareness of the importance of sustainable development serves as a base of good practices, experiences, and knowledge exchange which build trust between the involved stakeholders and with the society. Therefore, the presented research on sustainability awareness offers very useful information and recommendations based on the recognized good practices in Slovenian waste management.

The methodology involves reviewing the information and publications available on the organizations' websites, where annual reports and sustainability reports are taken into consideration. The research population includes all 65 waste management providers in Slovenia. The aim of this research is to recognize whether the organizations studied produce any form of sustainability reporting, and to what extent are they compliant with the European directives in this domain. The study derives from three research questions: 1) What form of sustainability reporting is produced by the organizations?, 2) Is sustainability reporting compliant with European directives?, and 3) What is the extent of sustainability awareness of the organizations in relation to their location?. The results show that most of the analyzed organizations involve sustainability reporting in their annual reports, as a separate chapter, or as part of other content in the annual report. Only about

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10% of analyzed organizations do not report on sustainability. Yet, results do not enable the conclusion of the relation between sustainability awareness and the organization's location.

The paper is structured as follows. In the introduction, some general information is given on the focus of the paper, the methodology used, research questions and preliminary results. In the second section theoretical background is presented, focusing on sustainability reporting in general and its driving factors, also mentioning sustainability reporting in waste management. And, at the end, a brief insight into European directives on sustainability reporting is given. The third section is intended for research on sustainability reporting in waste management in Slovenia. Methodology and preliminary research results are presented together with answers to posed research questions. The fourth section gives an insight into possible future research directions and the last section, the conclusion, gives concluding remarks on the content and research findings of the paper.

2. THEORETICAL BACKGROUND

Sustainability reporting is recognized as a relatively new process of measuring and disclosing, as well as ensuring accountability in achieving organization's sustainable development goals. However, there are different definitions and synonyms for sustainability reporting, e.g. "corporate social responsibility (CSR) reporting, sustainable development (SD) reporting, triple bottom line (TBL) reporting, non-financial reporting, and environmental, social and governance (ESG) reporting" (Zrnić et al., 2020, p. 272). It is becoming more and more popular, as it requires the improvement of organization's competitiveness by addressing the concerns of environmental, social and economic issues. Through sustainability reporting, organizations can share their green activities with internal and external stakeholders. More and more customers are interested in selecting organizations with sustainability approaches to reduce environmental impacts (Agama & Zubairu, 2022). Dincer and Dincer (2024) in their study reveal that the environmental dimension of sustainability is the most extensive and has the biggest influence on stakeholders, aligning business practices with sustainability goals. Social and economic dimensions of sustainability have less attention, but it is growing, especially with community engagement in local environmental policy-making, sustainable production, investment decisions, etc. Organizations can provide or document their sustainability practices through sustainability reporting, using different reporting formats. These practices provide valuable information and promote transparency and accountability for various stakeholders when making their decisions. Standardized sustainability reporting leads to an even more comprehensive and structured overview of an organization's sustainability efforts and results in even more improved decision-making (Job & Khanna, 2024). The comparability of reporting or harmonization of reporting is an important topic of recent debates on sustainability reporting (Jeriji et al., 2022; Korca et al., 2023; Luque-Vílchez et al., 2023), as it enhances the usefulness of information, which makes corporate evaluation easier. Therefore, investors are more and more interested in comparable sustainability information (Luque-Vílchez et al., 2023).

Sustainability reporting can be driven by different factors. In general, Nazari et al. (2015) divide them into external pressures (motivators) and internal organizational factors (facilitators). According to Benvenuto et al. (2023), the external drivers are institutional drivers (e.g. legal system, cultural system, etc.) and internal ones are business drivers (e.g. firm size, profitability, etc.). Firm size is an evident driver of sustainability reporting. Larger firms are more exposed to capital markets and are therefore under greater pressure to publish sustainability information. Profitability is a more complex factor. It can be a positive and a negative driver. A positive driver is when profitable firms show their success in the capital markets through sustainability reporting. Further

on, capital structure appears as a positive driver when firms have increased capital demand, which increases their interest in providing sustainability information to capital providers. The ownership structure is also recognized as a positive driver of sustainability reporting and an appropriate corporate governance system and sustainability management must be implemented at the same time to successfully achieve the sustainable alignment of the firm (Arkoh et al., 2024; Dienes et al., 2016).

Sustainability reporting is especially important in waste management (Lejárraga García et al., 2024). To achieve environmental sustainability, effective treatment of waste or effective waste management is a key factor. Sustainable waste management should protect the environment and human health and be economically reasonable (Yalçıntas et al., 2023). Public companies, which frequently forms of providing waste management services, should promote sustainability reporting to identify the actual environmental and social problems. And, sustainability reporting in waste management, due to its importance, should not be influenced by the factors, that usually drive the sustainability reporting (e.g. the size of the company, ownership structure, etc.) (Lejárraga García et al., 2024). EU introduced an obligation for some large companies to report non-financial information or information on sustainability by implementing the Non-Financial Reporting Directive (Directive 2014/95/EU). These sustainability reporting obligations apply to large public interest entities, with more than 500 employees (European Court of Auditors, 2019). New European Directive 2022/2464/EU (Corporate Sustainability Reporting Directive - CSRD) came into force in 2023, which applies to large, middle and small enterprises. The CSRD Directive will be implemented gradually. First, enterprises are already obliged to report in line with the previous directive and start reporting for the business year 2024. The purpose of this Directive is to disclose information about sustainability risks and opportunities more transparently. The data will be more comparable, reliable and easily accessible for users. This will also reduce the unnecessary costs related to sustainability reporting. Users of this information will get a comprehensive insight into the organization's impact and performance in the field of sustainability (Ernst & Young Global Limited, 2023).

3. RESEARCH ON SUSTAINABILITY REPORTING IN WASTE MANAGEMENT IN SLOVENIA

3.1. Methodology

The focus of the paper is on the analysis of awareness of sustainability in the field of waste management, which can be observed also through sustainability reporting. To be more precise, the research encompasses sustainability reporting of providers of services of general economic interest in waste management in Slovenia. The research enables us to get the answers to three research questions: 1) What form of sustainability reporting is produced by the organizations?, 2) Is sustainability reporting compliant with European directives?, and 3) What is the extent of sustainability awareness of the organizations in relation to their location?. Therefore, the research results help to recognize whether organizations do any form of sustainability reporting (e.g. independent sustainability report, a separate chapter on sustainability in the annual report), and to what extent are they compliant with the European directives in this domain.

The methodology involves reviewing the sustainability information and publications, e.g. annual reports and possible sustainability reports, via organizations' websites and/or via public posting of annual reports on the Agency of the Republic of Slovenia for Public Legal Records and Related

Services. Only reports for the last available year (2023) were taken into consideration. With the review of annual reports, it is recognized, whether the organizations publish any kind of sustainability information and in what extent and form it is incorporated in the annual report (e.g. as an individual part of the annual report; as a part of other content in the annual report). The research population includes all 65 waste management providers in Slovenia. In Slovenia, public utilities in the field of waste management are managed locally, at the municipal level. The most common form of waste management utility provision in Slovenia is public enterprise, as around 80% of providers have this legal form, and the remaining are concessionaires. A public enterprise in Slovenia necessitates full municipal ownership of one or more municipalities.

3.2. Results

The results reveal that most of the analyzed organizations involve sustainability reporting in their annual reports. Two thirds of analyzed organizations report on sustainability as a part of other content in the annual report, e.g. the managing director's report, a part of other chapter(s). The amount of this information differs among the organizations. Some organizations mention sustainability only in one part of other content and some mention it several times in different parts of the annual report. Around 24% of analyzed organizations report on sustainability as a separate chapter in the annual report. The results also show that sustainability information is not always named with the term "sustainability", but are named with other terms, e.g. quality and environment, and social responsibility. The evidence also reveals that around 10% of analyzed organizations do not even report on sustainability. As sustainability reporting obligations under the Non-Financial Reporting Directive (Directive 2014/95/EU) were applied to large public interest entities, with more than 500 employees, the share of non-reporting organizations is low and points to the fact that waste management providers in Slovenia are aware of sustainability.

Before 2024 entities of public interest with more than 500 employees were obliged to report on sustainability under the Non-Financial Reporting Directive, which is incorporated in the Slovenian Companies Act (Official Gazette of the Republic of Slovenia, No. 42/06 of 19 April 2006). Slovenia has 31 entities of public interest in the field of waste management, but only one of them exceeds 500 employees and is therefore obliged to report on sustainability. After 2024, referring to the reporting year, organizations will have to report in line with the Corporate Sustainability Reporting Directive (CSRD). This means that all large enterprises (not only public-interest entities) will start reporting for business year 2024, and small and medium-sized enterprises, listed on the stock exchange, will be obliged to report in line with this Directive starting with business year 2026. These provisions of the CSRD Directive are already incorporated in the Slovenian Act Amending the Companies Act, which was approved by the Slovenian government in June 2024. To conclude, sustainability reporting is compliant with European directives.

Finally, we questioned ourselves on the extent of sustainability awareness of the organizations in relation to their location. Slovenia is divided into 12 statistical regions. Results show that sustainability reporting is higher in 6 regions on average if we scrutinize the contents of reports. These regions cover 54% of the total population of Slovenia, and three regions are part of the north-eastern Slovenia, and three regions are part of western Slovenia. Interestingly, the central region is not included, although it is, both, the most populated and most developed region in Slovenia. Sustainability awareness is, therefore, higher in western and north-eastern Slovenia, but the question remains, why sustainability awareness is higher in those regions, in comparison to the central, southern and south-eastern parts of Slovenia.

4. DISCUSSION AND FUTURE RESEARCH DIRECTIONS

As the research presented in the previous section already revealed, Slovenian waste management service providers have so far not been obliged to report on sustainability, except for the one entity of public interest with more than 500 employees. However, most waste management service providers voluntarily provide sustainability information in their annual reports. For future research, it would be interesting to find out which reasons or motivating factors lead the providers to report on sustainability voluntarily and what determines the scope of reporting (a separate/individual chapter, a smaller/larger amount of sustainability information within other content in the annual report). It would also be interesting to find out why the rest of the providers (approximately 10 % of them) had not yet decided to voluntarily report on sustainability, or why their sustainability information (in case they do report it) is not publicly available.

Starting in 2025 large enterprises with more than 500 employees will have to report on sustainability in line with new Directive CSRD for the first time, and from 2026 also small and medium-sized enterprises. The research could be directed at a comparative analysis of differences and similarities in current and future sustainability reporting (e.g. content, scope, type of reporting, etc.). In addition, a comparable overview of the number of waste management providers that report on sustainability would be desirable to obtain, to see whether the number of mandatory and volunteer reporters has changed. This research could be done by reviewing forthcoming annual reports of waste management service providers and comparing them with the existing ones. Further research is warranted to portray, why sustainability awareness is higher in the north-eastern and western parts of Slovenia. Besides, further analysis could also give an insight into the possible changes in reporting in line with the new Directive, and whether it affects the sustainability awareness concerning the location of organizations.

5. CONCLUSION

Sustainability reporting is more and more important, which improves the sustainability awareness of organizations. In line with European Directives, sustainability reporting extends corporate responsibility and improves transparency and comparability of information. Sustainability reporting offers many (business) opportunities, both for the organization and for the other stakeholders. Research on the awareness of sustainability in the field of waste management in Slovenia was done by observing the sustainability reporting, via annual reports published. The results of the analysis helped answer research questions, as most of the analyzed organizations include sustainability reporting in their annual reports, and only about 10 % of analyzed organizations do not report on sustainability, or the sustainability contents were not found. Sustainability reporting is compliant with European directives, as the provisions of the directives are incorporated into Slovenian law. We also got an insight, into where the extent of sustainability awareness is higher, but we were not able to conclude on the relation between sustainability awareness and the organization's location.

References

Agama, E. J., & Zubairu, U. M. (2022). Sustainability reporting: A systematic review. Economics, Management and Sustainability. *7*(2), 32-46. doi:10.14254/jems.2022.7-2.3.

Arkoh, P., Costantini, A., & Scarpa, F. (2024). Determinants of sustainability reporting: A systematic literature review. *Corp Soc Responsib Environ Manag*, 31, 1578–1597. DOI: 10.1002/csr.2645

Benvenuto, M., Aufiero, C., & Viola, C. (2023). A systematic literature review on the determinants of sustainability reporting systems. *Heliyon*, 9(2023) e14893. https://doi.org/10.1016/j.heliyon.2023.e14893

Dienes, D., Sassen, R., & Fischer, J. (2016). What are the drivers of sustainability reporting? A systematic review. *Sustainability Accounting, Management and Policy Journal*, 7(2), 154-189. DOI 10.1108/SAMPJ-08-2014-0050

Dincer, B., & Dincer, C. (2024). Insights into Sustainability Reporting: Trends, Aspects, and Theoretical Perspectives from a Qualitative Lens. *Journal of Risk and Financial Management,* 17, 68. https://doi.org/10.3390/ jrfm17020068

Directive 2014/95/EU.

Ernst & Young Global Limited. (2023). *Direktiva o poročanju podjetij glede trajnosti (CSRD).* EYGM Limited.

European Court of Auditors. (2019). *Hiter pregled primera. Poročanje o trajnosti: pregled stanja v institucijah in agencijah EU*. Luxemburg: European Union.

Jeriji, M., Louhichi, W., & Ftiti, Z. (2022). Migrating to global reporting initiative guidelines: does international harmonization of CSR information pay?. *British Journal of Management*, *34*(2), 555-575. doi: 10.1111/1467-8551.12603.

Job, J. S., & Khanna, S. (2024). Building a resilient future: collaborative sustainability Regulation. *Clean Energy*, *8*(3), 223–237. https://doi.org/10.1093/ce/zkae026

Korca, B., Costa, E., & Bouten, L. (2023). A reflexive understanding of the interplay between materiality and the GRI standards to unpack comparability. *Sustainability Accounting, Management and Policy Journal*, *14*(4), 815-851. DOI 10.1108/SAMPJ-05-2022-0284

Lejárraga García, A., Ortiz Martínez, E., & Marín Hernández, S. (2024). Sustainability in the Waste Management Sector: An Analysis through the GRI Reports. *Revista de Contabilidad - Spanish Accounting Review*, *27*(2), 307-322. https://www.doi.org/10.6018/rcsar.530451

Luque-Vílchez, M., Cordazzo, M., Rimmel, G., & Tilt, C. A. (2023). Key aspects of sustainability reporting quality and the future of GRI. *Sustainability Accounting, Management and Policy Journal, 14*(4), 637-659. DOI 10.1108/SAMPJ-03-2023-0127

Official Gazette of the Republic of Slovenia, No. 42/06 of 19 April 2006.

Nazari, J. A., Herremans, I. M., & Warsame, H. A. (2015). Sustainability reporting: external motivators and internal facilitators. *Corporate Governance*, *15*(3), 375-390. https://doi.org/10.1108/CG-01-2014-0003

New European Directive 2022/2464/EU.

Yalçıntas, D., Og˘uz, S., Özeltürkay, E. Y., & Gülmez, M. (2023). Bibliometric Analysis of Studies on Sustainable Waste Management. Sustainability, 15, 1414. https://doi.org/10.3390/su15021414

Zrnić, A., Pekanov Starčević, D., & Crnković, B. (2020). Recent trends in sustainability reporting: Literature review and implications for future research. *Ekonomski vjesnik, 33*(1), 271-283.

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Digital Transformation of the Internal Audit Function – Analysis of Technology Acceptance Factors and Perspectives of Future Development

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Abstract: *The rapid evolution of technology and globalisation has intensified competition and raised complex challenges for internal auditors. Adapting to new technologies is pivotal for internal auditors amid the digital transformation era. This paper aims to explore the impact of information technology in internal audit processes, analysing factors influencing its application. The results of the analyses highlight several key factors that significantly influence the adoption and use of CAATs in internal audits across different contexts. While internal auditors are nascent in embracing advanced technologies, the pandemic catalysed their digital maturity, particularly in robotic process automation and data analytics. Despite technological advancements enhancing audit efficiency, human judgment remains irreplaceable. The research underscores the ongoing shift towards technology integration to enhance internal auditing practices.*

1. INTRODUCTION

Technologies, globalisation, and the accelerated pace of change have led to fierce competition and unpredictable demands in the business environment, increasing the challenges faced by internal auditors. However, the role of internal auditors in adapting to these new technologies is crucial and highly valued. Keeping pace with numerous challenges implies a willingness to adapt to new technologies and their requirements. This precondition is necessary for the internal order function to stay relevant (The Institute of Internal Auditors (IIA) 2024a, p. V). The use of technology in internal auditing was also recognised and integrated into the Standards. There is a noticeable shift in emphasis regarding the need for the use of information technology in the last decade, where the 2017 (IIA, 2016) standards specify that internal auditors "must" consider the "use of technology" in the audit process. Using "technology-based audit and other data analysis techniques" is part of exercising due professional care (IIA, 2016, p. 7). New Global Internal Audit Standards (IIA, 2024b, p. 54), effective from 2025, specify "using technology to perform services", the inclusion of these plans within the CAE resources plan, and implementing technology to "improve the internal audit function's efficiency and effectiveness" (IIA, 2024b, p. 55). Also, they directly require that the CAE "must strive to ensure that the internal audit function has the technology to support the internal audit process" (IIA, 2024b, p. 74). While it is possible to identify guidelines within the profession regarding the use of technology in the internal audit process, it is crucial to determine the relevant factors influencing the adoption of such technology. This ensures that significant findings are considered when shaping guidelines at the regulatory level and within individual companies. The primary goal of this paper is to determine which factors affect the application of information technologies in internal audit. The aim of the paper is also to investigate the features of information technologies that are applied in the practice of internal auditing and the perspective of the development of the internal audit function in the future. The

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digital transformation of the internal audit function is a recent and current research topic; however, it should not be limited to researching the features of using digital technology. The paper also analyses the technological readiness of internal auditors to implement emerging technologies. It contributes to existing research in areas providing insights into the features of technology acceptance in internal auditing, which will allow for a better understanding of the supporting conditions for technology application from the perspective of both the individual auditor and the organisation in which the internal auditor operates.

In the continuation of the paper, recent scientific works, publications of professional associations, and reports on the state of the internal audit profession are analysed. In the second part of the paper, the fundamental features of the application of information technology in internal auditing are analysed, as well as the readiness of internal auditors regarding the acceptance of emerging technologies. In the third part of the paper, recent scientific works are analysed, and significant models that provide a framework for exploring the factors influencing technology acceptance in internal auditing are identified, along with empirically validated factors. The fourth part of the paper presents future directions for the profession's development in the context of technology application and competency development, followed by the paper's conclusion.

2. FEATURES OF INFORMATION TECHNOLOGY APPLICATION IN INTERNAL AUDITING

Over the last few decades, the application of information technology has significantly impacted the development of the internal audit function. According to Deloitte (2018a), this development can be divided into three phases: 'Internal Audit 1.0' characterised by the introduction of software solutions for tracking information (from 1940 till late) 1990; 'Internal Audit 2.0' (after the 2000s) with improved information handover through technological tools and an increased focus on IT auditing and data analytics, and 'Internal Audit 3.0' during the fourth industrial revolution, which requires adaptation to new challenges in terms of risks and innovations. In this sense, it is possible to identify an extended period of technology usage in auditing, summarised under Computer-Assisted Audit Tools and Techniques. The term Computer-assisted audit tools and techniques (CAATTs) usually refers to "technologies such as electronic audit working papers, database applications, and business intelligence audit software" (see Siew et al., 2020). More general Computer-assisted audit techniques (CAATs) are defined as the "use of technology to help you evaluate controls by extracting and examining relevant data" (Chartered Institute of Internal Auditors, 2023). Those two terms are often used interchangeably, but they mainly refer to more simple technology, such as Electronic Working Papers, Electronic Spreadsheets, Purpose-Written Programs, and Generalized Audit Software (GAS) (Lutfi & Alqudah, 2023), while more recent Data analytics has been known as the "sophisticated use of CAATs" (Chartered Institute of Internal Auditors, 2023, p. 1).

It is argued that the accounting profession has frequently been slow to adopt new technologies, particularly in big data and data analytics (Tang et al., 2017, p. 17). In this context, research by professional associations and practitioners is highly significant, as it offers insight into the global state of practice. According to a global survey on internal audit conducted by the Institute of Internal Auditors Research Foundation (IIARF, 2015) almost a decade ago with over 14,500 respondents, there was significant room for progress, as only 40% of respondents reported using IT at an "appropriate" level or higher (IIARF, 2015, p. 6), with respondents indicating that "extensive use of technology is the exception, not the rule" (IIARF, 2015, p. 7). The survey identified a higher use of electronic working papers, followed by automated tools for data analytics, data mining tools, flowchart or process mapping software, and software or tools for internal audit risk assessment

(IIARF, 2015, pp. 7-9). According to research by the Institute of Internal Auditors (IIA, 2018; IAF, 2019) in North America, a small percentage of surveyed CAEs (IIA, 2018) believed that their internal audit function fully embraces new technologies, and respondents felt neutral about their preparedness for most innovations (IAF, 2019, p. 11). Greater use of data analytics was reported by more than half of the respondents (IIA, 2018), with a large majority indicating no plans to adopt other technologies, such as RPA and AI, in the near future. In studies conducted from 2018 to 2019 (PWC, 2018, 2019a, 2019b), the digital readiness of internal audit was assessed through three categories: *Evolvers* (advanced technology adoption), *Followers* (technology adoption with slower progress compared to the previous group), and *Observers* (minimal or no technology adoption). The majority of internal audit functions were identified as Followers and some as Observers, with a very small percentage classified as the advanced category, Evolvers. Research by Deloitte (2020, 2021, 2023) indicates that data analytics has the most significant impact on the development of the internal audit function, followed by machine learning and RPA (Deloitte, 2020, 2021), although the latter still needs to be widely adopted.

Emerging technologies, such as data analytics and AI-enabled technologies, significantly enhance risk assessment during the planning phase by analysing large volumes of data (Deloitte, 2018b) and identifying new risk areas (Pickard et al., 2020). Data analytics offers data modelling and testing capabilities across entire populations (Deloitte, 2018b), providing a better understanding of data and more accurate assessments of material misstatements, internal control deficiencies, and fraud (Otete, 2020). Robotic Process Automation (RPA) enables extensive text analysis and continuously monitors business processes, detecting suspicious entries and potential fraud (Deloitte, 2018a), while AI can identify unusual transactions and flag those that violate predefined rules (Pickard et al., 2020). Advanced reporting software speeds up the supervisory review process, reducing travel and overall costs (Aikins, 2020), and using data analytics, auditors can create dashboards with various scenarios to aid in reporting (Deloitte, 2018a). Overall, the application of IT enhances the efficiency and effectiveness of internal audit functions across all phases. Although information technology has numerous benefits, implementing modern technologies in internal audit activities globally has yet to exhibit widespread acceptance. However, certain advancements can be identified in recent periods.

3. TECHNOLOGY ACCEPTANCE FACTORS IN INTERNAL AUDIT – SIGNIFICANT MODELS AND INFLUENTIAL FACTORS

Although information technology facilitates a range of internal audit functions, such as data extraction, querying, and data summarisation, its adoption has yet to be in full swing in most countries. Therefore, analysing the factors influencing technology adoption among internal auditors is essential. Factors of adaptation of information technology in internal audit research involve the cross-disciplinary application of theories related to the adoption of IT to the practice of internal auditing. The initial research focused on analysing the factors influencing the use of CAATTs/CAATs in internal auditing with the idea of exploring motivation for enabling more effective applications (Mahzan & Lymer, 2014).

The consideration of acceptance regarding the use of information technology in internal auditing is analysed from the perspective of individual acceptance, specifically exploring 'how and why individuals adopt new technologies' (Venkatesh et al., 2003, p. 427). However, organisational factors and external influences are also examined, thus providing the results of these research directions with comprehensive insight into the factors affecting the acceptance of information

technology in internal auditing. It is important to note that, although this is a topic that has been extensively researched over the past 15 years in the field of auditing, a significantly smaller number of studies have focused on internal auditing, while a more significant number have pertained to external auditing (Siew et al., 2020; Al-Okaily et al., 2024). Due to the differences between internal and external auditing and differences in the audit environment, it is only partially possible to generalise the results.

Regarding individual acceptance, the Unified Theory of Acceptance and Use of Technology (UTAUT) (Venkatesh et al., 2003) is commonly used as a basis for research. This theory consists of several models, including the Technology Acceptance Model (TAM), which was also used as a framework in studies on the factors influencing technology acceptance in internal auditing. UTAUT identifies four fundamental constructs: performance expectancy, effort expectancy, social influence, and facilitating conditions. Performance expectancy refers to "the degree to which an individual believes that using the system will help him or her to attain gains in job performance" (Venkatesh et al., 2003, p. 447). Effort expectancy is associated with the "degree of ease associated with using the system" (Venkatesh et al., 2003, p. 450). Social influence is considered "the degree to which an individual perceives that important others believe he or she should use the new system" (Venkatesh et al., 2003, p. 451), and facilitating conditions refer to the support of the organisation and are defined as "the degree to which an individual believes that an organisational and technical infrastructure exists to support the use of the systems" (Venkatesh et al., 2003, p. 453). The Technology Acceptance Model (TAM) focuses on explaining "the determinants of computer acceptance that is general" (Davis et al., 1989, p. 985) and considers the influence of external variables on attitude towards using and behavioural intention to use technology. It consists of several components: attitude toward using, behavioural intention to use, actual system use, perceived usefulness, and perceived ease of use. According to TAM, perceived usefulness and perceived ease of use "are of primary relevance for computer acceptance behaviour" (Davis et al., 1989, p. 985). Perceived usefulness is defined as the subjective probability that using a specific technology will increase the user's job performance, and perceived ease of use refers to the degree to which an individual anticipates that the system will be simple to operate (Davis et al., 1989).

Although the use of these theories as a basis for researching technology acceptance in internal auditing has been present since the early 2000s, more recent studies have been conducted in geographical areas of developing countries where the functions of internal auditing are less developed. Earlier studies that utilised UTAUT found that performance and effort expectancy were essential factors (Mahzan & Lymer, 2014) and that the acceptance of CAATs is mainly influenced by the perception of benefits from their use in the audit process. Concerning the characteristics of individual auditors, it was concluded that risk-seeking individuals are more likely to implement technology regardless of their perception of budgetary pressure (Curtis & Payne, 2008). According to the results of studies that used the basic or augmented TAM as a foundation, the significance of variables such as organisational support and system quality was established (Huang et al., 2008), along with perceived ease of use and perceived usefulness (Kim et al., 2009), with some interesting conclusions regarding the impact of technology complexity. Based on the results, more complex features of technology negatively impact the willingness to use such technology, and internal auditors are less likely to use those features regardless of their benefit to performance usefulness (Kim et al., 2009, p. 22). Although not part of recent findings, this conclusion is interesting for professional bodies. It aligns with some more recent findings regarding emerging technologies, which indicate that internal auditors believe they need more guidance and frameworks regarding the use of emerging technologies (Eulerich et al., 2020). Abdul Ghani et al. (2022) used UTAUT

as a framework and found, based on a sample of internal auditors in the public sector, that performance expectancy and individual factors are attributes that have the most influence on the adoption of CAATs. Almagrashi et al. (2023) also studied internal auditors in the public sector, expanding the UTAUT model with new factors such as organisational influence, satisfaction, and trust, which proved to have a significant influence on the acceptance of CAATs along with effort expectancy, performance expectancy, facilitating conditions, and behavioural intention. Al-Hiyari et al. (2019) established the relationship between performance expectancy and effort expectancy with the acceptance of CAATs based on the use of UTAUT and suggested that policymakers should encourage internal auditors to adopt CAATs.

Recognising the need to upgrade existing knowledge, researchers have also explored other factors to understand additional external factors contributing to or hindering an individual's acceptance of technology. In this sense, some studies use the Technological, Organisational, and Environmental framework (TOE), initially developed by Tornatzky and Fleischer (1990), which considers these three factors that influence the adoption and implementation of technology. In the context of technological factors, it is necessary to understand the characteristics of the technology itself and its usefulness in the application of the audit process. Within organisational measures, significant factors include "decision-making structure and communication processes by top management and organisation size", while environmental factors consider clients, regulatory requirements, or external pressures (Rosli et al., 2012, p. 5). According to the research conducted by Li et al. (2018) on factors influencing the use of audit analytics in internal auditing, management support, technological competence, and standards are associated with the application-level usage of audit analytics.

Additionally, it was found that professional help, technological competence, and application-level usage influence the feature-level usage of audit analytics. Along with empirical testing, some authors proposed a theoretical framework, combining (the TOE) model with Institutional theory (Mujalli & Almgrashi, 2020) in the case of using GAS to provide better decision-making in public sector internal auditing. Al-Okaily et al. (2024) focused on the public sector of a developing country in the post-COVID period. They included other variables such as support of audit bodies, government regulations, and audit task complexity as environmental factors. According to the results, both organisational and environmental variables prove to be significant for the adoption of CAATs. Organisational readiness, support of top management, auditors' information technology competency, and entity size were significant variables in organisational factors, while government regulation and audit task complexity had a significant influence on the adoption of CAATs as environmental factors. Awuah et al. (2022) also used augmented TOE on a sample of internal auditors in a developing country. They concluded on the significant influence of environmental, organisational and technological readiness related to adaptation of CAATs, suggesting that more attention should be paid to education regarding the use of emerging CAATs, such as big data analytics.

In addition to the mentioned theories, recent studies propose other theoretical foundations for creating a framework to investigate factors related to technology adoption in internal auditing, such as socio-technical systems theory (STS). STS provides a framework for understanding why emerging technologies fail to meet expectations, thereby creating an opportunity for a better understanding of how to optimise the use of technology (Eulerich et al., 2020). Similarly, Lutfi and Alqudah (2023) use the Diffusion of Innovation theory (DOI) as a framework for research variables. The DOI theory has also been used in external auditing in recent studies to investigate factors related to emerging technologies such as artificial intelligence and machine learning

(Handoko et al., 2023). The DOI theory considers significant factors for adopting complex technologies, such as relative advantage, complexity, compatibility, observability, and trialability (Lutfi & Alqudah, 2023). According to the results, relative advantage, compatibility, observability, and trialability were found to significantly impact the use of CAATTs (Audit Automation Software, Test Data and Generalized Audit Software). Additionally, the use of CAATs positively influenced the effectiveness of audit tasks, with auditors' IT knowledge serving as a moderating factor in this relationship. In addition to the conclusions of previous studies, the following results from descriptive studies should also be noted. These studies focus on describing the characteristics of a population or phenomenon without attempting to establish a causal relationship. According to the results, internal auditors tend to use more generic CAATs than specific ones. Furthermore, the size of the workplace and the size of the internal audit department (Dias & Marques, 2018) and years of experience (Inacio et al., 2020) are associated with using specific CAATs.

4. PERSPECTIVE ON THE DEVELOPMENT OF THE INTERNAL AUDIT FUNCTION IN A DIGITAL ENVIRONMENT

As mentioned, among information technologies, data analytics has shown the greatest significance and impact on the development of the internal audit function (Tang et al., 2017; Smidt et al., 2019). Advanced technologies such as artificial intelligence and robotic process automation have yet to be widely adopted, but most internal audit departments plan to change this in the coming years.

The problem primarily lies in internal auditors needing more skills and knowledge. However, these technologies can benefit internal audit departments, and their adoption should increase if they wish to keep pace with the times. The IIA Competency Framework (2022) defines four areas of knowledge and includes knowledge related to information technology: data analytics, security and privacy, and IT control frameworks. Regarding data analytics, internal auditors are expected to understand basic concepts of data analytics in internal audit, apply data analytics, and evaluate the use of data analytics in internal audit (at an expert level). In this context, internal audit functions should strengthen three pillars: "skills/capability, agility/flexibility, and insights/value" to keep pace with the organisations in which they operate (KPMG, 2022, p. 3). "Technology use" is considered "a must" in internal audit (IIA, 2024a, p. 9), with a highlighted need for accelerated development of new knowledge required for the successful implementation of information technology.

The most common reasons cited for digital unpreparedness include a lack of capabilities and skills among auditors (IAF & Deloitte, 2021, pp. 14-18). According to the latest global survey (IIA, 2024, p. 11) involving over 6,500 respondents, nearly all participants acknowledged the high significance of data analytics for future internal audit activities. However, 48% of respondents reported being involved in activities related to artificial intelligence, with less than half of these using AI for internal audit activities or exploring future applications of AI. The remainder were engaged in advisory activities related to AI applications in their companies' operations. Additionally, about one-third of respondents reported low technology or new tool usage. This data indicates that despite high awareness of the importance of keeping up with technology trends, there is still considerable room for advancement in the internal audit profession in this regard.

According to Protiviti (2022, p. 6-9), a global survey was conducted from 2021 to 2022 on respondents in the field of internal auditing. Due to remote work and changed business conditions, the number of internal auditors involved in innovations increased by 6 per cent compared to the previous two years. In this period, 67 per cent of respondents stated that they are undertaking

digital transformation initiatives, while 38 per cent plan to do so within the next two years. The main priority for most respondents is the increased use of data analytics (Protiviti, 2022, p. 10).

The overall results indicate a significant rise in the number of internal audit functions fostering new ideas and those facing innovation challenges for idea generation and seeking new solutions. This clearly shows that more internal audit functions have achieved a higher level of maturity in their innovation and transformation efforts, taking on the role of digital leaders. Additionally, future internal auditors are expected to invest additional efforts in developing expertise regarding technology. This conclusion applies to experienced and entry-level internal auditors (IIA, 2024a, p. 8).

5. CONCLUSION

Information technology is a significant ally in achieving the efficiency and effectiveness of modern internal auditing. Expectations regarding the further implementation of emerging technologies are high, both from the profession and the auditors themselves; however, according to research findings, internal auditors are not entirely prepared for such an undertaking.

The analyses showed that data analytics significantly impacts the internal audit function and that simpler information technologies are mainly applied. Internal audit functions generally have a low level of adoption of more advanced technologies, i.e., at the very beginning of developing their digital capabilities. Although internal auditors' digital maturity level regarding digital transformation is relatively low, the pandemic caused a sharp increase in maturity, especially in robotic process automation, data analytics, and artificial intelligence. An increase in the efficiency of the internal audit using information technologies and their further application in the future was observed.

Although technology is an indispensable part of daily life and offers numerous benefits, the individual's intention to accept technology is influenced by various factors. Various theories are used to investigate factors related to technology adoption in internal auditing. According to the results of recent studies from mainly developing countries, it is not possible to determine a unique set of factors associated with the acceptance of CAATs in internal auditing. Studies highlight several key factors that significantly influence the adoption and use of CAATs across different contexts. These factors include proficiency in and understanding of technology, management support, organisational readiness (including decision-making structures, communication processes, and overall size, as well as environmental factors (regulatory requirements, government regulations, and audit task complexity). The complexity of the technology itself is also proven to be a significant factor when deciding on the use, as well as some individual characteristics such as risk acceptance. Notably, these findings are predominantly based on research conducted in developing countries, indicating a need for further development to standardise auditing practices on a global scale. Also, these results have significant implications for professional bodies and industry regulators and provide valuable findings for internal auditing in the public sector. Additionally, the focus has been on more straightforward tools rather than emerging technologies, suggesting an area for future research. This may be because the adoption level of emerging technologies in internal auditing is still relatively low globally.

Modern information technologies provide more advantages than disadvantages within internal auditing; that is, they provide a significant level of efficiency within the stages of the internal audit. Although, in the near future, emerging technologies will not replace the work of internal auditors when it comes to professional judgment, they will certainly pose a challenge to internal auditors' work.

References

Abdul Ghani, A., Shahimi, S., & Che Azmi, A. A. (2022). Determinants of computer assisted audit tools and techniques (CAATs) adoption. *Advanced International Journal of Banking, Accounting and Finance,* 4(12), 01-21. https://doi.org/10.35631/aijbaf.412001

Aikins, S. K. (2020). An Examination of the Relationships Between Audit Automation and Performance Measurement Implementation in Government Internal Audits. *Journal of Accounting and Finance,* 20(8). https://doi.org/10.33423/jaf.v20i8.3955

Al-Hiyari, A., Al Said, N., & Hattab, E. (2019). Factors that influence the use of computer assisted audit techniques (CAATs) by internal auditors in Jordan. *Academy of Accounting and Financial Studies Journal*, 23(3), 1-15.

Almagrashi, A., Mujalli, A., Khan, T., & Attia, O. (2023). Factors determining internal auditors' behavioral intention to use computer-assisted auditing techniques: an extension of the UTAUT model and an empirical study. *Future Business Journal*, 9(1). https://doi.org/10.1186/s43093-023-00231-2

Al-Okaily, M., Alqudah, H. M., Al-Qudah, A. A., & Alkhwaldi, A. F. (2024). Examining the critical factors of computer-assisted audit tools and techniques adoption in the post-COVID-19 period: internal auditors perspective. VINE Journal of Information and Knowledge Management Systems, 54(5), 1062-1091. https://doi.org/10.1108/vjikms-12-2021-0311

Awuah, B., Onumah, J. M., & Duho, K. C. T. (2022). Determinants of adoption of computer-assisted audit tools and techniques among internal audit units in Ghana. *The Electronic Journal Of Information Systems In Developing Countries,* 88(2). https://doi.org/10.1002/isd2.12203

Chartered Institute of Internal Auditors. (2023). *Computer Assisted audit techniques (CAATs).* https://www.iia.org.uk/resources/delivering-internal-audit/computer-assisted-audit-techniques-caats/?downloadPdf=true

Curtis, M. B., & Payne, E. A. (2008). An examination of contextual factors and individual characteristics affecting technology implementation decisions in auditing. *International Journal of Accounting Information Systems,* 9(2), 104-121. https://doi.org/10.1016/j.accinf.2007.10.002

Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1989). User Acceptance of Computer technology. *Management Science,*35(8), 982-100.

Deloitte. (2018a). *Internal Audit 3.0: The future of Internal Audit is now.* https://www2.deloitte.com/content/dam/Deloitte/global/Documents/Audit/gx-internal-audit-3.0-the-future-of-internal-audit-is-now.pdf

Deloitte. (2018b). *Adopting RBA in Internal Audit.* https://www2.deloitte.com/content/dam/Deloitte/us/Documents/risk/adopting-robotic-process-automation-in-internal-audit.pdf

Deloitte. (2020). *Moving Internal Audit Deeper into Digital Age – Part 2.* https://www2.deloitte.com/content/dam/Deloitte/us/Documents/finance/us-moving-internal-audit-deeper-into-the-digital-age-part-two.pdf

Deloitte. (2021). *Internal audit Digital and Analytics Survey 2021.* https://www2.deloitte.com/uk/en/pages/risk/articles/internal-audit-digital-and-analytics-survey.html

Deloitte. (2023). *Internal audit digital and analytics survey 2023.* https://www.deloitte.com/content/dam/assets-zone2/uk/en/docs/services/risk-advisory/2023/deloitte-uk-deloitte-internal-audit-analytics-survey-2023.pdf

Dias, C., & Marques, R. P. (2018). The use of computer-assisted audit tools and techniques by Portuguese internal auditors. 2018 13th Iberian Conference on Information Systems and Technologies (CISTI). 1-7, https://doi.org/10.23919/cisti.2018.8399455

Eulerich, M., Pawlowski, J., Waddoups, N., & Wood, D. A. (2020). A Framework for Using Robotic Process Automation for Audit Tasks. SSRN Electronic Journal. https://doi.org/10.2139/ssrn.3651028

Handoko, B. L., Angelus, M., & Mulyawan, A. N. (2023). Diffusion of Innovation on Auditor Adoption of Artificial Intelligence and Machine Learning. 2023 7th International Conference on Software and e-Business. 20 –23. https://doi.org/10.1145/3641067.3641073

Huang, S. M., Hung, Y. C., & Tsao, H. H. (2008). Examining the determinants of computer-assisted audit techniques acceptance from internal auditors' viewpoints. *International Journal of Services and Standards,* 4(4), 377. https://doi.org/10.1504/ijss.2008.020054

IAF & Deloitte. (2021). *Assessing Internal Audit competency.* https://www.theiia.org/en/content/research/foundation/2021/assessing-internal-audit-competency-minding-the-gaps-to-maximize-insights/

Inacio, H., Marques, R. P., Amaral, B., & Dias, C. (2020). Comparative Analysis of the Use of Computer-Assisted Audit Tools by Internal and External Auditors in Portugal. 2020 15th Iberian Conference on Information Systems and Technologies (CISTI). https://doi.org/10.23919/cisti49556.2020.9140944

The Instititute of Internal Auditors. (2024a). *Internal Audit - Vision 2035: Creating our future together.* https://www.theiia.org/globalassets/site/foundation/latest-research-and-products/vision-2035-report.pdf

The Institute of Internal Auditors. (2024b). *Global Internal Audit Standards*. https://www.theiia.org/globalassets/site/standards/editable-versions/globalinternalauditstandards_2024january9_editable.p

The Institute of Internal Auditors (IIA). (2016). *International Standards for the professional practice of Internal Auditing.* https://www.theiia.org/globalassets/site/standards/mandatory-guidance/ippf/2017/ippf-standards-2017-english.pdf

The Institute of Internal Auditors (IIA). (2018). *Pulse of internal audit and the internal audit transformation imperative*. https://preprod.theiia.org/globalassets/documents/pulse/2018-na-pulse-of-internal-audit-the-internal-audit-transformation-imperative.pdf

The Institute of Internal Auditors (IIA). (2022). *Internal Audit Competency Framework*. https://www.theiia.org/globalassets/documents/standards/ia-competency-framework/2022-4103-sem-competency-framework-graphics-table_fnl.pdf

The Institute of Internal Auditors Research Foundation (IIARF). (2015). *Staying a Step Ahead: Internal Audit's Use of Technology*: https://www.theiia.org/globalassets/site/foundation/latest-research-and-products/practitioner-reports/cbok/cbok-pdfs/cbok-2015-staying-a-step-ahead-internal-audits-use-of-technology.pdf

The Internal Audit Foundation IAF. (2019). *Internal Auditors response to disruptive inovation.* https://iia.no/internal-auditors-response-to-disruptive-innovation/

Kim, H.-J., Mannino, M., & Nieschwietz, R. J. (2009). Information technology acceptance in the internal audit profession: Impact of technology features and complexity. *International Journal of Accounting Information Systems,* 10(4), 214-228. https://doi.org/10.1016/j.accinf.2009.09.001

KPMG. (2022). *Technology Internal Audit and beyond*. https://assets.kpmg.com/content/dam/kpmg/cn/pdf/en/2022/04/technology-internal-audit-2022-and-beyond.pdf

Li, H., Dai, J., Gershberg, T., & Vasarhelyi, M. A. (2018). Understanding usage and value of audit analytics for internal auditors: An organisational approach. *International Journal of Accounting Information Systems,* 28, 59-76. https://doi.org/10.1016/j.accinf.2017.12.005

Lutfi, A., & Alqudah, H. (2023). The Influence of Technological Factors on the Computer-Assisted Audit Tools and Techniques Usage during COVID-19. *Sustainability,* 15(9), 7704. https://doi.org/10.3390/su15097704.

Mahzan, N., & Lymer, A. (2014). Examining the adoption of computer-assisted audit tools and techniques: Cases of generalised audit software use by internal auditors. *Managerial Auditing Journal, 29*(4), 327-349. https://doi.org/10.1108/maj-05-2013-0877

Mujalli, A., & Almgrashi, A. (2020). A Conceptual Framework for Generalised Audit Software Adoption in Saudi Arabia by Government Internal Auditing Departments using an Integrated

Institutional Theory-TOE Model. 2020 IEEE Asia-Pacific Conference on Computer Science and Data Engineering (CSDE). https://doi.org/10.1109/csde50874.2020.9411556

Otete, A. R. (2020). Adoption of audit software by small and medium-sized practices in East Africa. *European Journal of Accounting, Auditing and Finance Research*, 8(9), 25-40. DOI:10.37745/ejaafr.2013

Pickard, M. D., Schuetzler, R., Valacich, J. S., & Wood, D. A. (2020). Innovative Accounting Interviewing: A Comparison of Real and Virtual Accounting Interviewers. *The Accounting Review,* 95(6), 339-366. https://doi.org/10.2308/tar-2017-0235

Protiviti. (2022). *Innovation and Transformation Are Driving the Future of Internal Auditing: Protivi's 2022 Next-Generation Internal Audit Survey.* https://www.protiviti.com/us-en/survey/assessing-results-protivitis-2022-next-generation-internal-audit-survey

PWC. (2018). *2018 State of the Internal Audit profession Study.* https://www.pwc.dk/da/publikationer/2018/moving-at-the-speed-of-innovation.pdf

PWC. (2019a). *2019 State of the Internal Audit.* https://www.pwc.com/sg/en/publications/assets/state-of-the-internal-audit-2019.pdf

PWC. (2019b). *2019 State of Compliance study.* https://www.pwc.fr/fr/assets/files/pdf/2019/06/fr-pwc-etude-state-of-compliance-2019.pdf

Rosli, K., Yeow, P., & Siew, E.-G. (2012). Factors Influencing Audit Technology Acceptance by Audit Firms: A New I-TOE Adoption Framework. *Journal of Accounting and Auditing: Research & Practice*, 1-11. https://doi.org/10.5171/2012.876814

Siew, E.-G., Rosli, K., & Yeow, P. H. P. (2020). Organisational and environmental influences in the adoption of computer-assisted audit tools and techniques (CAATTs) by audit firms in Malaysia. *International Journal of Accounting Information Systems,* 36, 100445. https://doi.org/10.1016/j.accinf.2019.100445

Smidt, L. A., van der Nest, D. P., Steenkamp, L., Lubbe, D. S., & Ahmi, A. (2019). An Assessment of the Purpose of the use of Generalised Audit Software: A perspective of Internal Audit Functions in Australia. 2019 14th Iberian Conference on Information Systems and Technologies (CISTI). https://doi.org/10.23919/cisti.2019.8760882

Tang, F., Norman, C. S., & Vendrzyk, V. P. (2017). Exploring perceptions of data analytics in the internal audit function. *Behaviour & Information Technology,* 36(11), 1125-1136. https://doi.org/10.1080/0144929x.2017.1355014

Tornatzky, L. G., & Fleischer, M. (1990). *The Processes of Technological Innovation.*

Venkatesh, Morris, Davis, & Davis. (2003). User Acceptance of Information Technology: Toward a Unified View. *MIS Quarterly, 27*(3), 425. https://doi.org/10.2307/30036540

https://doi.org/10.31410/ERAZ.2024.157

Option Pricing Models: The Evolution of the Black-Scholes-Merton Model

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European option

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Abstract: *This paper focuses on the development and impact of the Black-Scholes-Merton (Black-Scholes) model in mathematical finance. It begins with an overview of the Black-Scholes model, including its foundational assumptions, the Black-Scholes equation, and its formula for pricing European options. The paper discusses the model's significant advantages, such as its ability to estimate market volatility and provide a self-replicating hedging strategy. It also addresses its limitations, including assumptions of constant volatility and perfect market conditions, which often do not align with real-world scenarios. Finally, this paper reviews advancements that have refined the model, including adjustments for stochastic volatility, price jumps, and market imperfections.*

1. INTRODUCTION

Trading has always been seen as an opportunistic endeavor, mainly fueled by finances and active traders' investments and most of the trading happens in financial markets. Financial markets, as the name itself suggests, are marketplaces that facilitate the buying and selling of different assets such as bonds, stocks, foreign currencies, and derivatives (Howells & Bain, 2007). These markets facilitate and make possible the exchange of different material and monetary funds between investors, lenders, and borrowers, enabling efficient allocation of resources and capital. These markets are also central to the mathematical theory of finance, which is why much effort especially in the last decades, has been devoted to developing techniques and models to forecast and predict market volatility (Karatzas et al., 1998).

Options are one of the key securities of financial markets and they are defined as the financial derivatives that give buyers the right, but not the obligation, to buy or sell an underlying asset at an agreed-upon price and date They are divided into two main categories, respectively a call option and put option. These two option types, in combination with each other form the basis for a wide range of option strategies designed for hedging, income, or speculation (Ross, 2011). Furthermore, options can be categorized according to when they may be exercised by the buyer or their exercise style. In this paper, only the European Option[2] will be discussed.

As previously mentioned, options hold a very important role in financial markets, yet the concepts surrounding their calculation and pricing have historically been complex and difficult to understand and

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[2] A European option is a type of options contract that permits investors to exercise their rights only on the contract's expiration date. The holder has the right to buy or sell the underlying asset at a predetermined price, referred to as the option's strike price (Yoshida, 2003).

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predict. It wasn't until 1973 that a breakthrough occurred with the introduction of the options exchange, marking a pivotal moment in the evolution of option pricing theory. That year, economists Fischer Black and Myron Scholes published what would become the dominant theory of how to value and price options, known as the Black-Scholes Model (Black & Scholes, 1973). Robert C. Merton, on the other hand, was the first to publish a paper that expanded the mathematical understanding of the options pricing model and introduced the term "Black–Scholes Options Pricing Model" (Bodie, 2019). The equation and model are named after the first two economics, but Merton is sometimes also credited. From this point on, this paper will only refer to the Black-Scholes-Merton Model as only the Black-Scholes Model. This new model provided a new way of valuing European options showing that an option has a unique price, which is not affected by the risk and return on an underlying asset of that particular option (Ross, 2011).

It was however possible to advance the Black-Scholes Model, and one of the scholars who did so was exactly Robert Merton who improved on the model in many important respects, making it more applicable (Bodie, 2019). Following this, numerous other influential papers and extensions of the model were developed.

2. BLACK-SCHOLES MODEL

The Black-Scholes model is a pricing model that was developed in 1973 and framed the development of most subsequent pricing models (Black & Scholes, 1973). Originally, it was used to price European options and was the first widely adopted mathematical formula for pricing options. It is also often credited with driving the growth of options trading and is considered a major milestone in modern financial pricing. The Black-Scholes Model is used to calculate the fair price of options based on six key variables: volatility, option type, underlying stock price, strike price, time to expiration, and the risk-free interest rate. Rooted in the principle of hedging, the model aims to eliminate risks arising from the volatility of the underlying assets and stock options (Durrett, 2019). The Black–Scholes equation, a partial differential equation in the model, can be used to derive the Black–Scholes formula, which offers a theoretical estimate of the price of European-style options (Black & Scholes, 1973). This formula demonstrates that the option has a unique price regardless of the security's risk and expected return (Black & Scholes, 1973). The model's introduction revolutionized financial markets by allowing for more precise pricing of options and laid the groundwork for the development of future option pricing theories. The formula assumes the underlying stock price follows a geometric Brownian motion with constant volatility. The geometric Brownian motion can be shown as follows:

$$dS = \mu S dt + \sigma S dw \tag{1}$$

where S is the current price of the stock, dS the change in the stock price, μ is the expected rate of return, σ is the volatility and dw is the part follows a Wiener process. The first term of Equation (1) is used to model deterministic trends, while the second is often used to model a set of unpredictable events occurring during the geometric Brownian motion (Durrett, 2019). This stochastic process helps to account for the randomness and uncertainty in stock price movements over time, which is a key feature of financial markets. It also provides a foundation for deriving option pricing models by incorporating both expected returns and market volatility.

3. BLACK-SCHOLES ASSUMPTIONS

A derivative from the geometric motion base of the Black-Scholes formula is needed in order to come up with a closed form pricing solution for European call and put options. Before getting into

the mathematical details and calculations, it is important to note that the Black-Scholes formula can only be derived and subsequently used to deliver possible results only under specific assumptions. These assumptions that need to be met include: (Del Giudice et al., 2015):

1. Markets are always efficient and open.
2. There are no taxes or transaction costs.
3. The risk-free interest rate is known and remains constant over time.
4. The volatility of the underlying asset's price is known and remains constant.
5. The price movements of the underlying asset follow a lognormal distribution, meaning that the capitalized returns are normally distributed.
6. The option can only be exercised at the expiration date, as it is a European option.
7. There are no dividends during the life of the option (Del Giudice et al., 2015).

4. DEVIATION OF THE BLACK-SCHOLES EQUATION

First note the following variables: S = stock price, t = time, V = V (S, t) = is the price of the option as a function of stock price S and time t, r is the risk-free interest rate, and σ is the volatility of the stock (Hull & Basu, 2016).

Given the complexity and mathematical knowledge required to derive the Black-Scholes Formula through the Black-Scholes equation, this paper will adopt a step-by-step approach to its explanation. By breaking down the technical aspects, the goal is to make the concept accessible and understandable to a broader audience.

The starting point is the Itô's Lemma for two variables (Hull & Basu, 2016):

$$dV = \left(\frac{\partial V}{\partial t} + \mu S\frac{\partial V}{\partial S} + \frac{1}{2}\sigma^2 S^2\frac{\partial^2 V}{\partial S^2}\right)dt + \sigma S\frac{\partial V}{\partial S}\,dw. \tag{2}$$

Now consider a specific portfolio known as the delta-hedge portfolio, which involves being short one option and holding ∂V/∂S shares at time t (Hull & White, 2017). The value of these holdings is:

$$\Pi = -\mathrm{V} + \frac{\partial V}{\partial S}S \tag{3}$$

Over the time period [t, t+Δt], the total profit (or loss) from changes in the values of the holdings is:

$$\Delta\Pi = -\Delta\mathrm{V} + \frac{\partial V}{\partial S}\Delta S \tag{4}$$

In this step it is important to discretize the equations for *dS*/*S* and *dV* by replacing differentials with deltas:

$$\Delta\mathrm{S} = \mu S\Delta\mathrm{t} + \sigma S\Delta\mathrm{w} \tag{5}$$

$$\Delta\mathrm{V} = \left(\mu S\frac{\partial V}{\partial S} + \frac{\partial V}{\partial t} + \frac{1}{2}\sigma^2 S^2\frac{\partial^2 V}{\partial S^2}\right)\Delta\mathrm{t} + \sigma S\frac{\partial V}{\partial S}\Delta\mathrm{w} \tag{6}$$

while appropriately substituting them into the expression for ΔΠ:

$$\Delta\Pi = \left(-\frac{\partial V}{\partial t} - \frac{1}{2}\sigma^2 S^2\frac{\partial^2 V}{\partial S^2}\right)\Delta\mathrm{t} \tag{7}$$

Note that the term Δw has disappeared, indicating that uncertainty has been removed and the portfolio is now effectively risk-free (Hull & Basu, 2016). The rate of return on this portfolio must match the rate of return on any other risk-free asset; otherwise, arbitrage opportunities would arise. Assuming a risk-free rate of return r, the following must hold over the time period [t, t+t]:

$$\Delta\Pi = r\Pi\Delta t \tag{8}$$

When substituting the formulas for ΔΠ and Π = ∫ΔΠ, then:

$$\left(-\frac{\partial V}{\partial t} - \frac{1}{2}\sigma^2 S^2 \frac{\partial^2 V}{\partial S^2}\right)\Delta t = r\left(S\frac{\partial V}{\partial S} - V\right)\Delta t. \tag{9}$$

By simplifying the previous equation (9), the renowned Black-Scholes partial differential equation is obtained:

$$\frac{\partial V}{\partial t} + \frac{1}{2}\sigma^2 S^2 \frac{\partial^2 V}{\partial S^2} + rS\frac{\partial V}{\partial S} - rV = 0. \tag{10}$$

The fundamental financial point of the equation is that by buying and selling in a strategic manner the underlying asset, one can perfectly hedge the option, meaning that one can potentially completely "eliminate risk" (Hull & Basu, 2016). It will be seen later while discussing the limitations of the model in Section 6, that eliminating risk is not feasible in the real-world context.

5. BLACK-SCHOLES FORMULA

As mentioned earlier, the Black–Scholes formula is used to calculate the price of European put and call options, in accordance with the Black–Scholes equation discussed in the previous chapter. In the Black-Scholes model, the value of a call option can be expressed as a function of five variables.

The value of a call option on a non-dividend-paying underlying stock, based on the Black-Scholes parameters, is given as (Black & Scholes, 1973):

$$C(S_t, t) = N(d_1)S_t - N(d_2)Ke^{-r(T-t)} \quad \text{for} \tag{11}$$

$$d_1 = \frac{1}{\sigma\sqrt{T-t}}\left[\ln\left(\frac{S_t}{K}\right) + \left(r + \frac{\sigma^2}{2}\right)(T-t)\right] \quad \text{and} \tag{12}$$

$$d_2 = d_1 - \sigma\sqrt{T-t} \tag{13}$$

where N is the cumulative distribution of the standard normal distribution, T-t is the time to maturity (expressed in years), S_t is the spot price of the underlying asset, K is the strike price, r is the risk free and σ is the volatility of returns of the underlying asset (Black & Scholes, 1973).

The price of the corresponding put option based on put-call parity is then given by (Jiang, 2019):

$$P(S_t, t) = Ke^{-r(T-t)} - S_t + C(S_t, t) = N(-d_2)Ke^{-r(T-t)} - N(-d_1)S_t \tag{14}$$

6. ADVANTAGES AND LIMITATIONS OF THE BLACK-SCHOLES MODEL

The Black Scholes model is one of the concepts in financial theory that can be said to be a major breakthrough in both the way it is conceived and the way it is applied. Its most important advantage

is that it can determine the market volatility of an underlying asset —typically based on price and time—without regard to the investor's attributes such as the expected return, risk attitude, or utility functions (Teneng, 2011).

In this section of the paper, some of the main advantages of the Black Scholes model will be listed, as well as some of its limitations. The key advantages of the model are (Teneng, 2011):

1. Market Volatility Assessment: The Black-Scholes model is able to estimate the market volatility for an underlying asset, typically as a function of price and time, without requiring any identifying characteristics of the investor such as the expected return, risk tolerance, or the utility function.
2. Self-Replicating Strategy (Hedging): The model offers a self-replicating strategy, which allows investors to continuously buy and sell derivatives and underlying assets in a way that replicates the payoff of a derivative security at maturity. This strategy acts as a form of insurance, ensuring that any loss on one side of the portfolio is exactly compensated by a gain on the other side.
3. Absence of Arbitrage Opportunities: The implications of the Black-Scholes model include the absence of arbitrage, which is the ability to make riskless profit in the financial markets – due to the assumption that money movements occur in such a manner that there is a net zero profit or loss to any one portfolio which means that no "risk free" cash is available in the marketplace. Furthermore, the portfolio is self-financing, with no need for additional funds.
4. Wide Usage: The Black-Scholes model has a universal scope as it does not depend on any particular investor classes. This is the reason why it is among the most successful models in finance with a wide range of applications in various markets and instruments.

Despite its widespread use, the Black-Scholes model is based on several unrealistic market assumptions (Teneng, 2011) leading to some model limitations (Janková, 2018):

1. Constant Volatility: The model assumes volatility remains constant over time, which is not the case in reality. Volatility often clusters and is influenced and determined by factors such as trading volume and asset price returns.
2. Random Walk and Independence: It presumes that stock prices follow a random walk and that future prices are independent of past prices. On the contrary, movements in the stock or bond markets respond to macroeconomic events and prices are often auto correlated and are volatile clusters.
3. Log-Normal Distribution: The model assumes returns are log-normally distributed, but real financial data and historical datasets often show heavier tails and finite variance, differing from the log-normal assumption.
4. Constant Interest Rates: It assumes a risk-free rate that is constant, this is not realistic because in the real world, white interest rates, rates do not stay constant.
5. No Dividends: The basic model assumes that the underlying stock does not pay dividends. In practice, more often than not, dividends are a common occurrence, though adjustments can be made to account for them.
6. No Transaction Costs: It also does not account for transaction costs and commissions when engaging in buying and selling which is unrealistic in a real environment.
7. European-Style Options: The model applies to European-style options, which can only be exercised at expiration. It does not account for the flexibility of American-style options that can be exercised at any time.
8. Perfect Liquidity: It assumes markets are perfectly liquid with no constraints on buying or selling amounts, which is not always the case in real markets.

These were some of the advantages and limitations of the Black-Scholes Model discussed in this paper. Inspired by these limitations, many researchers have developed extensions of this model which will be mentioned in the upcoming section.

7. UPGRADES OF THE BLACK-SCHOLES MODEL

Numerous models have sought to address the limitations of the Black-Scholes model, particularly in response to real-world issues such as stochastic volatility, market illiquidity, and market imperfections. The Heston Model, developed in 1993, is one of the notable improvements over the previous model because it introduces stochastic volatility, allowing volatility to fluctuate according to its own stochastic process (Heston, 1993). This model better captures the volatility clustering observed in financial markets compared to the constant volatility assumption of the Black-Scholes model. The Heston model is also less restrictive since it allows for market friction by modelling the correlation between the prices of assets and stochastic volatility (Wilmott, 2000). As a result, it is better suited for capturing the dynamics of volatile markets, accommodating changing volatility levels, and capturing the volatility smile.

Another important extension is the GARCH (Generalized Autoregressive Conditional Heteroskedasticity) model, which models volatility as a function of past returns and past volatility, accommodating time-varying volatility (Duan, 1995).

In addition to stochastic volatility, the Jump-Diffusion Model, introduced by Merton in 1976, addresses the issue of sudden, large price movements by incorporating jumps in asset prices alongside continuous changes (Merton, 1976). This model is one of the first beyond Black-Scholes model in the sense that it tries to capture the negative skewness and excess kurtosis of the log stock price density by a simple addition of a compound Possion jump process (Matsuda, 2004). The Local Volatility Model, developed by Dupire in 1994, allows volatility to vary as a function of both the underlying asset price and time, providing a more accurate fit to market data and addressing discrepancies between implied volatility and observed prices (Dupire, 1994).

In order to consider the issues related to liquidity and market imperfections, models such as the Extended Vasicek Model have taken interest rate dynamics into account while considering liquidity constraints and market frictions (Vasicek, 1977). Vasicek's model was the first to incorporate mean reversion[3], a feature that set interest rates apart from other financial prices. Unlike stock prices, which can potentially increase without limit, interest rates are constrained because excessively high rates would hinder economic activity, leading to a subsequent decline. Similarly, interest rates rarely fall below zero (Vasicek, 1977). Consequently, interest rates tend to fluctuate within a confined range, consistently gravitating back toward a long-term average (Brigo & Mercurio, 2006). These advancements represent significant progress in option pricing theory, offering more realistic frameworks that better reflect the complexities observed in financial markets in the real world.

8. CONCLUSION

To summarize, it can be said that the development of the Black-Scholes model has contributed to the advancement of financial theory in a notable way, providing a practical solution for European option pricing. Nonetheless, its limitations make it hard to apply the model in practice as perfect market conditions or constant volatility and interest rates are rare in real-life financial markets. It

[3] Mean reversion is a financial theory which suggests that, after an extreme price move, asset prices tend to return back to normal or average levels (Exley et al., 2004).

is these limitations that have resulted in more sophisticated models such as stochastic volatility models, jump-diffusion models, and local volatility models which solve the problem of price jumps in an illiquid market. All of these improvements in pricing models for financial options testify to the changing face of financial markets, as well the desire to capture more of the market as it is. As much as the Black-Scholes model has acted as the go-to option valuation model and remains a foundational tool, the subsequent refinements and alternative models that have been developed have gone further in bringing real environments to theories of option pricing concerning the ever-volatile market forces.

References

Black, F., & Scholes, M. (1973). The pricing of options and corporate liabilities. *Journal of Political Economy*, *81*(3), 637-654.

Bodie, Z. (2019). Robert C. Merton and the science of finance. *Annual Review of Financial Economics*, *11*(1), 1-20.

Brigo, D., & Mercurio, F. (2006). *Interest rate models-theory and practice: with smile, inflation and credit* (Vol. 2). Berlin: Springer.

Del Giudice, M., Evangelista, F., & Palmaccio, M. (2015). Defining the Black and Scholes approach: a first systematic literature review. *Journal of Innovation and Entrepreneurship*, *5*, 1-13.

Duan, J. C. (1995). The GARCH option pricing model. *Mathematical finance*, *5*(1), 13-32.

Dupire, B. (1994). Pricing with a smile. *Risk*, *7*(1), 18-20.

Durrett, R. (2019). *Probability: theory and examples* (Vol. 49). Cambridge University Press.

Exley, J., Mehta, S., & Smith, A. (2004). Mean reversion. In *finance and investment conference* (pp. 1-31).

Heston, S. L. (1993). A closed-form solution for options with stochastic volatility with applications to bond and currency options. *The review of financial studies*, *6*(2), 327-343.

Howells, P., & Bain, K. (2007). *Financial markets and institutions*. Pearson Education.

Hull, J., & White, A. (2017). Optimal delta hedging for options. *Journal of Banking & Finance*, 82, 180-190.

Hull, J. C., & Basu, S. (2016). *Options, futures, and other derivatives*. Pearson Education India.

Janková, Z. (2018). Drawbacks and limitations of Black-Scholes model for options pricing. *Journal of Financial Studies and Research*, *2018*, 1-7.

Jiang, Q. (2019, December). Comparison of black–scholes model and Monte Carlo simulation on stock price modeling. In *2019 International Conference on Economic Management and Cultural Industry (ICEMCI 2019)* (pp. 135-137). Atlantis Press.

Karatzas, I., Shreve, S. E., Karatzas, I., & Shreve, S. E. (1998). *Methods of mathematical finance* (Vol. 39, pp. xvi+-407). New York: Springer.

Matsuda, K. (2004). Introduction to Merton jump-diffusion model. *Department of Economics, The Graduate Center, The City University of New York, New York*.

Merton, R. C. (1976). Option pricing when underlying stock returns are discontinuous. *Journal of financial economics, 3*(1-2), 125-144.

Ross, S. M. (2011). *An elementary introduction to mathematical finance*. Cambridge University Press.

Teneng, D. (2011). Limitations of the Black-Scholes model. *Collection of Papers*, *1*, 143.

Vasicek, O. (1977). An equilibrium characterization of the term structure. *Journal of financial economics*, *5*(2), 177-188.

Wilmott, P. (2000). *Paul Wilmott on quantitative finance*. Wiley.

Yoshida, Y. (2003). The valuation of European options in uncertain environment. *European Journal of Operational Research*, *145*(1), 221-229.

Additional reading

Ankudinova, J., & Ehrhardt, M. (2008). On the numerical solution of nonlinear Black–Scholes equations. *Computers & Mathematics with Applications*, *56*(3), 799-812.

Anwar, M. N., & Andallah, L. S. (2018). A study on numerical solution of Black-Scholes model. *Journal of Mathematical Finance*, *8*(2), 372-381.

Baxter, M., & Rennie, A. (1996). *Financial calculus: an introduction to derivative pricing*. Cambridge university press.

Black, F., & Scholes, M. (2019). The pricing of options and corporate liabilities. In *World Scientific Reference on Contingent Claims Analysis in Corporate Finance: Volume 1: Foundations of CCA and Equity Valuation* (pp. 3-21).

Brenner, M., & Subrahmanyam, M. G. (1994). A simple approach to option valuation and hedging in the Black-Scholes model. *Financial Analysts Journal*, *50*(2), 25-28.

Brown, S. (2011). Measures of shape: Skewness and kurtosis.

Brzezniak, Z., & Zastawniak, T. (2000). *Basic stochastic processes: a course through exercises*. Springer Science & Business Media.

Cambone, E. (2016). Merits and Shortcomings of the Black-Scholes-Merton (BSM) Approach: An analysis of the role of volatility. *Essex Student Journal*, *8*(1).

Chatterji, S. D. (1994). The mathematical work of N. Wiener (1894–1964). *Current Science*, *67*(12), 930-936.

Choi, J., Kwak, M., Tee, C. W., & Wang, Y. (2022). A Black–Scholes user's guide to the Bachelier model. *Journal of Futures Markets*, *42*(5), 959-980.

Cohen, J. E., Davis, R. A., & Samorodnitsky, G. (2020). Heavy-tailed distributions, correlations, kurtosis and Taylor's law of fluctuation scaling. *Proceedings of the Royal Society A*, *476*(2244), 20200610.

Cox, J. C., & Ross, S. A. (1976). A survey of some new results in financial option pricing theory. *The Journal of Finance*, *31*(2), 383-402.

Davis, M. H. (2010). Black–Scholes Formula. *Encyclopedia of Quantitative Finance*, 199-207.

Guo, T. (2022, December). Black-Scholes process and Monte Carlo simulation-based options pricing. In *2022 International Conference on Artificial Intelligence, Internet and Digital Economy (ICAID 2022)* (pp. 733-741). Atlantis Press.

Hull, J., Treepongkaruna, S., Colwell, D., Heaney, R., & Pitt, D. (2013). *Fundamentals of futures and options markets*. Pearson Higher Education AU.

Itô, K. (1951). On a formula concerning stochastic differentials. *Nagoya Mathematical Journal*, *3*, 55-65.

Klebaner, F. C. (2012). *Introduction to stochastic calculus with applications*. World Scientific Publishing Company.

MacBeth, J. D., & Merville, L. J. (1980). Tests of the Black-Scholes and Cox call option valuation models. *The Journal of Finance*, *35*(2), 285-301.

Medidjati, A., Utama, W., Heryana, T., & Hartono, P. (2024). The Evolution of the Black-Scholes Model: A Bibliometric Analysis. *Journal of Accounting Research, Organization and Economics*, *7*(3), 342-362.

Merton, R. C. (1973). Theory of rational option pricing. *The Bell Journal of economics and management science*, 141-183.

Merton, R. C. (1977). An application of modern option pricing theory. *Journal of Banking and Finance*, *1*, 3-11.

Nag, A. (2024). Options and Black-Scholes Model. In *Stochastic Finance with Python: Design Financial Models from Probabilistic Perspective* (pp. 259-308). Berkeley, CA: Apress.

Nielsen, L. T. (1992). *Understanding N (d1) and N (d2): Risk Adjusted Probabilities in the Black-scholes Model 1*. Fontainebleau, France: Insead.

Oksendal, B. (2013). *Stochastic differential equations: an introduction with applications*. Springer Science & Business Media.

Serfozo, R. (2009). *Basics of applied stochastic processes*. Springer Science & Business Media.

Shreve, S. E. (2004). *Stochastic calculus for finance II: Continuous-time models* (Vol. 11). New York: Springer.

Stoll, H. R. (1969). The relationship between put and call option prices. *The Journal of Finance*, *24*(5), 801-824.

Wilmott, P., Howison, S., & Dewynne, J. (1995). *The mathematics of financial derivatives: a student introduction*. Cambridge University Press.

Zhang, H., Zhang, M., Liu, F., & Shen, M. (2024). Review of the Fractional Black-Scholes Equations and Their Solution Techniques. *Fractal and Fractional*, *8*(2), 101.

Zhang, W., & Zhang, J. E. (2020). GARCH option pricing models and the variance risk premium. *Journal of Risk anenha Financial Management*, *13*(3), 51.

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Financial Management and Control in Public Administration as One of the Essential Factors of Good Governance

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Abstract: *Financial management and control in the public sector represent a comprehensive system of established processes and controls. They contribute to greater accountability in public administration, rational and accountable management and spending of budget funds, building a culture of integrity, promoting trust between citizens and public administration, and striving to prevent corruption and fraud. The paper aims to highlight the importance of this system, the system of accountability in public administration, its connection with internal audits, and the direction of future reforms.*

1. INTRODUCTION

Financial management and control in the public sector constitute a structured system of processes and oversight mechanisms. This system enhances the accountability of public administration, ensures the responsible and efficient use of budget funds, fosters a culture of integrity, and strengthens public trust while aiming to prevent corruption.

In theory, the FMC system, or in foreign literature "PIFC" (Public Internal Financial Control), is considered a method for regulating administrative procedures within the organization, with a direct or indirect impact on the budget (SIGMA, 2023).

As one of the countries with the status of a candidate for EU membership, Serbia has undertaken to fulfill the obligations stipulated in specific chapters in various areas. One of them is Chapter 32, which refers to financial supervision (Ministry of Finance, 2023). One of the most essential processes in the mentioned chapter is the establishment of systems and mechanisms of internal financial control and internal audit in the public sector.

Implementing the financial management and control system brings numerous benefits for public administration, and it is also one of the conditions from the negotiation chapter for countries that are candidates for membership in the European Union, such as Serbia. One of the key benefits is the increase in transparency in the management of public finances, which strengthens citizens' trust and attracts foreign investments.

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More efficient resource management enables the optimization of budget expenditures and the improvement of the ratio between invested and received in the public sector. This contributes not only to financial stability and sustainability but also to improving the quality of services provided to citizens. In addition, better control and risk management help reduce opportunities for corruption and misuse of funds.

2. GOOD GOVERNANCE AND FINANCIAL MANAGEMENT AND CONTROL

The International Framework on Good Governance in the Public Sector, developed by the International Federation of Accountants, describes good management as the actions of public sector organizations that aim to achieve planned results while respecting the public interest (International Federation of Accountants, 2014, p. 19).

According to this document, acting in the public interest requires the following:
1. fostering ethical standards and values and acting with integrity;
2. ensuring transparency and openness;
3. defining public outcomes for sustainable development;
4. predicting measures and actions that are necessary to achieve such planned outcomes;
5. an effort to develop the capacities of all relevant subjects in the system;
6. risk management through the financial management system and control and internal audit;
7. efforts to ensure adequate accountability through reporting and auditing systems (International Federation of Accountants, 2014, p. 25).

This system should strive to recognize all possible risks in an organization or institution of public administration to manage them more efficiently (Hepworth, 2024, p. 39).

3. IMPLEMENTATION OF FINANCIAL MANAGEMENT AND CONTROL IN PUBLIC ADMINISTRATION

The initial step in implementing FMC in a specific public administration organization is for management to recognize the organization's benefits from introducing and implementing this system. After that, an important step is informing and familiarizing all employees with the importance of introducing the system and the obligation of cooperation during its introduction, especially during its implementation.

The introduction of the system (financial management and control) may have specific weaknesses or challenges, such as insufficient information of all employees about the entire process, their roles, obligations, and accountability, as well as awareness of the benefits of this system for the accountable business of the whole organization. This is the first element of the financial management and control system or the so-called control environment.

After the first stages of introducing the financial management and control system into the organization, the next important step is the detailed definition of all business processes within that organization. This step involves elaborating each process, including its procedures and flows, to ensure that it is fully compliant with applicable legislation and the organization's internal rules and procedures. After defining the process, a horizontal and vertical review of the procedure follows.

A risk management strategy is created after defining the list of business processes and reviewing the procedure horizontally and vertically; first, the probability of risk occurrence is determined, then the effect of the risk is measured, and finally, the risk is evaluated.

The probability of risks shows their likelihood of occurrence in a specific organization/institution. The measurement of the risk's effect shows the degree and assessment of the significance of the consequence if the risk is realized, that is, if a harmful event occurs that causes consequences.

Risk assessment is the determination of risk exposure and its limits of acceptability for a specific institution. Risks are divided into those that do not require a further reaction, those that require an immediate reaction, and those that need to be controlled and well-managed to reduce them to a level that does not require a further reaction (Anđelković, 2024, p. 259).

Public administration entities face numerous risks in their work, such as certain unforeseen, uncertain events, which may affect the achievement of planned goals. Some risks can have a more significant impact on achieving goals and performance and some less. In this regard, defining and ranking risks is one of the more essential steps in establishing a financial management and control system. In theory, different risk classifications can be found. One of them is related to whether they represent an opportunity or a threat for the subjects of the public sector: positive risks when they represent a chance or opportunity and negative risks when they represent a threat. Other criteria divide risks into their area of occurrence, e.g., social risks, risks for human rights, strategic ones that come from strategic documents, and operational ones that come from the organization's daily operations (International Federation of Accountants, 2014, p. 45).

Regardless of the division criteria, it is essential that they are recognized and continuously well-governed. Good risk governance means that all organization subjects, including employees and management, must be aware of them. Furthermore, they must be mindful that risk governance is a continuous process. The emphasis is always on risk prevention, but since the very definition of risk is unpredictability and uncertainty, they can occur during work, that is, business, and then they must be well governed.

Risks in public administration can be very different, depending on the field of work. When creating the risk register, it is essential to identify them as much as possible at the specific moment to determine the persons accountable for risk governance, measures to eliminate risks, and the persons in charge of their elimination, that is, reducing risks to the most minor possible extent. This should be followed by analyses, working group meetings, etc., on which risk governance would be monitored and reported.

In addition to risk governance, so-called control activities enable the level of risk to be reduced to a reasonable or acceptable level, as well as mutual communication and information, which are necessary for the functioning of this system. The last element of financial management and control is monitoring and evaluating the functioning of the FMC system. This activity is carried out by internal audit, with employees regularly inspecting and monitoring it, as well as various types of self-evaluation by employees and management (International Federation of Accountants, 2014, p. 55).

The Law on the Budget System (Art. 81) regulates the system of financial management and control in the RS's legal system; this regulation establishes the obligation of all users of public funds to introduce a system of financial management and control and internal audit (in one of the three

ways provided by the Rulebook) ("Official Gazette of RS", No. 89/2019). This Law stipulates the manager's obligation to report to the minister in charge of finance on the adequacy of this system's functioning by March 31 of the current year for the previous year.

The European Commission views that the development of the internal financial control system in public administration is the result of a focus on goals and performance governance, as well as on risks and good governance as a whole, especially considering the principle of organizational accountability and the quality of services provided to citizens (European Commission, 2014).

Establishing internal financial control systems in European countries varies depending on their administrative structures and legal systems. For example, these systems are organized as centralized control institutions in Spain and Luxembourg. This means that one or more central bodies are responsible for supervising and controlling economic and financial management at the national level. In most other EU countries, such as the Netherlands, Sweden, Denmark, and the United Kingdom, internal financial control is organized to manage risks and ensure the achievement of general goals. These systems represent decentralized systems of internal financial control (European Commission, 2014).

Most countries have established coordination and networking between financial controllers and internal and external auditors within the entire public sector in the form of special harmonization units, which are usually part of the Ministry of Finance (e.g., Portugal, Slovenia, the Netherlands, Lithuania, etc.). On the other hand, Austria, Denmark, and Germany do not have separate, central harmonization units (European Commission, 2014).

4. PROCESSES AND PROCEDURES IN THE FINANCIAL MANAGEMENT AND CONTROL SYSTEM

For illustration, we present a list of individual business processes and procedures characteristic or typical for public administration institutions in the domain of legal, personnel, administrative, and public procurement affairs. Then, there is a horizontal and vertical view of the procedure.

1. The process of ensuring the implementation of the Law, Collective Agreements, Statutes, and other general acts of the institution.
    1.1. The procedure for ensuring the implementation of the Law, Collective Agreements, Statutes, and other general acts of the institution.
2. The process of adopting general acts of the institution.
    2.1. The procedure for adopting general acts of the institution.
    2.2. The procedure for drafting letters, decisions, confirmations, and notifications.
3. The process of establishing an employment relationship, applying for compulsory insurance, terminating the employment relationship, and deregistering from compulsory insurance.
    3.1. The procedure for establishing an employment relationship and applying for compulsory insurance.
    3.2. The procedure for exercising other employee rights.
    3.3. The procedure for termination of employment and deregistration from compulsory insurance.
4. The process of keeping personal records of files and personnel records of employees in the institution.
    4.1. The procedure for possession and permanent storage of documents and data of all employees in the institution.

5. The process of keeping personnel records, storing and protecting personal data.
   5.1. The procedure for keeping personnel records.
   5.2. The procedure for storing and protecting personal data.
   5.3. The procedure for exercising rights from pension insurance.
6. The process of creating individual solutions from the employment relationship (maternity leave, leave for child care/special child care, unpaid leave, suspension of the employment relationship).
   6.1. The procedure for creating individual solutions from the employment relationship (maternity leave, leave for child care/special child care, unpaid leave, suspension of the employment relationship).
7. The process of creating individual solutions from the employment relationship (annual vacation, paid leave).
   7.1. The procedure for making individual decisions from the employment relationship (annual leave, paid leave, unpaid leave, jubilee awards, solidarity aid).
8. The process of participating in drafting contracts concluded by a legal entity in business with other legal entities and natural persons.
   8.1. The procedure for participating in drafting contracts concluded by a legal entity in business with other legal entities and natural persons.
9. The process of office and archive business.
   9.1. The procedure for office and archive operations.
10. The process of creating, amending, and supplementing the procurement plan and monitoring its implementation.
   10.1. The procedure for creating, amending, supplementing, and monitoring the implementation of the procurement plan.
11. The process of public procurement - open procedure.
   11.1. The procedure for public procurement - open procedure.
12. The process of acquisitions that are exempt from the application of the law.
   12.1. The procedure of acquisitions that are exempt from the application of the law.
13. The process of legal protection and protection of the bidder's rights.
   13.1. The procedure of legal protection and protection of bidder's rights.
14. The process of keeping records of working hours and records of arrival and departure from work (carnet).
   14.1. The procedure for making records of working hours and records of coming to work to pay wages and expenses for coming to and leaving work.
15. The process of document filing, archiving, and documentation delivery.
   15.1. The procedure for document filing, archiving, and documentation delivery.

5. CONCLUSION

Systems that help discipline business processes in public administration are contributing factors to the system of accountability in public administration and are essential components of good governance. Such systems are financial management and control in the public sector and internal audit.

They represent a comprehensive system of established processes and controls, contributing to accountability through good governance and budget funds spending. This system's development resulted from focusing on goals and performance governance, which contributes mainly to good governance.

The introduction of the FMC system in public administration institutions is not just a goal; it involves adequate implementation by all employees and management, constant updating, and risk governance. For that, a tone from the top is necessary, i.e., the organization's management recognizes the importance of introducing this system. That is why it is essential to connect the concept of management accountability with the financial management and control system. On the other hand, the financial management and control system should be closely associated with the internal audit system in the same institution; that is, the risks identified by the financial management and control system should be included in the internal audit's work.

References

Anđelković, J. (2024). Good governance and accountability of employees in public administration (Doctoral dissertation). Faculty of Law, University of Niš.

European Commission. (2014). COMPENDIUM of the public internal control systems in the EU Member States 2014 (Second edition). Retrieved August 10, 2024, from https://op.europa.eu/en/publication-detail/-/publication/f5d1aca3-f349-11e6-8a35-01aa75ed71a1/language-en

Hepworth, N. (2024). Public Financial Management and Internal Control, The Importance of Managerial Capability for Successful Reform in Developing and Transition Economies Public Financial Management and Internal Control, Palgrave Macmillan.

International Federation of Accountants. (2014). International framework: Good governance in the public sector. Retrieved June 8, 2024, from https://www.ifac.org/_flysystem/azure-private/publications/files/International-Framework-Good-Governance-in-the-Public-Sector-IFAC-CIPFA.pdf

Ministry of Finance. (2023). Chapter 32. Retrieved June 8, 2024, from https://www.mei.gov.rs/srp/obuka/e-obuke/vodic-kroz-pregovore-srbije-i-evropske-unije/klasteri/klaster-1/poglavlje-32-finansijski-nadzor/

"Official Gazette of RS", No. 89/2019. Rulebook on common criteria and standards for establishing functioning and reporting on the public sector's financial management and control system.

SIGMA. (2023). Financial control. Retrieved June 8, 2024, from https://www.sigmaweb.org/activityareas/financialcontrol.htm

Additional reading

"Official Gazette of RS", No 54/2009, 73/2010, 101/2010, 101/2011, 93/2012, 62/2013, 63/2013, 108/2013, 142/2014, 68/2015, 103/2015, 99/2016, 113/2017, 95/2018, 31/2019, 72/2019, 149/2020, 118/2021, 138/2022, 92/2023, The Budget System Law.

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Commensurability of Social Effects in Economic and Non-economic Activities

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Abstract: *This paper examines the commensurability of social effects in economic and non-economic activity. Emphasis is placed on the legally required reporting and explanation of expenses in the Non-Financial Statement, which is in addition to the Annual Financial Report, as well as on the different accounting reporting based on expenses between business and non-business activities. Attention is drawn to accounting theory, which as a science has always kept pace with new economic needs, and which can offer solutions for the accounting reflection of social effects. The aim is to show that there is still no regulatory framework through which social costs can be reliably compared with the received public benefits (incomes).*

1. INTRODUCTION

While economic enterprises are created for the purpose of profit, non-profit organizations arise as a result of the development of civil society to carry out various activities of a selfless nature. With the development of the economy and the growing needs of society, new requirements have appeared to account for the social effects that are manifested as a result of the activity of any organization, regardless of whether it is commercial or non-commercial.

The present study aims to show the existence of unresolved problems in the accounting of social effects on economic and non-economic activities, which are reflected on the basis of expenditures incurred, without assessing the achieved socially significant benefits (income).

The methods used are comparison, induction and deduction.

2. ACCOUNTING FOR SOCIAL EFFECTS IN ECONOMIC AND NON-ECONOMIC ACTIVITIES: ENHANCING RESPONSIBILITY AND SUSTAINABILITY

Corporate social responsibility, as well as the concept of social accounting, has gained great popularity in the last 10-20 years among non-profit and business enterprises.

Dierkes (1974) in his book "The Social Balance" specifies what this social accounting is: "... 'Social balance', 'social audit' or 'social accounting' are basically modern words, behind which lies the effort to develop a concept of corporate policy, which, in addition to classical goals such as profit, growth, preservation of market share, etc., also pursues those for society as a whole …" (p. 122, my translation).

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From these words of Dierkes, it follows that "social accounting" as an approach is not something special or different in accounting science. Generally speaking, this is all the data collected and processed by the accounting department during a given reporting period, necessary for better information and accountability regarding the achievement of non-profit goals related to improving the well-being of society.

The three main sectors in macroeconomics – the state, enterprises (business sector), and non-profit legal entities – are in constant contact with each other, which changes according to the new requirements of the consumer society, which are related to recommendations for social responsibility.

Non-profit organizations support the state in the implementation of its social function with their own funds, realized through donors or economic activity. At the same time, there are many business organizations, whose activities are in the public interest or through their activities have a direct impact on society or the environment. The commercial and non-commercial sectors have points of contact with the state through their socially beneficial activities. In the economic sector, the enterprises of the greatest public importance are mainly monopolists in the fields of electricity, water distribution companies, telecommunications, etc.

The business sector is approaching the non-profit sector, in particular those working for private benefit, through the social responsibility that all participants in the economy must have in terms of various social and environmental problems, human rights, and the fight against corruption. Differences in the reporting of the fulfillment of social, environmental and other socially significant objectives are manifested depending on whether the enterprise is from the economic or non-profit sector.

In the not-for-profit sector, each organization should inform its stakeholders whether its objectives are set out in its statutes or regulations, and it is of particular importance to ensure that these objectives and values remain relevant.

Accounting as a science facilitates this process by informing you about the effect that a non-profit organization has on society and, through it, you can determine the extent to which the organization fulfills its stated social and ethical goals. Through this process, the non-profit organization reports on its performance on the way to achieving the stated goals. This allows non-profit organizations to report to the public, while also being a tool for managing and improving the organization's performance.

In the business sector, accounting science acts as a basic framework that allows an enterprise to build on existing financial documentation and reporting and develop a process through which it can report on its social performance, as well as draw up a program to improve its performance.

Each organization, whether business or not-for-profit, may have its own reasons for disclosing non-financial information, as this information helps to:
- improving financial performance, i.e. helping to clarify the relationship between improved social performance and improved financial performance,
- improving relations with stakeholders,
- risk management and specifying the limits of the organization's responsibility.

Accounting does not provide a direct assessment of the environmental and societal impact of an economic unit, but it can provide information for comprehensive and systematic accountability to society for the reporting entity's objectives and achievements.

Just as financial accounting statements show the economic condition of an organization, a non-financial statement is where information can be provided to stakeholders about the impact of an economic entity on the environment and society, as well as reporting on the organization's vision and how well it has been implemented.

The science of accounting deals with different approaches and methods for accounting for all the data that is documented, but the social effects are more complex and debatable, as they affect the general welfare of society.

According to the Bulgarian economist and specialist in the field of accounting theory, Pergelov (2002) "the subject of accounting are those facts from the objective world that are of interest to the subject (in the face of the collective and the management of the enterprise) and society, which is why they are observed, researched and studied depending on the specific socio-economic and political conditions" (p. 27, my translation).

From the cited statement it becomes clear that accounting science has a wide variety of opportunities through which it can be informed and analyzed about the state of an economic entity, as well as forecast its future development, which is directly related to the development of society and its needs as a whole.

There is no strictly defined form for preparing a non-financial statement, and each organization can choose its approach with the help of accounting, which meets the vision of the enterprise to solve social and environmental problems. When developing their accounting policy, both non-profit organizations and all economic enterprises must take into account the specifics of their activities, and regulate their rules, according to which they create reliable, accurate and reliable reporting information.

They must include accounting to account for the capital, assets, liabilities, income and expenses related to the activity they carry out, as well as its results. The main task in the establishment of non-profit enterprises is to organize appropriate accounting of the sources of property and the means through which the implementation of the goals outlined in the statute will be followed.

Non-profit organizations must develop their chart of accounts, which reflects in detail the accounting information, providing accounts for separate reporting of non-profit activities and accounts for economic activity, and, at the analytical level, describe the individual revenues and expenses related to these activities.

Similarly, business enterprises must develop a methodology by which they report non-financial data based on the costs incurred necessary to inform the public about their social impact as well as on the environment.

In order to stimulate social activities, as well as environmental protection, the state legally offers various tax preferences. Taxation is primarily used to raise funds for the budget. The various tax preferences and reductions are not only a tool for increasing investment in research and development, but also for capital investments in relation to the training of staff in innovative technologies.

Normative documents worldwide for reflecting the social responsibility of economic units concerning the implementation of a non-financial declaration concern only the reflection and explanation

of the expenditure incurred on social and environmental problems. These documents, such as the Global Reporting Initiative (1997) and ISO Standard 26000 (2010), provide only the most basic guidance. In Directive 2014/95/EU (European Commission, 2014), several basic guidelines are recommended for the preparation of non-financial statements, which in essence reflect the basic accounting principles for disclosing accounting information and its inclusion in financial statements.

Financial and non-financial information based on costs is included in the statistical reports necessary to calculate the gross domestic product (GDP) produced by a country. The division of expenses in these reports is into several main groups:

- Harmful substances emitted;
- Rubbish;
- Costs for environmental protection and restoration;
- Fixed tangible assets with ecological purpose;
- Environmental goods and services;
- Education;
- Culture.

3. CONCLUSION

For the non-profit sector, expenditures reflect exactly what the funds received in the form of donations, membership fees, charity sales, etc., were spent on, and can show in accounting whether these funds have reached the right recipient, as well as whether the set goal has been fulfilled.

In the business sector, the accounting of the social effects of economic activity through expenditure is more complex and gives rise to many discussions, since these social effects in most cases do not manifest themselves directly, and are not obvious and noticeable immediately. The commensurability of the social effects of commercial and non-commercial activity cannot be made only on the basis of costs, because if for the non-commercial sector, the achievement of positive social effects is a mission, then for the commercial sector these positive social effects should be included in their main vision for the future development of the specific reporting agent.

A fundamental accounting concept is the comparability of revenue and expenses, i.e. expenses are reported based on the income received. With the requirements of corporate social responsibility in the non-financial declaration of the annual financial statements to take into account the costs of solving a social, environmental, or other socially significant problem, this basic accounting principle is violated. Moreover, with non-financial declarations, business enterprises as reporting entities explain the costs incurred by the financial statements for social and environmental purposes, without comparing the revenues (benefits) received.

A basic and specific accounting method is double accounting – it is not possible to incur expenses without receiving income and vice versa. For a reporting economic unit to be successful, its revenues must exceed its costs in value.

When it comes to the social effects of an economic entity's activity, these effects on costs must exceed them in value. If social effects have negative consequences for society, there should be legally defined sanctions to compensate for the negative effects. In the case of a positive social effect, their accurate calculation would show the benefit (income) for society as a whole.

The problem is not the introduction of corporate social responsibility reporting, but how to measure the social effect of the economic activity carried out, which is with a public focus. Since the 70s of the last century, there has been talk about the possibilities of accounting science to reflect the social effects of the activities of each economic unit. For example: the creation of an evaluation system that shows, through pre-set coefficients, the contribution of employees to achieving profit in the business sector and to the fulfillment of social commitments in the non-profit sector, or each company to present to its annual financial report its social program, through which it supports the solution of selected social problems. The above proposals have been applied for years in the accounting policies of various commercial and non-commercial economic entities, and the most appropriate accounting approach is still being sought, which most fully and accurately reflects the resulting social effect of the specific economic activity.

Compliance with the requirements of each economic reporting entity for choosing a form for reporting the costs incurred for solving social and environmental problems in the Non-Financial Declaration does not help to determine the commensurability of the social effects of economic and non-economic activity.

It is also necessary to improve the regulatory framework regarding the commensurability of social effects through financial and information indicators corresponding to the achieved benefits (incomes) for society as a whole since there are still no generally valid norms regarding this aspect of benefit assessment.

Especially important is the call of Pergelov (2002) on accounting as a science: "The contribution of accounting theory should be more expressive in determining the responsibilities in economic activity … Its object should also be the manifestations of the enterprise, influencing the content of the social policy it pursues" (p. 82, my translation). His proposal to expand the scope of accounting science is directly related to the new global requirements for a more social and ethical business environment, where, along with profit, socially useful and significant goals will be pursued that would lead to better well-being of the world's population.

On the other hand, accounting, as a science that has always accompanied the economic development of humanity, has a variety of methods for processing, analyzing and evaluating economic information.

It is only necessary to find the most appropriate accounting approach by which the specific social effect is assessed and commensurate with the respective cost. Businesses and non-profit organizations would benefit from the disclosure of accounting data reflecting the positive social effects achieved. In this way, they would make their economic activity more transparent and improve the assessment of their impact on society, which would lead to more efficient management of resources (material and human), as well as an increase in customer loyalty to the respective organization.

References

Dierkes, M. (1974). *Die Sozialbilanz: ein gesellschaftsbezogenes Informations-und Rechnungssystem*. Edition Gesellschaft + Unternehmen, Frankfurt/M.; New York, NY: Herder&Herder. ISBN 3-585-32098-8.

European Commission. (2014, October 22). *Direktiva 2013/34/ES na Evropeyskia parlament i Saveta ot 22 oktomvri 2014 g. za izmenenie na Direktiva 2013/34/ES po otnoshenie na*

opovestyavaneto na nefinansova informatsia i na informatsia za mnogoobrazieto ot strana na nyakoi golemi predpriyatia i grupi. ABl. L330, 15.11.2014, p.1. https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A02013L0034-20240528

Global Reporting Initiative. (1997). https://www.globalreporting.org/standards/

ISO Standard 26000. (2010). *Intarnational Organisation for Standardisation`s ISO.* https:///www.iso.org/iso-26000-social-responsibility.html

Pergelov, K. (2002). *Schetovodstvo i analiz na balansa. Sofia: Maksla. (in Bulgarian).*

Additional reading

European Commission. (2024, May 28). *Directive 2013/34/EU of the European Parliament and of the Council of 26 June 2013 on the annual financial statements, consolidated financial statements and related reports of certain types of undertakings, amending Directive 2006/43/EC of the European Parliament and of the Council and repealing Council Directives 78/660/EEC and 83/349/EEC (Text with EEA relevance*) https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A02013L0034-20240528

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The Economic Behavior of Municipalities During the COVID-19 Pandemic (Evidence from Slovakia)

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Abstract: *The article presents a study of the economic response of local self-government to the COVID-19 pandemic in the Slovak Republic in 2022. The aim is to analyze changes in 10 economic indicators and their correlation with the pandemic. The research problem is to determine how local self-government in Slovakia economically adapted to the impacts of the COVID-19 pandemic in 2022. The research methodology includes analyzing ten economic indicators based on data from 2010-2022. Data were obtained through the study of budget documents, sources from INEKO, and the Ministry of Finance of the Slovak Republic. The results indicate that some economic indicators, such as total debt and current account balance, deteriorated, while others, such as liquidity, improved. These findings are presented in tables and graphs. The study concludes that the COVID-19 pandemic had a significant impact on the economic behavior of local self-government in Slovakia in 2022.*

1. INTRODUCTION

The COVID-19 pandemic has caused significant global impacts, penetrating all national entities and sectors, and leading to extensive consequences for the majority of the world's population. Considering the negative effects on healthcare, social security, security, and the economy, all states and public administrations had to address the pandemic's aftermath. From an academic standpoint, there is a need to respond to the necessity of summarizing studies that identify changes in the economic and fiscal behavior of local self-governments in Slovakia. Although this topic is peripheral, local self-government plays a key role in political and social life and maintains high public trust in the long term. Several fragmented works by experts (e.g., Šamalík & Horváth, 2022; Nemec & Špaček, 2020; Papcunová & Hudáková, 2021; Mihaliková & Koreňová, 2021) focus on monitoring the impacts of the COVID-19 disease on local self-governments, primarily within the EU, but this area is not adequately explored in the Slovak context.

The European perspective on the situation of public finances at regional and local levels during the COVID-19 pandemic is found in the works of several authors who analyze the situation at the NUTS and regional levels (Capello & Caragliu, 2021; McCann et al., 2022; Amdaoud et al., 2021; Brada et al., 2021). Research on local self-government includes various countries such as Austria, Belgium, Bulgaria, the Czech Republic, Denmark, England, Estonia, Finland, France, Germany (Saliterer et al., 2021), Greece (Kolliniati et al., 2021), Hungary, Ireland, Italy (Padovani & Du Boys, 2021), the Netherlands, Poland, Portugal, Slovenia, Spain, Sweden, and Switzerland (Wortmann & Geissler, 2021).

For these reasons, our aim is to complement the knowledge base with the economic response of the Slovak local self-government to the impacts of the COVID-19 disease. Our results could contribute to the current and often-discussed topic of possible reforms to the financial framework of

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local self-governments from the perspective of policymakers, the professional public, as well as representatives of towns and municipalities.

2. METHODOLOGY

The aim of our contribution is to research the economic response of local self-government to the impacts of COVID-19. To achieve this goal, we decided to identify the behavior of ten economic and financial indicators in the conditions of local self-government in Slovakia during the years 2010-2022. The research objective is conceived based on the analysis of 10 economic and financial indicators, which are as follows: Total debt, Debt service, Current account balance, Liabilities overdue in relation to current income, Liabilities unpaid 60 days or more overdue in relation to current income, Basic balance, Investment intensity, Net assets, Immediate liquidity, and Quick liquidity. These are cross-sectional relative indicators of financial health, whose primary level was assessed in the period 2010-2022. Subsequently, we performed a mathematical operation to determine the average value (secondary data) for the "pre-crisis" period 2010-2018 and graphically depicted the linear trend line, which we compared with the situation in 2022.

Overall, we included 100 units of local self-government in our research objective. The specific research sample includes a total of 79 municipalities, 18 urban districts, two city councils, and the most populous municipality in Slovakia (Smižany). It is a cross-sectional research sample targeting the most important centers of settlement in Slovakia.

Primary data sources were obtained through the Datacenter (Ministry of Finance of the Slovak Republic) and verified by pilot control through identified Final Accounts and Budgets of specific self-governments. Secondary verification and adjustment are carried out through monitoring indicators of the INEKO organization and its database. Several missing primary data were supplemented through the study of economic and budgetary documents of the affected self-governments. The total primary data set consisted of more than 6000 records, and the secondary data database consisted of approximately another 500. Such a volume of information can be considered sufficient for verifying the research objective and fulfilling the main goal.

Based on the conducted primary analysis and subsequent comparison, we are able to demonstrably identify how the behavior and approach of local self-government in the area of economic and financial indicators, which we associate with the response to the impacts of COVID-19, have changed. From this perspective, it will be significant to compare the average values of the 10 established indicators with the data from 2022 in the context of a longer-term developmental trend.

3. RESULTS AND DISCUSSION

The impacts of COVID-19 were specific to each segment of society and the economy. We intended to monitor the effects that the pandemic has had on the conditions of local self-government in Slovakia and its subsequent economic response to the situation that arose. Divergent behavior and results across the analyzed areas of the sampled Slovak cities, urban districts, and the most populous municipality in 2022 compared to the long-term developmental trend or average are associated with the response of Slovak local self-government to the problems caused by COVID-19.

The partial average results for the sampled set of 79 cities, 18 urban districts, two city councils, and the most populous municipality are captured in the following table.

Table 1. The Economic Indicators 2010-2022 (%)

Indicator / Year	2010	2012	2014	2016	2018	Average	2022
Total debt	27,87	18,84	16,51	13,79	14,31	18,26	17,46
Debt service	5,49	6,11	4,91	5,37	4,81	5,34	4,82
Current account balance	0,97	5,65	6,09	10,74	9,45	6,58	4,45
LO%CI	0,00	0,99	0,60	0,40	0,25	0,45	0,19
LU60D	0,51	0,46	0,28	0,31	0,10	0,33	0,06
Basic balance	-9,13	1,78	-0,93	6,47	-0,12	-0,38	-4,62
Investment intensity	11,62	3,93	7,26	3,59	9,55	7,19	9,29
Net assets	407,71	431,61	407,11	386,22	342,35	395,00	277,07
Immediate liquidity	225,70	197,96	180,83	270,20	248,73	224,69	249,57
Quick liquidity	284,94	257,74	234,14	315,76	286,92	275,90	284,67

LO%CI - Liabilities overdue as a percentage of current income

LU60D - Liabilities unpaid 60 days or more past due date as a percentage of current income

Source: Own processing based on INEKO (2022)

Throughout the period from 2010 to 2022, some significant developmental trends and average values of economic indicators of local self-government in Slovakia were evident. The total debt gradually decreased, reaching its maximum value in 2010 and its minimum value in 2018. The average value of total debt for the period was 18.26%. Similarly, the debt service fluctuated, being highest in 2012 and lowest in 2018. The average debt service was 5.34%.

The current account exhibited significant fluctuations, peaking in 2016 and reaching its lowest point in 2010. The average value of the current account for the period was 6.58%. Other indicators, such as ratios of overdue debts and unpaid obligations, showed similar developmental trends and average values.

These generalized developmental trends and average values provide insight into the economic situation of local self-governments in Slovakia during the observed period and can serve as a basis for further analytical research and policy formulation to support sustainable local economic development.

The research aim is focused on monitoring the response of a sample of selected local Slovak municipalities in a total of ten areas. These areas constitute a sufficiently dense research base, and their resulting values have been individually graphically represented to enhance interpretability and clarity.

The total debt gradually decreased from 2010 to 2018, with a significant drop from 27.87% in 2010 to 14.31% in 2018. The total debt value in 2022 (17.46%) is lower than the average, indicating a slightly better situation in 2022 compared to the average value for the observed period. Although the total debt slightly increased in 2022 compared to the previous year 2018, it remains relatively low and even lower than the average value for the observed period, suggesting relative financial stability or debt control in 2022 compared to previous years.

The debt service shows some fluctuation over the years, ranging from 4.81% in 2018 to 6.11% in 2012. In 2022, the debt service was 4.82%, relatively close to the average value for the observed period. The debt service value in 2022 (4.82%) is lower than the average, indicating that the debt service was lower in 2022 compared to the average value for the observed period. These findings suggest an improvement in debt management or lower debt payment costs in 2022 compared to previous years.

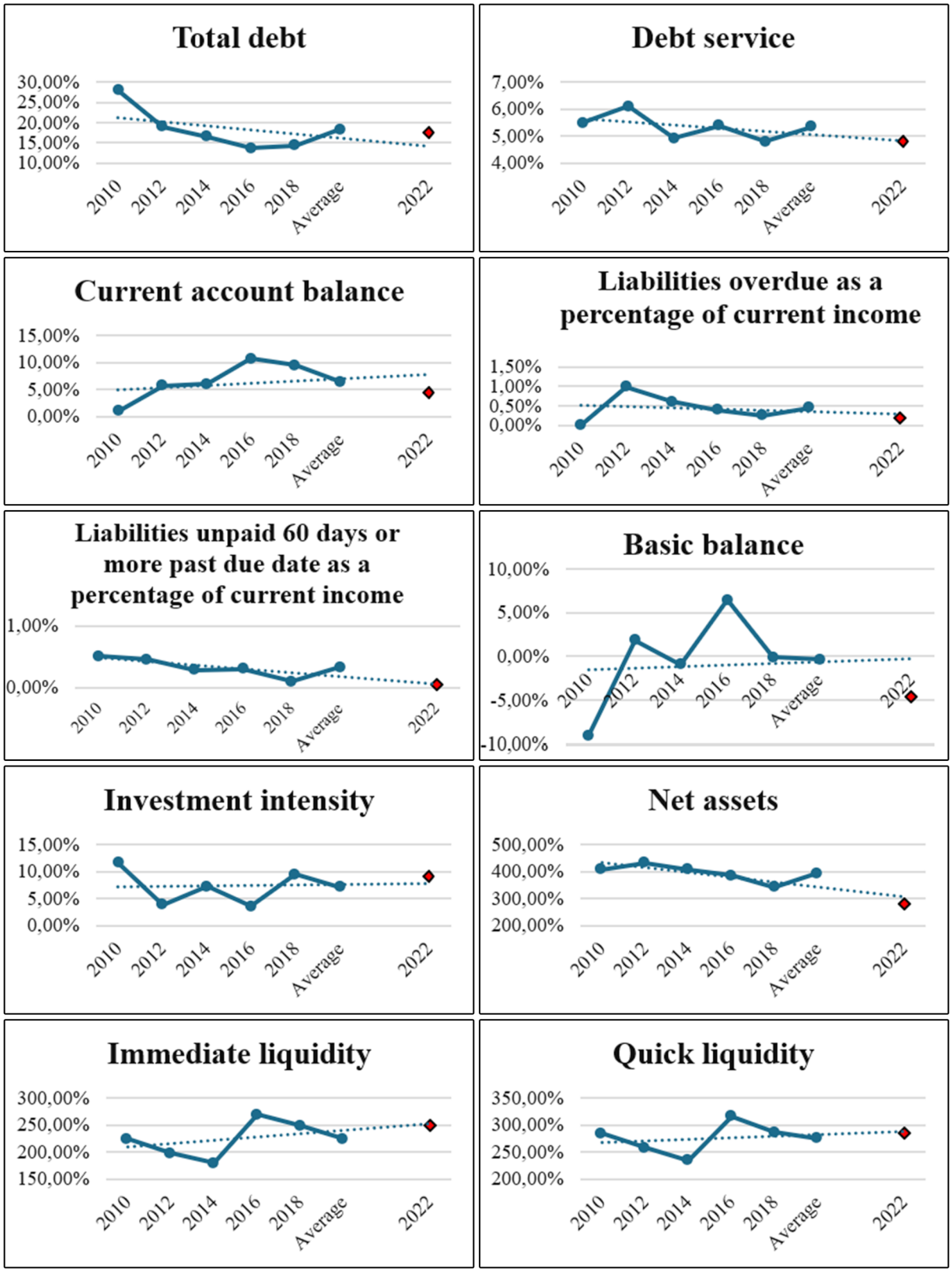


Figure 1. Graphs of Economic Variables 2010-2022

Source: Own calculations based on data from INEKO (2022)

The current account balance exhibits significant fluctuation over the years, being low in 2010 (0.97%) and then significantly increasing to 10.74% in 2016. The average current account balance for the observed period (2010-2018) was 6.58%. The analysis of the current account balance as

a percentage of current income showed significant changes in 2022, with a decrease to 4.45%, which is a significant reduction compared to the average for the observed period (6.58%). This decline suggests a possible change in economic dynamics and the behavior of local governments in 2022. The lower value of the current account balance may be interpreted as a decrease in financial stability or worsening economic conditions during this specific period.

The ratios of overdue liabilities to current income show a decrease from 2010 to 2018, ranging from 0.99% in 2012 to 0.25% in 2018. The value in 2022 (0.19%) is lower than the average, indicating that in 2022, this ratio was even lower than the average for the observed period. These data indicate a decrease in overdue liabilities ratios from 2010 to 2018, reaching a lower value in 2022 than the average for the observed period. This suggests an improvement in debt management and the ability of local governments to manage their debts and financial obligations over time.

The percentage of unpaid obligations 60 or more days past due date in relation to current income shows a decrease from 2010 to 2018, ranging from 0.51% in 2010 to 0.10% in 2018. In 2022, this value was even lower, reaching 0.06%. In conclusion, significant changes in the percentage of unpaid obligations 60 or more days past the due date in relation to current income occurred in 2022. Their value significantly decreased to 0.06%, representing a significant improvement compared to the average value for the observed period (0.33%). This decline indicates a significant improvement in debt management and the ability of local governments to effectively manage their debts and financial obligations in 2022.

The analysis of the basic balance as a percentage of current income reveals significant dynamic changes in 2022. The value of the basic balance decreased to -4.62% in this period, representing a significant decrease compared to the average value for the observed period (-0.38%). This significant decrease may indicate a possible deterioration in economic stability in 2022 compared to previous years. The negative value of the basic balance indicates a possible deficit in public finances or a disproportion between income and expenditure of the local government.

The analysis of investment intensity showed significant fluctuation in values, especially regarding the year 2022. In this year, the investment intensity experienced a slight increase to 9.29%, which is somewhat higher than the average for the observed period (7.19%). This increase in 2022 may indicate increased activity in investment by local governments, likely due to various factors such as stimulus programs, infrastructure renewal, or increased demand for public projects. Although this increase is a positive indicator of investment activity, it is important to pay attention to its long-term consequences.

The analysis of net assets indicates a significant decrease in 2022 compared to previous years. The value of net assets decreased to 277.07% in this year, significantly lower than the average value for the observed period, which reached 395.00%. This noticeable decrease may have various causes and consequences that require further detailed examination.

Instant liquidity values show a certain trend during the observed period. It appears that instant liquidity values fluctuate, with some years recording higher values and others recording lower values compared to the average for the entire period. The value of instant liquidity in 2022 reached 249.57%, slightly higher than the average for the observed period. This suggests that in 2022, the instant liquidity of the local government was relatively higher compared to the average value for the observed period.

Quick liquidity values exhibit some fluctuation during the observed period. The average value of quick liquidity for the observed period is 275.90%. This average provides a reference point for comparison with the value of quick liquidity in 2022. This value is slightly higher than the average for the observed period, indicating that in 2022, the quick liquidity of the local government was relatively higher compared to the average value for the observed period. This increase in 2022 may be the result of improved financial management, increased income, or other factors contributing to increased liquidity.

Discussion on the results of this study reveals a comprehensive picture of the impact of the COVID-19 pandemic on local governments in Slovakia. The total debt gradually decreased until 2018, with the value in 2022 being lower than the average, indicating relative financial stability in that year. Similarly, the debt service in 2022 was lower than the average value, suggesting improved debt management. There were also significant fluctuations in the current account, where the decline in 2022 signals possible changes in economic dynamics and the behavior of local governments. The decrease in the percentage share of unpaid obligations in 2022 indicates a significant improvement in debt management and the ability of local governments to fulfill financial obligations. Further findings, such as the decrease in the value of net assets or the increase in investment intensity in 2022, highlight various aspects of financial management and local government responses to the pandemic. These results support the need for further analysis and measures to ensure long-term economic stability and sustainability of local governments in the context of the COVID-19 pandemic.

4. FUTURE RESEARCH DIRECTIONS

Based on the findings of this study, several avenues for future research can be identified to deepen our understanding of the economic response of local self-government to the impacts of the COVID-19 pandemic in Slovakia, while also considering the international aspect.

Future research could conduct a comparative analysis between the economic responses of local self-governments in Slovakia and those in other countries, particularly within the European Union. By comparing different approaches and outcomes, insights can be gained into best practices and areas for improvement not only at the national level but also in the broader international context. Understanding how various countries have tackled similar challenges can provide valuable lessons for policymakers and practitioners worldwide.

A longitudinal study tracking the economic behavior of local self-governments over a longer period beyond 2022 could provide valuable insights into the sustainability and effectiveness of the implemented measures, both domestically and in comparison to international counterparts. Examining trends over time and across different countries can help identify common patterns, divergent strategies, and potential factors influencing outcomes.

In addition to quantitative indicators, future research could incorporate qualitative assessments to gain a deeper understanding of the underlying factors driving the observed changes, both domestically and internationally. Comparative case studies or interviews with local officials and stakeholders from various countries could provide valuable insights into decision-making processes, cultural influences, and challenges faced, contributing to a more nuanced understanding of international variations in responses to the pandemic.

Further research could focus on evaluating the effectiveness of specific policies and interventions implemented by local self-governments in response to the pandemic, not only within Slovakia but

also in other countries. Assessing the impact of fiscal measures, support programs, and resource allocation strategies on economic recovery and resilience-building efforts can inform future policy decisions and resource management practices both domestically and internationally.

Exploring the resilience and adaptive capacity of local self-government systems in different countries in the face of crisis events like the COVID-19 pandemic is another promising avenue for future research. Comparative studies could shed light on how institutions respond, innovate, and evolve in times of adversity, offering valuable insights into the factors that contribute to resilience across diverse contexts.

By addressing these research directions with an international perspective, scholars can contribute to a more comprehensive understanding of the economic dynamics and governance challenges faced by local self-governments in the aftermath of the COVID-19 pandemic, not only within Slovakia but also in the broader global context. This knowledge can inform evidence-based policy-making, foster resilience, and support sustainable development at both the local and international levels.

5. CONCLUSION

In the final summary of the values of economic indicators for the observed period, it can be stated that the local government in 2022 faced a change in its economic behavior. Some indicators, such as total debt and current account balances, worsened compared to the average for the observed period, while others, such as immediate and quick liquidity, improved.

The COVID-19 disease had disproportionate impacts, which also manifested in the economic response of the examined sample of local territorial self-governments across the ten examined variables. Predominant negative trends in public finances and the economy were also evident in the examined sample, which during the pandemic years experienced a deterioration in the indicator of total debt and current account balance compared to the long-term average. Paradoxically and unexpectedly, we also recorded positive developments in several indicators compared to the long-term average or trend. These findings point to the complex nature of the financial situation of the local government, which requires further monitoring and analysis to ensure financial stability and sustainability in the future.

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References

Amdaoud, M., Arcuri, G., & Levratto, N. (2021). Are regions equal in adversity? A spatial analysis of spread and dynamics of COVID-19 in Europe. *The European Journal of Health Economics,* 22(4), 629-642. https://doi.org/10.1007/s10198-021-01280-6

Brada, J. C., Gajewski, P., & Kutan, A. M. (2021). Economic resiliency and recovery, lessons from the financial crisis for the COVID-19 pandemic: A regional perspective from Central and Eastern Europe. *International Review of Financial Analysis*, 74, 1-12. https://doi.org/10.1016/j.irfa.2021.101658

Capello, R., & Caragliu, A. (2021). Regional growth and disparities in a post-COVID Europe: A new normality scenario. *Journal of Regional Science*, 61(4), 710-727. https://doi.org/10.1111/jors.12542

INEKO. (2022). Municipal Finances. [Data set]. Retrieved March 6, 2024, from http://www.hospodarenieobci.sk/

Kolliniati, M. A., Stolzenberg, P., & Hlepas, N. K. (2021). Fiscal Consolidation in German and Greek Local Governments: Reform Attempts, Supervision and Local Measures. In

McCann, P., Ortega-Argilés, R., & Yuan, P. Y. (2022). The Covid-19 shock in European regions. *Regional Studies*, 56(7), 1142-1160. https://doi.org/10.1080/00343404.2021.1983164

Mihaliková, E., & Koreňová, D. (2021). Global model of information publishing administration by municipality in the area of property and economic performance in the Slovak Republic. *Quality - Access to Success*, 22(184), 148-153. https://doi.org/10.47750/QAS/22.184.19

Nemec, J., & Špaček, D. (2020). The Covid-19 pandemic and local government finance: Czechia and Slovakia. *Journal of Public Budgeting, Accounting & Financial Management*, 32(5), 837-846. http://dx.doi.org/10.1108/JPBAFM-07-2020-0109

Padovani, E., & Du Boys, C. (2021). Financial Decisions, Intergovernmental Grants and Regulatory Instability: The Case of Italian Municipalities. In Hammerschmid, G., & Raffer, C. (Eds) *Local Public Finance*, 281-297. Cham, Springer. https://doi.org/10.1007/978-3-030-67466-3_16

Papcunová, V., & Hudáková, J. (2021). The role of the state in financing of local self-government in the Slovak Republic. In I. Vaňková (Ed.), *Public Economics and Administration 2021*, (pp. 329-338). VŠB Technical University of Ostrava.

Saliterer, I., Korac, S., Barbera, C., & Steccolini, I. (2021). Taking Stock: The Role of the Institutional Context for Local Government Financial Resilience. In Hammerschmid, G., & Raffer, C. (Eds) *Local Public Finance*, 319-332. Cham, Springer. https://doi.org/10.1007/978-3-030-67466-3_18

Šamalík, P., & Horváth, P. (2022). The scope of the Local State Administration in Slovakia During the Pandemic of COVID-19. In C. Pîrvulescu (Eds.), *Challenges of the Contemporary Global Crises : Proceedings of 8th ACADEMOS Conference 2022* (pp. 131-139). International Conference : Proceedings of 8th ACADEMOS Conference 2022 International Conference

Wortmann, M., & Geissler, R. (2021). Global Crisis, Local Impact: A Comparative Approach to the Financial Crisis' Impacts on European Local Levels. In Hammerschmid, G. & Raffer, C. (Eds) *Local Public Finance*, 249-266. Cham, Springer. https://doi.org/10.1007/978-3-030-67466-3_14

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Impact of Digitalization of Business Processes in Small and Medium-Sized Enterprises

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Abstract: *Regarding small and medium sized enterprises (SMEs), considering their number and the diversity of services and products offered, they produce huge amounts of added value in the market. In this sense, special attention should be given to this type of organizations regarding the digitalization of processes and management so that they remain sustainable, improve their efficiency and enhance customer experience to greater agility and strategic insights. For that is important to ensure that their business processes are optimized. The objective of this paper is to identify the impact that the digitalization of business processes has on the sustainable development of small and medium-sized enterprises as well as the increase of their competitiveness. For this matter, we set out to highlight the impact that digitized management has on the good management and administration of an SME ensuring healthy development in a highly competitive market.*

1. INTRODUCTION

Small and medium-sized enterprises (SMEs) are among the most important social and economic components of a developed society which create jobs, know-how and added value. In recent years, the rapid advancement of digital technologies has transformed the landscape of business operations, compelling SMEs to transform and evolve. Digitalization, defined as the integration of digital technologies into everyday business processes, has emerged as a vital strategy for SMEs to enhance their operational efficiency, improve customer experiences, and maintain competitiveness in an increasingly digital marketplace.

This paper explores the impact of digitalization on business processes in SMEs, focusing on the role of Business Process Management (BPM) as a framework for facilitating this transition. By examining the benefits and challenges associated with digitalization, this study aims to provide insights into how SMEs can leverage BPM to achieve sustainable growth and competitiveness.

2. THE ROLE OF SMEs IN THE ECONOMY

Small and medium sized enterprises (SMEs) represent a significant portion of the global economy, accounting for over 90% of businesses worldwide and contributing to more than 60% of employment. Their diverse range of products and services fosters innovation and competition, making them vital to economic resilience. However, SMEs often face unique challenges, including limited

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resources, lack of access to technology, and difficulties in scaling operations. As such, the digitalization of business processes presents both opportunities and challenges for these enterprises.

There are three types of SMEs: the small traditional enterprise that makes goods inherited from past generations, the small enterprise that offers standardized services and the modern enterprise that uses high technology. Twenty percent of new SMEs in affluent nations fail within a year, twenty percent fail within two years, and fifty percent fail within five years. Because of this, just ten percent of SMEs have a chance to stay in business for longer than five years. An economy is seen as effective if it has as many SMEs as possible in the most diverse industries. SMEs enable competition for pricing, product design, and efficiency while also being a source of entrepreneurship skills, innovation, and jobs.

If there are no SMEs, big enterprises become monopolies. SMEs also help big enterprises such as supplying raw materials and parts and distributing products made by them. A study from the US showed SMEs make four times more profit for a dollar invested than big companies (Neagu, 2016).

3. UNDERSTANDING DIGITALIZATION AND BUSINESS PROCESS MANAGEMENT

3.1. Digitalization Defined

A technological trend that is currently changing every aspect of our economy and society is digitalization. It is regarded as a significant and unstoppable force for innovation and disruption that equally challenges both public and commercial institutions. The digital economy is very dynamic and becoming more competitive, impacting all societal and economic sectors. It enables new startup businesses, supported by billions of dollars in venture capital, to use digital technologies to develop innovative value propositions. Their operating paradigms, which are highly scalable, data-driven, and software-centric, are posing an existential threat to established businesses.

Digitalization involves the use of digital technologies to change a business model and provide new revenue and value-producing opportunities. It encompasses various aspects, including automation, data analytics, and customer relationship management. For SMEs, digitalization can lead to improved efficiency, reduced costs, and enhanced decision-making capabilities.

3.2. Business Process Management (BPM)

BPM is a methodical technique for improving an organization's workflow's efficacy, efficiency, and flexibility in response to shifting market conditions. It involves the modeling, analysis, design, and optimization of business processes. BPM provides SMEs with a structured methodology to identify inefficiencies and implement digital solutions that can streamline operations and improve service delivery.

Business Process Management (BPM) embodies a management philosophy, which is supported by a range of methods, techniques, and tools.

Fundamentally, BPM is a management concept. When businesses explicitly focus on their business processes from beginning to end, they perform better than when they don't. Any business process can span across different departments, specialisms, geographic locations, management levels, and other organizational boundaries, so it is far from trivial to manage a business process (Reijers, 2021).

3.3. The Intersection of Digitalization and BPM

The integration of BPM with digitalization strategies allows SMEs to create a framework for managing change. By focusing on process optimization and agility, SMEs can better respond to market demands and leverage digital tools to enhance their operational capabilities.

BPM has a strong link to capability development, which builds on the resource-based view of the firm (Pöppelbuß et al., 2015; Trkman, 2010; Van Looy, 2014).

The reason is that processes and capabilities deal with the same phenomenon, the difference being that processes focus more on ''how'' while capabilities put more emphasis on 123 84 ''what'' (Kerpedzhiev, 2021).

Table 1. Key factors regarding BPM that have an impact on SMEs

Core element	Definition
Strategic Alignment	The continual tight linkage of organizational priorities and enterprise processes enables the achievement of business goals.
Governance	Establishing relevant and transparent accountability and decision-making processes to align rewards and guide actions.
Methods	The approaches and techniques that support and enable consistent process actions and outcomes.
Information technology	The software, hardware, and information management systems that enable and support process activities.
People	Individuals and groups who continually enhance and apply their know-how and expertise.
Culture	The collective values and beliefs that shape process-related attitudes and behaviors.

Source: de Bruin and Rosemann (2007)

A recent global study by Gartner confirmed the significance of BPM with the top issue for CIOs identified for the sixth year in a row being the improvement of business processes (Gartner, 2010). While such an interest in BPM is beneficial for professionals in this field, it also increases the expectations and the pressure to deliver on the promises of the process-centered organization.

4. IMPACT AND BENEFITS OF DIGITALIZATION FOR SMEs

Three types of digitalization are specifically taken into consideration: big data analytics, digital value chains, and digitalization in production and logistics. The influence of digitalization on activities varies among SMEs, according to empirical data. Additionally, the consequences of innovation are limited and contingent upon the sort of innovation and the degree of digitalization.

Business choices on the anticipated advantages of digitization have been highly pragmatic and mostly influenced by the state of the economy. Aiming to boost the company's earnings is one of the primary advantages. An equally significant advantage was the readiness to adjust to the state of the market. The 2020 epidemiological scenario and the push to move important sectors of operation online were closely linked to these kinds of problems.

The next places in the hierarchy of importance are cost optimization and increasing the quality of the products and services offered. The last indicator in particular translates into an increase in customer service standards and an improvement in customer relations (Mittal et al., 2018; Niemeyer et al., 2020).

Table 2. Factors that impact digitalization for SMEs

Reference factor	Medium and long term impact
Improved Efficiency	Digitalization enables SMEs to automate repetitive tasks, reducing the time and effort required for manual processes. This leads to increased productivity and allows employees to focus on higher-value activities.
Enhanced Customer Experience	With digital tools, SMEs can provide personalized services and improve customer engagement. Digital channels facilitate better communication and feedback, enabling SMEs to respond quickly to customer needs.
Data-Driven Decision Making	Digitalization provides SMEs with access to real-time data analytics, enabling informed decision-making. By analyzing customer behavior and market trends, SMEs can identify opportunities for growth and innovation.
Competitive Advantage	Embracing digitalization allows SMEs to differentiate themselves from competitors. By adopting innovative technologies and processes, SMEs can offer unique value propositions and improve their market positioning.
Technology integration	Digitalization has a positive moderating effect in the relationship between internal and external integration, and external integration and SME performance (Amoako et al., 2022).

Source: Own research

Researching and assessing the digitalization of the economy can be done in a variety of ways by looking at the literature on the topic as well as a large number of publications, reports, and studies. Various approaches are suggested, each with a unique set of study requirements. Further considerations should be led by those measures that are used in cyclical research with the use of the DESI index (Rafael et al., 2020).

The analysis of enterprises from the SME sector showed that almost half of the enterprises operate on the basis of action plans not exceeding one or two years. This type of planning was particularly common in micro-enterprises employing up to 10 people and running a service activity. This was partly due to the specific conditions in which economic entities had to operate and the need for quick adjustments to the changing situation (Marcysiak & Pleskacz, 2021).

5. CHALLENGES OF DIGITALIZATION IN SMEs

To succeed, SMEs thinking about applying and implementing digitalization must be particularly aware of the difficulties and implications for their business strategy. Research on business model difficulties that only address value creation, delivery, and capture holistically is lacking.

The business model of an SME is well-adapted to the local ecosystem and builds on the specific conditions in the region of origin (Asemokha et al., 2019; Kolagar et al., 2022).

Table 3. Digitalization challenges for SMEs

Challenges	What does it involve?
Resource Constraints	Many SMEs face limitations in financial and human resources, making it challenging to invest in digital technologies. This can hinder their ability to implement comprehensive digitalization strategies.
Resistance to Change	Cultural resistance within organizations can impede the adoption of digital processes. Employees may be reluctant to embrace new technologies, fearing job displacement or increased workload.
Lack of Expertise	SMEs often lack the technical expertise required to implement and manage digitalization initiatives effectively. This can lead to suboptimal outcomes and hinder the overall success of digital transformation efforts.

Source: Own research

Digital tools are key factors for rapid reconfigurability. Production digitalization can encourage process control on the production line and allow for autonomous decision-making for production equipment, thus aiding in rapid reconfigurability. Digital twin-based tools can support the virtual commissioning of systems before physical reconfiguration, reducing the downtime imposed by the reconfiguration process (Loghin et al., 2023).

6. FUTURE RESEARCH DIRECTIONS

Although digital transformation has been popular for a while, new technologies have increased the significance of this movement. In an effort to become more competitive and digital, businesses are reevaluating their business strategies. To gain a competitive edge, they must contend with a growing number of startups and well-established businesses that are also attempting to stay abreast of developments in digital transformation.

Organizations can pause and determine which strategic techniques are effective in the current climate and where to focus their efforts thanks to digital transformations. For example, companies who are having trouble developing their IT services must decide whether software-as-a-service (SaaS) providers' technologies should replace certain internal old technologies.

Emerging innovations in technology brought about by digitalization, like the Internet of Things (IoT), artificial intelligence (AI), big data analytics, and augmented reality (AR), have an important influence on company activities in the industry as well as on society and the workplace.

The timing of establishing development plans is vital when implementing digitalization in a business. We can only discuss a proper evaluation of the effects of technological improvements after years of planning.

7. CONCLUSION

This study helps SME owners and managers realize how important it is to build internal organizational structures and strengthen ties with outside partners. The results will also help owners and managers capitalize on the effects of digitization to boost operational performance. Digital technology and analytical methods like big data offer new opportunities for designing business models. While there is a growing body of literature on creation, revision, and extension, termination has received less attention, despite being a significant threat. Business model termination can be critical for established firms. Additionally, digitalization is a key driver for reducing production costs and offering services across various industries. However, digitalization can pose a threat to existing companies if they do not address the challenges and underestimate its impact on their business models. The proposed research framework for this field is derived from the results of the systematic literature review and consists of two main dimensions: implementation-oriented towards SMEs and the concept of efficient integration of business processes.

References

Amoako, T., Huai Sheng, Z., Dogbe, C. S. K., & Pomegbe, W. W. K. (2022). Effect of internal integration on SMEs' performance: The role of external integration and ICT. *International Journal of Productivity and Performance Management, 71*(2), 643-665.

Asemokha, A., Musona, J., Torkkeli, L., & Saarenketo, S. (2019). Business model innovation and entrepreneurial orientation relationships in SMEs: Implications for international performance. *Journal of International Entrepreneurship, 17*(3), 425-453. https://doi.org/10.1007/s11301-019-00156-4

de Bruin, T., & Rosemann, M. (2007). Using the Delphi technique to identify BPM capability areas. ACIS 2007 Proceedings, 42.

Gartner. (2010). *Leading in times of transition.* The 2010 CIO Agenda. Stamford, CA, USA.

Kerpedzhiev, G. D. (2021). An exploration into future business process management capabilities. Business & Information Systems Engineering, 63(2), 83-96.

Kolagar, M., Parida, V., & Sjödin, D. (2022). Ecosystem transformation for digital servitization: A systematic review, integrative framework, and future research agenda. *Journal of Business Research, 146*, 176-200.

Loghin, E.-C., Vâlcu, A., & Verzea, I. (2023). Particularities of the Digital Transformation of the Manufacturing Industries. Bulletin of the Polytechnic Institute of Iași. Machine constructions Section, 69(1), 123-135. https://doi.org/10.2478/bipcm-2023-0010

Marcysiak, A., & Pleskacz, Ż. (2021). Determinants of digitization in SMEs. *Entrepreneurship and Sustainability Issues, 9*(1), 300-318. https://doi.org/10.9770/jesi.2021.9.1(18)

Mittal, S., Khan, M. A., Romero, D., & Wuest, T. (2018). A critical review of smart manufacturing & Industry 4.0 maturity models: Implications for small and medium-sized enterprises (SMEs). *Journal of Manufacturing Systems, 49*, 194-214. https://doi.org/10.1016/j.jmsy.2018.10.005

Neagu, C. (2016). The importance and role of small and medium-sized businesses. Theoretical and Applied Economics, XXIII(3), 331-338.

Niemeyer, C. L., Gehrke, I., Müller, K., Küsters, D., & Gries, T. (2020). Getting small medium enterprises started on Industry 4.0 using retrofitting solutions. *Procedia Manufacturing, 45*, 208-214. https://doi.org/10.1016/j.promfg.2020.04.096

Pöppelbuß, J., Plattfaut, R., & Niehaves, B. (2015). How do we progress? An exploration of alternate explanations for BPM capability development. *Communications of the Association for Information Systems, 36*, Article 1.

Rafael, L. D., Jaione, G. E., Cristina, L., & Ibon, S. L. (2020). An Industry 4.0 maturity model for machine tool companies. *Technological Forecasting and Social Change, 159*, 120203. https://doi.org/10.1016/j.techfore.2020.120203

Reijers, H. A. (2021). Business process management: The evolution of a discipline. Computers in Industry, 1.

Trkman, P. (2010). The critical success factors of business process management. *International journal of information management, 30*(2), 125-134.

Van Looy, A. (2014). Business process maturity: A comparative study on a sample of business process maturity models. Springer Science & Business Media.

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Artificial Intelligence in Pricing: A Game-Changer for Business Success

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Gen AI;
Pricing transformation

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Abstract: *This paper investigates the game-changing potential of artificial intelligence (AI) in transforming pricing strategies across various industries. The research begins by defining general AI and its key components, such as machine learning, natural language processing, and computer vision. The paper then explores the application of AI in pricing, discussing how these technologies can be leveraged to optimize demand forecasting, personalization, and dynamic pricing. The benefits of incorporating AI in pricing, including increased accuracy, efficiency, and customer satisfaction, are highlighted. However, the discussion investigates challenges associated with implementing AI in pricing, such as data quality, ethical considerations, and regulatory compliance. Future research directions are proposed, including the integration of AI with other advanced analytics techniques and the development of novel pricing models enabled by AI. In conclusion, this paper underscores the disruptive impact of AI on pricing strategies and emphasizes the need for businesses to embrace this technology to stay competitive and achieve long-term success.*

1. INTRODUCTION

Artificial Intelligence (AI) is a transformative technology that significantly impacts global economic sectors through core components like machine learning, natural language processing, and computer vision. These AI systems, which include applications such as virtual assistants, bots, and predictive analytics, are increasingly utilized for marketing and data analysis, enhancing decision-making and operational efficiency.

The systems, based on AI significantly reduce uncertainty and enhance predictability, which in turn lowers the risk discount that typically depresses prices, especially for early-stage innovations. Agrawal et al. (2018, 2022) describe AI as a tool that makes predictions cheap and scalable, enabling decision-making to shift from rules-based to outcome-based processes. As AI improves prediction accuracy, it will transform pricing by enabling outcome-based models, optimizing value delivery at lower costs, and fostering collaboration to maximize value for all parties involved rather than relying on traditional price optimization methods based on willingness to pay.

In a KPMG (2023) survey from March, 65% of 225 executives indicated that Generative AI will have a high or extremely high impact on their organizations. The rapid adoption of AI in 2023, fueled by decreasing computing costs and accessible internet-based training data, has shifted it from a niche technology to a widespread tool. Executives see Generative AI as particularly promising for driving innovation (78%), technology investment (74%), and customer success (73%), highlighting its transformative potential across various business functions, such as optimizing pricing to maximize revenue and customer retention.

Artificial intelligence has become a pivotal focus in both academic discourse and business practices, with Dwivedi et al. (2024) emphasizing the imperative of delineating stakeholder benefits and quantifiable

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metrics of AI's impact, while synchronizing research endeavors with pragmatic applications, and Agarwal et al. (2024) further advocating for the prioritization of AI use cases based on critical multidimensional criteria. Price management in the digital landscape is increasingly reliant on technology and driven by data, with pricing decisions being either fully or partially determined by algorithmic systems (Klein, 2021). In this setting, Artificial Intelligence (AI) is progressively employed for tasks such as sales forecasting, price prediction, and revenue optimization.

According to Kotler (2024), the strategic deployment of AI in marketing decision-making will be pivotal for corporate success in the future. Studies by Hagendorff et al. (2023) and Jansen et al. (2023) illustrate how AI surpasses conventional problem-solving methods in specific scenarios, indicating its capacity to optimize decision-making processes.

2. LITERATURE REVIEW

The integration of technology and data to generate value and monetize marketing efforts has been accelerated by the adoption of artificial intelligence, particularly through the use of pre-trained, large-scale language models with diverse applications (Rossi et al., 2024). The growing significance of big data analytics as a source of competitive advantage has led researchers to provide recommendations for SMEs on leveraging big data (Sanchez-Hughet et al., 2022) and prioritizing its applications (Agarwal et al., 2024). Although numerous AI solutions have been proposed (Agrawal et al., 2022), few studies provide a structured framework for implementing AI in marketing decisions (Wu & Monfort, 2022). Moreover, to the best of our knowledge, there is a lack of comparative evaluations of current AI applications for specific use cases in price management. Various classification criteria for AI systems—such as AI type, industry application, human-AI collaboration modes, and AI's primary function—have been used to assess which configurations show greater user adoption potential (Kelly et al., 2023; Cabrera-Sánchez et al., 2021; Li et al., 2022; Kim et al., 2021). However, there is limited guidance available for decision-making regarding investments in these new technologies, particularly for small and medium-sized enterprises (SMEs), where leaders might be unaware of the ethical concerns surrounding hybrid human-AI decision-making systems (Sanchez-Hughet et al., 2022; Feuerriegel et al., 2022). Despite limited research on the criteria that encourage managers to integrate AI into marketing processes, much insight can be gained from the evolving understanding of consumer behavior towards AI. From the consumer's perspective, AI adoption is frequently examined through technology acceptance models, which highlight key factors influencing people's intent to engage with AI (Kelly et al., 2023; Cabrera-Sánchez et al., 2021; Gursoy et al., 2019). Functional AI systems, in particular, are viewed positively (Kim et al., 2021), and users tend to favor collaborative, interdependent interactions with AI to achieve their objectives (Li et al., 2022). The behavioral drivers identified can generally be categorized into economic cost-benefit analyses and social factors. However, to date, no explicit studies have addressed these criteria in management processes involving human-AI collaboration.

Studies have shown that technological innovation is strongly linked to improved business performance and the long-term viability of SMEs (Rahman & Gogate, 2016). However, only a small proportion of SMEs report actively utilizing AI and incorporating these technologies into their business models (Stentoft et al., 2021). The Massachusetts Institute of Technology and the BCG Henderson Institute survey revealed that enterprises with annual revenues exceeding $10 billion that implemented AI-driven pricing transformations experienced revenue enhancements exceeding $100 million 70% more frequently than those concentrating on alternative domains. Additionally, these companies faced significantly lower failure rates, with only 13% of AI-driven pricing initiatives yielding no benefits, in contrast to 34% of firms whose AI efforts did not target pricing optimization (Hazan et al., 2021).

From an economic and management standpoint, the implementation of AI generally enhances a firm's value proposition by enabling customization, value co-creation, search optimization, and process optimization (Moreno-Izquierdo et al., 2018). This, in turn, improves customer value, both from the perspective of the customer experience and the firm's understanding of customer value. Brown and MacKay (2021) provide strong empirical evidence showing that using pricing algorithms significantly affects pricing trends. They also offer a theoretical analysis suggesting that by relying on these algorithms, companies can adhere to pricing strategies that result in higher prices than they might achieve otherwise.

Miklos-Thal and Tucker (2019) develop a theoretical model showing that algorithms improve firms' ability to predict demand. They suggest that this enhanced forecasting capability may cause firms to break away from collusive behavior more often, resulting in lower prices and greater consumer benefits. Similar arguments can be found in the works of O'Connor and Wilson (2019) and Martin and Rasch (2022).

In response to McKinsey's advocacy for prioritizing AI applications in finance (Agarwal et al., 2024), Erdmann et al. (2024) emphasize the importance of a comprehensive evaluation of AI use cases in pricing—a domain at the intersection of marketing and finance. This integrative approach ensures a thorough understanding of the multifaceted impacts of AI technologies. It enables SMEs to prioritize AI applications effectively, considering not only their economic advantages but also addressing ethical and regulatory factors.

Table 1 illustrates the growing focus on employing AI for task or process automation and enhancement in marketing and finance, particularly for specific functions (AI point solutions). The complexity inherent in decision-making and the deployment of disruptive technologies has been addressed in various contexts using multivariate decision models. The methodological innovation here lies in applying these approaches to AI-driven price setting, a critical element of the Marketing Mix, encompassing all pricing-related tasks where AI solutions have been documented in the literature. This application provides strategic guidance for SMEs on AI investment in pricing, aligning with both immediate operational needs and broader stakeholder requirements.

Table 1. Research contribution embedded in the literature

Authors	AI in marketing	AI in finance	AI in process/ task	Pricing automation with AI
Liu (2024); Jafari et al. (2020)		+	+	
Kelly et al. (2023); Gursoy et al. (2019); Brown and MacKay (2021)	+			
Agrawal et al. (2022); Kim et al. (2021); Sanchez-Hughet et al. (2022); Cabrera-Sánchez et al. (2021); Kotler (2024); Miklos-Thal and Tucker (2019); O'Connor and Wilson (2019); Martin and Rasch (2022)	+		+	
Wachter and Mittelstadt (2019); Omoumi et al. (2021); Li et al. (2022); Feuerriegel et al. (2022)			+	
Gerlick and Liozu (2020); Moreno-Izquierdo et al. (2018)	+		+	+
Xu and Zhang (2022); Wu and Monfort (2022)	+			+
Erdmann et al. (2024); Agarwal et al. (2024)	+	+		+
Ferreira et al. (2021); Ambukege et al. (2017)		+	+	+

Source: Adapted from Erdmann et al. (2024)

3. AI-BASED PRICING MODELS

Hedonic pricing theory has historically provided a framework for analyzing price functions as bundles of various attributes and their interrelations (Lancaster, 1966; Rosen, 1974). The integration of AI algorithms into price functions, by leveraging empirical data to identify patterns rather than using a predetermined linear approach, represents a shift from traditional methods while still relying on similar input elements. Comparative studies show that AI-based approaches offer improved accuracy in value forecasting and reduced price prediction errors compared to traditional hedonic pricing methods, though they often trade off interpretability due to the opaque nature of many AI algorithms (Sakri & Ali, 2022; Moreno-Izquierdo et al., 2018; Liu et al., 2018).

The primary applications of AI-enhanced pricing can be classified into two main categories: (1) forecasting tools, which utilize AI-driven price prediction models applicable to various domains such as financial markets, auction environments, energy markets, procurement, exchange rates, or consumer price indices; and (2) price optimization tools, which involve AI-based pricing strategies that adapt to market conditions, including use cases such as personalized pricing, market segmentation, and dynamic pricing (Erdmann et al., 2024).

3.1. AI-Based Price Forecasting Use Cases

AI algorithms, including machine learning and deep learning techniques, are increasingly utilized for predicting stock market prices. Ferreira et al. (2021) highlight the shift from conventional forecasting methods to sophisticated AI models capable of handling large data sets and achieving notable financial gains through advanced data analysis and pattern recognition, underscoring AI's pivotal role in financial decision-making. Similarly, AI has proven effective in forecasting auction prices, with techniques such as genetic algorithms, artificial neural networks, and regression analysis significantly improving the accuracy of real estate auction price predictions, as demonstrated by Kang et al. (2020). The complex and volatile nature of electricity markets also benefits from AI-based forecasting models, which provide precise day-ahead price predictions, as shown by Zaroni et al. (2020). Additionally, AI models enhance the accuracy of procurement price forecasts for agricultural products, by utilizing daily time-series data, offering substantial commercial advantages in optimizing procurement strategies (Jafari et al., 2020). The application of AI models has the potential to substantially improve international price setting, as evidenced by Chen and Hu (2019), who analyze the exchange rate pass-through (ERPT) effect on Chinese export price indices. Their research demonstrates AI's superior forecasting capabilities, facilitating more precise and informed decision-making for stakeholders navigating the intricacies of global trade and economic systems. Advancements in AI have significantly enhanced the forecasting of the Consumer Price Index (CPI), as demonstrated by Ambukege et al. (2017), who utilize neural networks and fuzzy logic to develop a sophisticated machine learning model that leverages data from the Tanzania National Bureau of Statistics. This development underscores AI's effectiveness in improving economic forecasting and decision-making processes, providing a powerful tool for strategic planning across multiple economic domains, a finding similarly observed in AI-based house price index predictions (Xu & Zhang, 2022).

3.2. AI-Based Price Optimization Use Cases

Personalized pricing, as explored by Gerlick and Liozu (2020), underscores the crucial role of AI and algorithmic decision-making in tailoring price settings to individual consumer behaviors

and preferences. AI-driven personalized pricing enables the analysis of extensive consumer data sets, facilitating dynamic, real-time price adjustments that enhance the shopping experience by aligning prices with each consumer's perceived value. Gautier et al. (2020) further examine the technological, economic, and legal implications of AI in personalized pricing, focusing on issues such as algorithmic price discrimination and implicit collusion. The utilization of AI to process large volumes of personal data allows for more precise price differentiation, thereby improving the effectiveness of personalized pricing strategies. However, this also raises initial concerns about the need for regulatory oversight in this domain.

Dynamic pricing within the tourism sector as an example, particularly for Airbnb listings as investigated by Moreno-Izquierdo et al. (2018), is markedly improved by AI, especially through the application of machine learning models. The study reveals that AI's ability to analyze large datasets facilitates the optimization of pricing strategies, enabling real-time price adjustments based on market demand, thereby enhancing competitiveness and profitability through advanced pattern recognition and data analytics techniques. Gerlick and Liozu (2020) highlight that organizations in the U.S. and globally are increasingly leveraging AI-driven dynamic pricing as a strategic tool to adapt prices based on competition, market demand, and other influencing factors. This approach has gained significant traction due to its potential to enhance revenue and foster stronger customer engagement. However, companies must address the ethical challenges associated with dynamic pricing, as it can be perceived as discriminatory or unfair to certain customer groups, necessitating a commitment to transparency and ethical standards in its application. Kinoti (2023) explains that dynamic pricing is a flexible strategy that adjusts prices based on factors like time, demand, and market conditions, allowing companies to update prices in real-time. Unlike static pricing, which remains fixed over extended periods, AI-driven dynamic pricing leverages complex algorithms and data analysis to optimize pricing for competitiveness and revenue, enabling swift responses to market fluctuations.

AI techniques for dynamic pricing in Demand-Side Management (DSM) leverage a combination of machine learning (ML), optimization, and deep learning approaches. Supervised learning methods, such as regression and classification models, are frequently employed to analyze historical consumption data and predict future demand trends. Algorithms like decision trees, random forests, and support vector machines can forecast high-demand periods and recommend optimal pricing strategies to encourage load balancing and demand response.

Optimization techniques like genetic algorithms, linear programming, and integer programming play a crucial role in determining the most effective pricing strategies by optimizing resources and maintaining system stability. These methods help utilities design dynamic pricing systems that minimize costs while ensuring grid stability.

Deep learning approaches, such as neural networks, enhance the modeling of complex relationships between factors influencing demand, providing more accurate predictions of future consumption patterns. These algorithms can identify non-linear relationships and subtle patterns that traditional models may miss, improving dynamic pricing decisions (Jha et al., 2024).

These AI-driven pricing mechanisms hold significant promise for enhancing accuracy while minimizing costs and accelerating price adjustments and promotional strategies. By aligning with customer value perceptions and adapting to fluctuating market conditions, these technologies facilitate superior decision-making and confer a competitive edge.

4. ADOPTION OF AI-BASED PRICING

Retailers are navigating a complex pricing landscape due to persistent cost inflation, supply chain disruptions, evolving consumer behaviors, and intensifying price competition. Traditional pricing methods are inadequate, prompting the adoption of AI-powered solutions and dynamic pricing models. Leveraging these advanced tools can enhance gross profits by 5% to 10% and support sustainable revenue growth and improve customer value perception (Boston Consulting Group, 2024). AI's advanced capabilities can increase EBITDA by 2 to 5 percentage points for B2B and B2C companies by optimizing strategic pricing functions (Hazan et al., 2021). Research, such as Assad et al. (2020), indicates that algorithmic pricing strategies can significantly boost margins, exemplified by a 38% increase in German gasoline retail margins.

AI-based price optimization offers a more nuanced approach compared to traditional rule-based models, which are limited by data constraints and a high level of aggregation. AI enables real-time insights into customer preferences, enhancing strategic investment decisions and improving sales volume, profit margins, and customer value perception. The shift from uniform to dynamic pricing models allows retailers to adjust prices in real-time based on market conditions and competitor actions. AI-driven dynamic forecasting refines price elasticity estimates using customer behavior data and external factors, improving pricing precision and profitability.

Implementing AI in pricing requires a cohesive strategy that integrates teams, processes, and technology. Leading retailers often establish centralized pricing teams or centers of excellence, integrating various functions to manage AI-driven pricing models and ensure alignment with promotions and vendor deals. AI reshapes decision-making by converting periodic price resets into continuous strategic evaluations based on market dynamics. An AI-powered pricing engine relies on an integrated data platform for real-time updates, with user-friendly tools and custom interfaces enhancing transparency, efficiency, and control over pricing decisions.

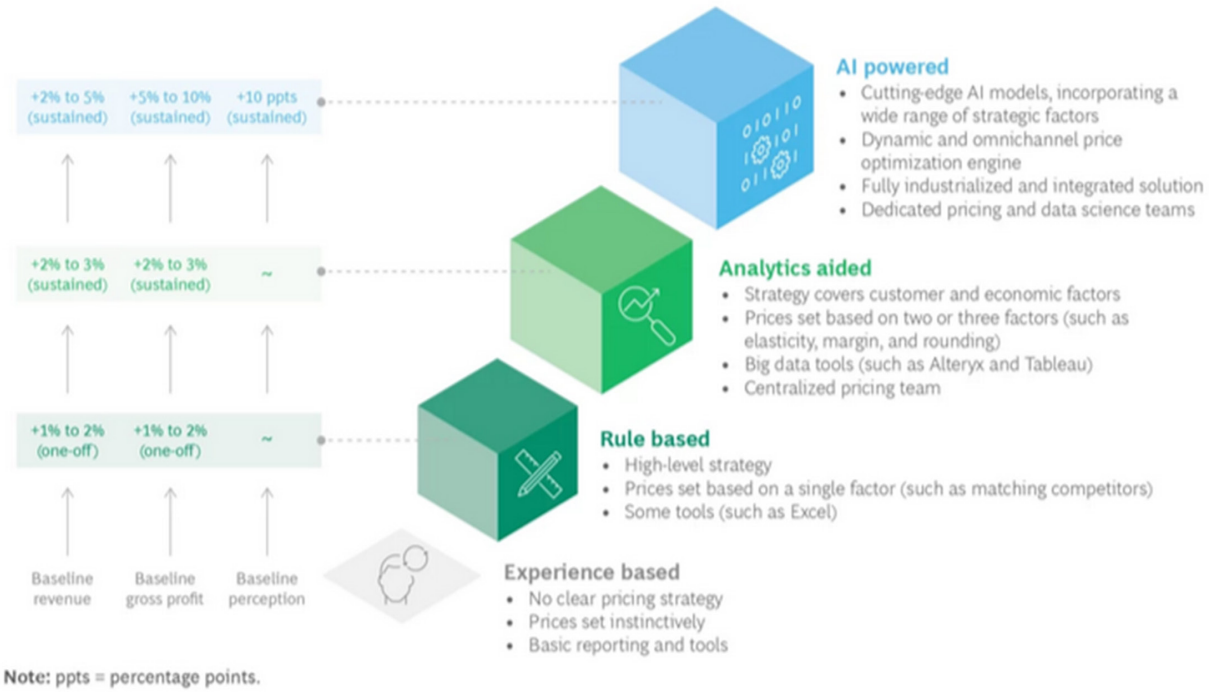


Figure 1. The impact of improving pricing capabilities
Source: Boston Consulting Group (2024)

A global AI-driven pricing survey of 1,500 companies across Europe, Asia, and the US highlights the recognition of AI-powered pricing strategies' transformative potential. However, 53% of these companies are concerned that their internal data is not sufficiently mature in quality and quantity to fully utilize AI for pricing. Although several barriers hinder broader adoption, companies that overcome these challenges find significant and tangible benefits, with AI-based pricing offering superior and measurable outcomes. The Global AI-based Pricing Study shows that 76% of respondents consider AI-based pricing essential for managing prices and enhancing profitability, yet 54% have not yet implemented it. Among users, 27% use AI for promotional optimization, 19% utilize Chat GPT, and 8% apply dynamic pricing tools, while 67% of organizations believe their IT infrastructure is insufficiently developed for AI, and 46% rely on historical transactional data for pricing (Boston Consulting Group, 2024).

Companies that successfully implement AI-based pricing follow three essential principles, as demonstrated by the superior profitability of top performers in relevant studies. first, pilot before scaling: leading firms begin by creating specific use cases, testing them through agile pilot projects, typically short-term endeavors of around four weeks. This approach allows businesses to validate smaller initiatives, such as product lines or market segments, without the risks of deploying a large-scale solution prematurely. Second, inclusive change management is crucial, with a focus on engaging the entire organization, especially sales teams, to ensure broader acceptance and mitigate resistance to new pricing models. Lastly, guidance and capacity building are key, as successful companies provide support to ensure proper use of AI-based pricing, dedicating significant time (up to 30% of the project) to data preparation, which helps set realistic expectations and enhances project outcomes (Hazan et al., 2021; Zatta, 2024).

5. CHALLENGES OF AI-POWERED PRICING

Several obstacles hinder the delegation of pricing decisions to AI, including challenges related to risk management frameworks and governance structures, which are necessary to address AI's limited accountability (Feuerriegel et al., 2022). Regulatory compliance is a significant barrier, particularly for small and medium-sized enterprises (SMEs) (Sanchez-Hughet et al., 2022). Moreover, the limited availability of skilled personnel within SMEs (Sanchez-Hughet et al., 2022) necessitates a focused approach to AI adoption in pricing. This prioritization should aim to engage the right professionals—those with expertise in specific pricing functions crucial to AI implementation, even if they lack extensive knowledge across all pricing areas (Erdmann et al., 2024).

The journey to pricing optimization through AI is fraught with numerous challenges that demand meticulous attention. *Data quality* is a fundamental concern, as the accuracy of pricing analytics is contingent upon the integrity of the data; incomplete, inconsistent, or outdated data can severely compromise results. *Model complexity* presents another significant hurdle, as AI/ML models often require substantial computational resources and expertise, which can be a barrier for smaller organizations. *Interpretability* of these models further complicates matters, making it difficult for businesses to explain and justify pricing decisions to stakeholders. Finally, the *implementation and integration of AI/ML* models into existing systems, coupled with the high *cost* of data management and specialized personnel, pose considerable challenges, particularly for companies with limited budgets.

6. ETHICAL AND LEGAL ASPECTS

The growing emphasis on generative AI by major tech companies underscores its economic and strategic importance but also highlights emerging ethical challenges. Effective integration of AI into pricing strategies requires addressing ethical and legal considerations as outlined by

the European Commission (2020) and supported by research on managerial awareness of hybrid human-AI decision-making (Feuerriegel et al., 2022). The potential for unethical behavior in human resource management and the need for clear guidelines have been identified (Méndez-Suárez et al., 2023), while gaps remain in addressing ethical issues in marketing functions and developing decision support frameworks (Agarwal et al., 2024; Dwivedi et al., 2023). AI's capacity to handle vast personal data necessitates rigorous data privacy measures and algorithmic fairness to prevent discrimination (Erdmann et al., 2024; European Commission, 2020, 2024). Additionally, transparency and explainability are crucial for maintaining trust and compliance with regulatory and ethical standards (Saura et al., 2022). For AI-driven pricing, ethical considerations must be thoroughly integrated, advocating for collaborative intelligence over mere automation to ensure adherence to ethical standards (Dwivedi et al., 2023; Forth, 2024). Data privacy, informed consent, and robust security measures are vital to prevent consumer privacy infringements and regulatory issues (Namburu et al., 2022). Transparency and accountability are essential for maintaining consumer trust and preventing reputational damage (Gerlick & Liozu, 2020).

7. FUTURE RESEARCH DIRECTIONS

A key area for future exploration is the integration of AI with advanced analytics techniques, such as machine learning and natural language processing, to enhance pricing accuracy and adaptability. AI-driven optimization has been explored in contexts such as industrial processes (Al-Dhaimesh & Taib, 2023), blockchain networks (Hombalimath et al., 2023), and financial risk management (Agarwal et al., 2024), all of which underscore the necessity of further investigating automation and digitization within an increasingly complex and competitive landscape. These complexities can be broken down into multiple real-world challenges for further study. Another important direction involves addressing ethical challenges in dynamic and personalized pricing, ensuring transparency, fairness, and regulatory compliance. Research could also focus on AI solutions tailored for small and medium-sized enterprises (SMEs) to help overcome adoption barriers related to data quality and model complexity. As businesses increasingly adopt AI-driven pricing models, real-time, personalized pricing adjustments and concerns over data privacy and algorithmic bias will shape the future of pricing strategies. Additionally, as AI becomes more prevalent in pricing decisions, ethical considerations like transparency, fairness, and regulatory compliance will shape the future of AI-driven pricing, particularly with the rise of concerns over data privacy and algorithmic bias.

8. CONCLUSION

AI is revolutionizing pricing strategies across industries by enabling more accurate, dynamic, and personalized pricing models. Its ability to leverage machine learning, natural language processing, and other advanced technologies enhances demand forecasting, optimizes price setting, and boosts efficiency. However, the adoption of AI also brings challenges, such as ethical concerns around transparency, data privacy, and algorithmic bias, which must be carefully addressed to ensure fair practices. As businesses increasingly integrate AI-driven pricing, those that embrace these innovations effectively will gain a competitive edge in a rapidly evolving market landscape.

References

Agarwal, R., Kremer, A., Kristensen, I., & Luget, A. (2024). How generative AI can help banks manage risk and compliance. McKinsey. https://www.mckinsey.com/capabilities/risk-and-resilience/our-insights/how-generative-ai-can-help-banks-manage-risk-and-compliance

Agrawal, A., Gans, J., & Goldfarb, A. (2018). Prediction machines: The simple economics of artificial intelligence. Harvard Business Review Press.

Agrawal, A., Gans, J., & Goldfarb, A. (2022). Power and prediction: The disruptive economics of artificial intelligence. Harvard Business Review Press.

Al-Dhaimesh, S. H., & Taib, N. (2023). A review: Investigation of augmented reality–BIM benefits in design process in AEC industry. *Informatica, 47*(5). https://doi.org/10.31449/inf.v47i5.4671

Ambukege, G., Justo, G., & Mushi, J. (2017). Neuro fuzzy modelling for prediction of consumer price index. *Journal of Artificial Intelligence Research, 8*(5), 33–44. https://doi.org/10.48550/arXiv.1710.05944.

Assad, S., Clark, R., Ershov, D., & Xu, L. (2020). Algorithmic pricing and competition: Empirical evidence from the German retail gasoline market [Working paper].

Boston Consulting Group. (2024). Overcoming retail complexity with AI-powered pricing. Boston Consulting Group. https://www.bcg.com/publications/2024/overcoming-retail-complexity-with-ai-powered-pricing.

Brown, Z., & MacKay, A. (2021). Competition in pricing algorithms. American Economic Journals: Microeconomics. Forthcoming.

Cabrera-Sánchez, J. P., Villarejo-Ramos, Á. F., Liébana-Cabanillas, F., & Shaikh, A. A. (2021). Identifying relevant segments of AI applications adopters–expanding the UTAUT2's variables. *Telematics and Informatics, 58*, 101529. https://doi.org/10.1016/j.tele.2020.101529

Chen, H., & Hu, W. (2019). Research on exchange rate pass-through effect based on artificial intelligence approach. *Concurrency and Computation: Practice and Experience, 31*(9), e4986. https://doi.org/10.1002/cpe.4986

Dwivedi, Y. K., Jeyaraj, A., Hughes, L., Davies, G. H., Ahuja, M., Albashrawi, M. A., & Walton, P. (2024). "Real impact": Challenges and opportunities in bridging the gap between research and practice – making a difference in industry, policy, and society. *International Journal of Information Management, 78*, 102750.

Dwivedi, Y. K., Kshetri, N., Hughes, L., Slade, E. L., Jeyaraj, A., Kar, A. K., Baabdullah, A. M., Koohang, A., Raghavan, V., Ahuja, M., Albanna, H., Albashrawi, M. A., Al-Busaidi, A. S., Balakrishnan, J., Barlette, Y., Basu, S., Bose, I., Brooks, L., Buhalis, D., & Wright, R. (2023). So what if ChatGPT wrote it? Multidisciplinary perspectives on opportunities, challenges and implications of generative conversational AI for research, practice and policy. *International Journal of Information Management, 71*, 102642.

Erdmann, A., Yazdani, M., Mas Iglesias, J. M., & Marin Palacios, C. (2024). Pricing powered by artificial intelligence: An assessment model for the sustainable implementation of AI supported price functions. *Informatica, 35*(3), 529-556. https://doi.org/10.15388/24-INFOR559.

European Commission. (2020). White Paper on Artificial Intelligence: A European approach to excellence and trust. European Commission, Brussels.

European Commission. (2024). Shaping Europe's digital future: AI Act. https://bit.ly/3T1O3KL

Ferreira, F. G. D. C., Gandomi, A. H., & Cardoso, R. T. N. (2021). Artificial intelligence applied to stock market trading: A review. *IEEE Access, 9*, 30898–30917. https://doi.org/10.1109/ACCESS.2021.3058133

Feuerriegel, S., Shrestha, Y. R., von Krogh, G., & Zhang, C. (2022). Bringing artificial intelligence to business management. *Nature Machine Intelligence, 4*(7), 611–613. https://doi.org/10.1038/s42256-022-00512-5

Forth, S. (2024). Pricing is an open game. *PPS Journal*. https://drive.google.com/file/d/1r3oiS_GBOmcsrFyRm7gklSv-80uGAtdf/view

Gautier, A., Ittoo, A., & Van Cleynenbreugel, P. (2020). AI algorithms, price discrimination and collusion: A technological, economic and legal perspective. *European Journal of Law and Economics, 50*(3), 405–435. https://doi.org/10.1007/s10657-020-09662-6

Gerlick, J. A., & Liozu, S. M. (2020). Ethical and legal considerations of artificial intelligence and algorithmic decision-making in personalized pricing. *Journal of Revenue and Pricing Management, 19*(2), 85–98. https://doi.org/10.1057/s41272-019-00225-2

Gursoy, D., Chi, O. H., Lu, L., & Nunkoo, R. (2019). Consumers acceptance of artificially intelligent (AI) device use in service delivery. *International Journal of Information Management, 49*, 157–169. https://doi.org/10.1016/j.ijinfomgt.2019.03.008

Hagendorff, T., Fabi, S., & Kosinski, M. (2023). Human-like intuitive behavior and reasoning biases emerged in large language models but disappeared in ChatGPT. *Nature Computational Science, 3*(10), 833–838.

Hazan, J., Brégé, C., Verwaerde, J.-S., & Bassoulet, A. (2021, June 7). Why AI transformations should start with pricing. Boston Consulting Group. https://www.bcg.com/publications/2021/why-ai-transformations-should-start-with-pricing.

Hombalimath, A., Mangla, N., & Balodi, A. (2023). Designing a permissioned blockchain network for the insurance claim process using Hyperledger Fabric and Composer. *Informatica, 47*(3). https://doi.org/10.31449/inf.v47i3.4158

Jafari, F., Mousavi, J., Ponnabalam, K., Karray, F., & Nassar, L. (2020). Machine learning tools for the prediction of fresh produce procurement price. In 2020 IEEE International Conference on Systems, Man, and Cybernetics (SMC) (pp. 3091–3095). https://doi.org/10.1109/SMC42975.2020.9282887

Jansen, T., Heitmann, M., Reisenbichler, M., & Schweidel, D. A. (2023). Automated alignment: Guiding visual generative AI for brand building and customer engagement. Available at SSRN 4656622.

Jha, D., et al. (2024). AI-driven dynamic pricing mechanisms for demand-side management. *Acta Energetica, 2*(48), 82–94. http://actaenergetica.org

Kang, Z., Zhou, W., Zhao, Z., Shao, J., Han, M., & Xu, Z. (2020). Large-scale multi-view subspace clustering in linear time. *Proceedings of the AAAI Conference on Artificial Intelligence, 34*(4), 4412–4419. https://doi.org/10.1609/aaai.v34i04.5867

Kelly, S., Kaye, S. A., & Oviedo-Trespalacios, O. (2023). What factors contribute to acceptance of artificial intelligence? A systematic review. *Telematics and Informatics, 77*, 101925. https://doi.org/10.1016/j.tele.2022.101925.

Kim, J., Merrill Jr, K., & Collins, C. (2021). AI as a friend or assistant: The mediating role of perceived usefulness in social AI vs. functional AI. *Telematics and Informatics, 64*, 101694.

Kinoti, M. (2023). Data-driven dynamic pricing using Python and machine learning. Medium. https://medium.com/@mkinoti19/data-driven-dynamic-pricing-using-python-and-machine-learningb898e0e5fbe3

Klein, T. (2021). Autonomous algorithmic collusion: Q-learning under sequential pricing. *RAND Journal of Economics, 52*(4), 1093–1133. https://doi.org/10.1111/1756-2171.12343.

Kotler, P. A. (2024). Lifetime in marketing: Lessons learned and the way ahead. *Journal of Marketing*.

KPMG. (2023, September 12). KPMG survey: Generative AI adoption surges, transforming workforces and business models. https://kpmg.com/us/en/media/news/kpmg-generative-ai-2023.html#:~:text=Almost%20two%2Dthirds%20(65%25),above%20every%20other%20emerging%20technology.

Lancaster, K. J. (1966). A new approach to consumer theory. *Journal of Political Economy, 74*, 132–157. https://doi.org/10.1086/259131.

Li, J., Huang, J., Liu, J., & Zheng, T. (2022). Human-AI cooperation: Modes and their effects on attitudes. *Telematics and Informatics, 73*, 101862. https://doi.org/10.1016/j.tele.2022.101862.

Liu, J. (2024). A Survey of Financial AI: Architectures, Advances and Open Challenges. arXiv preprint arXiv:2411.12747.

Liu, Z., Yan, S., Cao, J., Jin, T., Tang, T., Yang, J., & Wang, O. (2018). A Bayesian approach to residential property valuation based on built environment and house characteristics. *In Proceedings of the IEEE International Conference on Big Data* (pp. 1455–1464).

Martin, S., & Rasch, A. (2022). Collusion by algorithm: The role of unobserved actions [Mimeo].
Méndez-Suárez, M., de Obesso, M. D. L. M., Márquez, O. C., & Palacios, C. M. (2023). Why do companies employ prohibited unethical artificial intelligence practices? In: *IEEE Transactions on Engineering Management*. https://doi.org/10.1109/TEM.2023.3258686.
Miklós-Thal, J., & Tucker, C. (2019). Collusion by algorithm: Does better demand prediction facilitate coordination between sellers? *Management Science, 65*(4), 1552–1561. https://doi.org/10.1287/mnsc.2018.3065
Moreno-Izquierdo, L., Egorova, G., Peretó-Rovira, A., & Más-Ferrando, A. (2018). Exploring the use of artificial intelligence in price maximisation in the tourism sector: Its application in the case of Airbnb in the Valencian Community. *Journal of Regional Research, 42,* 113–128. http://hdl.handle.net/10045/86772.
Namburu, A., Selvaraj, P., & Varsha, M. (2022). Product pricing solutions using a hybrid machine learning algorithm. *Innovations in Systems and Software Engineering* (Print). https://doi.org/10.1007/s11334-022-00465-3
O'Connor, J., & Wilson, N. (2019). Reduced demand uncertainty and the sustainability of collusion: How AI could affect competition [Working paper].
Omoumi, P., Ducarouge, A., Tournier, A., Harvey, H., Kahn, C. E., Louvet-de Verchère, F., ... & Richiardi, J. (2021). To buy or not to buy—evaluating commercial AI solutions in radiology (the ECLAIR guidelines). European radiology, 31, 3786-3796.
Rahman, T., & Gogate, V. (2016). Learning ensembles of cutset networks. *Proceedings of the AAAI Conference on Artificial Intelligence, 30*(1), 3301–3307. https://doi.org/10.1609/aaai.v30i1.10428
Rosen, S. (1974). Hedonic prices and implicit markets: Product differentiation in pure competition. *Journal of Political Economy, 82*(1), 35–55. https://doi.org/10.1086/260169.
Rossi, S., Rossi, M., Mukkamala, R. R., Thatcher, J. B., & Dwivedi, Y. K. (2024). Augmenting research methods with foundation models and generative AI. International Journal of Information Management, 77, 102749. https://doi.org/10.1016/j.ijinfomgt.2023.102749
Sakri, S. B., & Ali, Z. (2022). Analysis of the dimensionality issues in house price forecasting modeling. In Proceedings of the 2022 Fifth International Conference of Women in Data Science at Prince Sultan University (pp. 13–19). https://doi.org/10.1109/WiDS-PSU54548.2022.00015
Sanchez-Hughet, C., Aramendia-Muneta, M. E., & Erro-Garces, A. (2022). Seizing opportunities in Europe: A roadmap for efficient big data implementation in Spanish SMEs. *Digital Policy, Regulation and Governance, 24*(5), 463–478. https://doi.org/10.1108/DPRG-02-2022-0019
Saura, J. R., Ribeiro-Soriano, D., & Palacios-Marqués, D. (2022). Assessing behavioral data science privacy issues in government artificial intelligence deployment. *Government Information Quarterly, 39*(4), 101679.
Stentoft, J., Adsbøll Wickstrøm, K., Philipsen, K., & Haug, A. (2021). Drivers and barriers for Industry 4.0 readiness and practice: Empirical evidence from small and medium-sized manufacturers. *Production Planning & Control, 32*(10), 811–828. https://doi.org/10.1080/09537287.2020.1781400
Wachter, S., & Mittelstadt, B. (2019). A right to reasonable inferences: re-thinking data protection law in the age of big data and AI. Colum. Bus. L. Rev., 494.
Wu, C.-W., & Monfort, A. (2022). Role of artificial intelligence in marketing strategies and performance. *Psychology and Marketing, 40*(3), 484–496. https://doi.org/10.1002/mar.21737.
Xu, X., & Zhang, Y. (2022). Second-hand house price index forecasting with neural networks. *Journal of Property Research, 39*(3), 215–236. https://doi.org/10.1080/09599916.2021.1996446
Zaroni, A., Piazzi, A., Tettamanti, T., & Sleisz, A. (2020). Investigation of day-ahead price forecasting models in the Finnish electricity market. In Proceedings of the 12th International Conference on Agents and Artificial Intelligence (ICAART 2020) (pp. 829–835).
Zatta, D. (2024). Adoption of AI-based pricing lags enthusiasm. PPS Pricing Advisor. Retrieved from https://drive.google.com/file/d/1Bu1YGedtlo975XJQoxsVnU0-ywkfklzK/view.

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Artificial Intelligence Applied to Whistleblowing Channels

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Abstract: *The present study addresses the implications of using AI – Artificial Intelligence – and iAP – Public Administration Interoperability – in whistleblowing channels, to improve the effectiveness of these tools for reporting irregularities in organizations.*

To this end, a brief literature review was conducted on whistleblowing channels, AI, and iAP. Subsequently, the aim was to assess the current level of citizens' knowledge about AI and iAP, as well as their levels of trust and perceived usefulness regarding these technologies.

Citizens show an average positive level of knowledge about AI and iAP, with no significant differences between these variables. Similarly, citizens consider these technologies to be trustworthy and useful for application in whistleblowing channels, which constitutes an important starting point for their widespread implementation.

1. INTRODUCTION

Fraud and corruption are complex problems with multiple causes, requiring integrated solutions to address them. Recently, there has been an effort to create mechanisms for preventing fraud and corruption in both public and private organizations. With the publication of the General Regime for the Prevention of Corruption in 2022, it became mandatory for certain entities to develop corruption risk prevention plans and related infractions, codes of conduct, training programs, and the implementation of whistleblowing channels. Regarding the whistleblowing channels, the General Regime for the Protection of Whistleblowers of Infractions states that entities covered by this regime must provide whistleblowing channels that ensure the integrity, confidentiality, and anonymity of both the reports and the whistleblowers (Articles 9 and 13).

Whistleblowing channels are important tools in the fight against fraud and corruption as they serve as a means of communicating irregularities within each organization, which must, in turn, be addressed according to their specific nature, while also considering the whistleblower's rights, as provided in the RGPDI. However, these channels also act as entry points for other types of submissions beyond whistleblowing and are frequently used to file complaints. Inappropriate use of whistleblowing channels results in wasted time and resources during the analysis, processing, and referral stages, which could be avoided if there were a way to guide the potential whistleblower when formulating their submission. From the perspective of organizations, the tasks of analyzing, processing, and referring whistleblowing reports are currently done on an *ad hoc* basis for each report, making them very demanding in terms of human resources and time, and lacking in automation.

There are several whistleblowing channel solutions available in the market for companies and public administration bodies, which comply with the current legal requirements. However, there is

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currently no solution in Portugal that incorporates AI to, on the one hand, help the whistleblower better formulate their report, in Portuguese or other languages, and on the other hand, assist in the analysis and processing of these reports by each organization. Additionally, there are no whistle-blowing channels that use the interoperability of public administration data.

This study aims to analyze the degree of citizens' knowledge about AI and interoperability, as well as their level of confidence in these technologies. Additionally, it seeks to assess the perceived usefulness of applying AI and interoperability in whistleblowing channels from the citizens' perspective.

2. WHISTLEBLOWING CHANNELS, ARTIFICIAL INTELLIGENCE AND INTEROPERABILITY

2.1. Whistleblowing Channels

The identification of corruption cases and their correct reporting is not always an easy task. The creation of whistleblowing channels has allowed for better communication of irregularities, making them important tools in the fight against corruption.

Article 5, paragraph 1 of the General Regime for the Prevention of Corruption establishes the obligation for the covered entities to adopt and implement a compliance program that includes, at a minimum, a corruption risk prevention plan and related infractions, a code of conduct, a training program, and a whistleblowing channel, in order to prevent, detect, and sanction acts of corruption and related infractions, carried out against or through the entity.

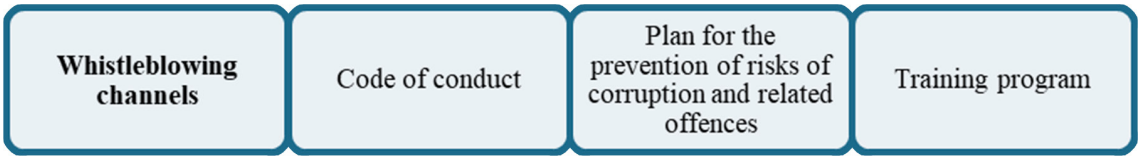


Figure 1. Compliance program
Source: Own research

The whistleblowing channel to be adopted by each entity must comply with the provisions of the **General Regime for the Protection of Whistleblowers of Infractions** Articles 9 and 13 outline the characteristics that whistleblowing channels must possess, namely that they should ensure exhaustiveness, integrity, the confidentiality of the whistleblower's identity or anonymity, the confidentiality of the identity of third parties mentioned in the report, and prevent access by unauthorized persons.

Depending on the specificities of each organization, it may be necessary to implement both an internal whistleblowing channel (Article 8 of the RGPDI) and an external whistleblowing channel (Article 12 of the RGPDI), although both channels may be similar in terms of the fields required for submitting a report. According to Article 9, paragraph 2, internal whistleblowing channels are operated internally for the purposes of receiving and following up on reports by people or services designated for that purpose, and must ensure independence, impartiality, confidentiality, data protection, secrecy, and the absence of conflicts of interest in the performance of their duties. In the case of external whistleblowing channels, according to Article 13, paragraph 2, the competent entities designate employees responsible for handling reports, which includes: a) Providing all

interested parties with information about the reporting procedures, ensuring the confidentiality of the advice and the identity of the persons involved; b) Receiving and following up on reports; c) Providing substantiated information to the whistleblower regarding the measures planned or adopted to follow up on the report and requesting additional information if necessary.

In terms of form and admissibility, internal whistleblowing channels allow the submission of reports, either in writing or verbally, by workers, anonymously or with identification of the whistleblower (Article 10, paragraph 1). The report may be submitted using electronic authentication methods, such as the citizen's card or mobile digital key, or through other electronic identification methods issued in other Member States and recognized for this purpose under Article 6 of Regulation (EU) No 910/2014 of the European Parliament and Council, dated July 23, 2014, as long as these means are available (Article 10, paragraph 3). Regarding external whistleblowing, the form and admissibility are similar, although electronic authentication is not provided for in this case (Article 14).

Each organization must choose the whistleblowing channel to implement and designate staff to perform the functions mentioned above. Currently, there are several solutions on the market that offer whistleblowing channels in compliance with the legal requirements in force. However, it is not known whether there is any solution in Portugal that incorporates AI in the analysis and processing of reports, as well as enabling data interoperability between entities.

In the literature, we find some references related to whistleblowing channels and its technological developments. Silva and Sousa (2017) provide an analysis of the influence of reporting channels on the decision to report financial irregularities. The authors concluded that the presence of an anonymous whistleblowing channel increases the likelihood that employees with permanent contracts will report financial misconduct. Bazart et al. (2019) investigate the relative effectiveness of whistleblower-based audits versus random audits, concluding that whistleblower-based audits are more efficient and have a stronger deterrent effect, promoting higher levels of compliance.

Noor and Mansor (2019) analyze the implementation of whistleblowing channels in the Malaysian public sector using artificial intelligence. The results indicated that the existence of whistleblowing channels strengthens the internal control system and increases the transparency and accountability of the public sector. Gao (2020) highlights the use of artificial intelligence in these channels and compares various means of submitting reports. The results showed no significant differences in terms of the perception of anonymity between online whistleblowing channels and telephone reporting.

Zouvia et al. (2020) identify the potential of AI applied to whistleblowing channels, particularly in reporting through virtual assistants, live translation, more efficient verification, and proactive monitoring. Putra et al. (2022) discuss various issues, including how the existence of whistleblowing channels and big data influence fraud prevention, and how fraud prevention is interconnected with internal auditing, risk management, whistleblowing channels, and big data analysis to prevent criminal behavior. Mrowiec (2022) presents a literature review on the factors that influence internal whistleblowing in companies, which can be grouped into the following areas: ethics, leadership, policies and procedures, retaliation and safeguards, social climate, organizational justice, training, whistleblowing channels, communication, additional motivations, organization size and structure, and audit committees.

Previtali and Cerchiello (2022) analyze organizational factors that influence whistleblowing behavior, such as the implementation of reporting procedures and anti-corruption training programs.

The authors suggest that, in addition to anti-corruption laws, it is essential to foster a cultural shift within organizations, supported by training and procedures that protect whistleblowers, in order to preserve organizational integrity.

Kagias et al. (2023) present a maturity model for whistleblowing practices, which can be used to strengthen organizations' reporting systems, thereby providing a more robust control environment. The model also allows for internal and external benchmarking to assist organizations in measuring their progress in relation to compliance and the effectiveness of their reporting channels.

Kang (2023) presents a literature review on whistleblowing in the public sector, with the primary objective of analyzing definitions, theories, research methods, and factors related to the intention and behavior of reporting wrongdoing. The study concludes that whistleblowing is a critical practice for promoting transparency and administrative efficiency.

The Report to the Nations study (ACFE, 2024) indicates that the most effective method for detecting occupational fraud is "Whistleblowing," which accounts for 43% of the recorded cases. Occupational fraud is an offense related to corruption, characterized by an unlawful act in which an individual exploits their position or role to gain undue advantages and personal enrichment.

In summary, whistleblowing channels are crucial tools for detecting and preventing corruption, and AI and data interoperability present future opportunities for enhancing their effectiveness.

2.2. Artificial Intelligence

Artificial Intelligence (AI) refers to the ability of computer programs to perform tasks that normally require human intelligence. Instead of being explicitly programmed to carry out a specific task, these programs are trained to learn and improve their performance over time. AI integrates sciences, theories, and techniques (such as mathematical logic, statistics, probability, computational neurobiology, and computer science) to mimic the cognitive abilities of a human through a machine (AMA, 2022).

AI encompasses a variety of approaches and techniques, including Machine Learning, Neural Networks, Natural Language Processing, Computer Vision, and Recommendation Systems.

The anticipated benefits of applying AI to whistleblowing channels align with practical examples of AI use in the Administrative Management sector, namely: "Provision of automated conversational interfaces with virtual assistants to streamline citizen and business support scenarios; Enhancement of security and privacy in IT systems" (AMA, 2022). Additionally, Noor and Mansor (2019) highlight that the use of AI in whistleblowing channels improves responses to corrupt practices, advocating for its implementation across all public sector entities.

2.3. Interoperability in Public Administration

The iAP aims to provide an easy and integrated method for offering cross-sector electronic services. It consists of the ability of organizations to interact and act for common benefits through communication and the sharing of information and knowledge. The iAP is a service-oriented central platform, that intends to provide the Public Administration (PA) with a shared tool that allows for the interconnection of PA systems and the composition and provision of multichannel electronic services that are closer

to the needs of citizens and businesses through four independent services: Integration, Messaging, Payments, and Authentication. This service is based on the concept of providing shared services among various entities, to simplify the availability of these services to the public. The iAP provides online services and the respective management, secure communication between Information Systems, online payments, and messaging services, among other functionalities. Interoperability in the Public Administration has gained relevance and importance regarding the creation and evolution of digital public services, to combat fragmentation and promote the creation of a single, unified ecosystem.

According to the European Interoperability Framework, created by the European Commission and transmitted to all member countries, the interoperability model is composed of four layers of governance, which must be integrated into the development of digital public services:

- **Legal interoperability**: Enables organizations operating under different legal frameworks, policies, and strategies to work together. It may require that the legislation does not hinder the establishment of European public services within and between Member States, and clear agreements on how to handle cross-border legislative differences, including the option of enacting new legislation, are necessary.
- **Organizational interoperability**: Refers to how entities align their processes, responsibilities, and expectations to achieve a common goal and benefits around interoperability. In practice, organizational interoperability assumes the documentation and integration of business processes where relevant information is shared.
- **Semantic interoperability**: Ensures that the format and understanding of shared data and information are preserved and understood throughout all exchanges. In practical terms, it ensures that "what is sent is what is understood." In addition to promoting the alignment of the semantic concepts of services for the citizen, semantic interoperability also promotes the alignment of syntax, i.e., the format of the information and the grammar used.
- **Technical interoperability**: The layer that allows for the technological connection between different systems and services, such as interfaces, tools, back-end and front-end systems, data platforms, payment systems, notification systems, and more. In Public Administration, technical interoperability is ensured by the iAP, which enables the exchange of information between different entities and the composition and provision of multichannel electronic services that better meet the needs of citizens and businesses in an agile manner and with economies of scale.

Almeida Prado Cestari et al. (2020) emphasize the importance of interoperability for efficiency and collaboration among public sector entities. Additionally, they propose a diagnostic model, the Public Administration Interoperability Capability Model (PAICM), designed to assess and enhance the interoperability of public organizations in terms of information exchange, processes, and systems.

In the study by Džino et al. (2023), the challenges and opportunities associated with digitalization and interoperability in the public sector of Bosnia and Herzegovina are presented. According to this study, digitalization and interoperability are essential for enhancing public administration by increasing productivity and creating service opportunities. Furthermore, the adoption of these technologies offers benefits not only for institutions but also for the economy and citizens.

There are few studies in the literature that reference the use of data interoperability in whistleblowing channels. Only Putra et al. (2022) identifies that the integration of AI and interoperability in the Public Administration can improve whistleblowing channels, increase efficiency, save costs, and enhance competitiveness.

3. HYPOTHESIS, METHODOLOGY AND RESULTS

The main research question inherent to this work is to understand whether citizens consider AI and interoperability useful when applied to whistleblowing channels. To do this, it is necessary to assess the level of knowledge about these technologies and the level of confidence in them.

Surveys were conducted with 50 randomly selected citizens, asking them about their level of knowledge regarding AI and iAP. On a scale of 0-10, where 0 = "Non-existent knowledge" and 10 = "Very high knowledge", the average knowledge levels were 6.654 and 5.340, respectively. Subsequently, a paired T-student test was calculated for the two samples, and it was concluded that there is not enough evidence to reject the null hypothesis, meaning there is no significant difference between the level of knowledge about AI and iAP (p-value = 0.110).

Although the level of knowledge in AI is slightly higher than the level of knowledge in iAP, this difference is not statistically significant, suggesting that, in general, the respondents have similar levels of knowledge on both topics. The distributions show that participants tend to have a higher level of knowledge in AI, but with less variation, while the knowledge in iAP is more dispersed.

Table 1. Descriptive statistics and hypothesis testing for the level of knowledge about AI and iAP

	Min.	Max.	Mean	Std. Dev.	Skewness	Kurtosis	T-student
Level of AI knowledge	1	10	6,654	2,121	-0,164	-0,371	1.627
Level of iAP knowledge	1	10	5,340	2,861	-0,456	-1,015	(0.110)

Source: Own calculations

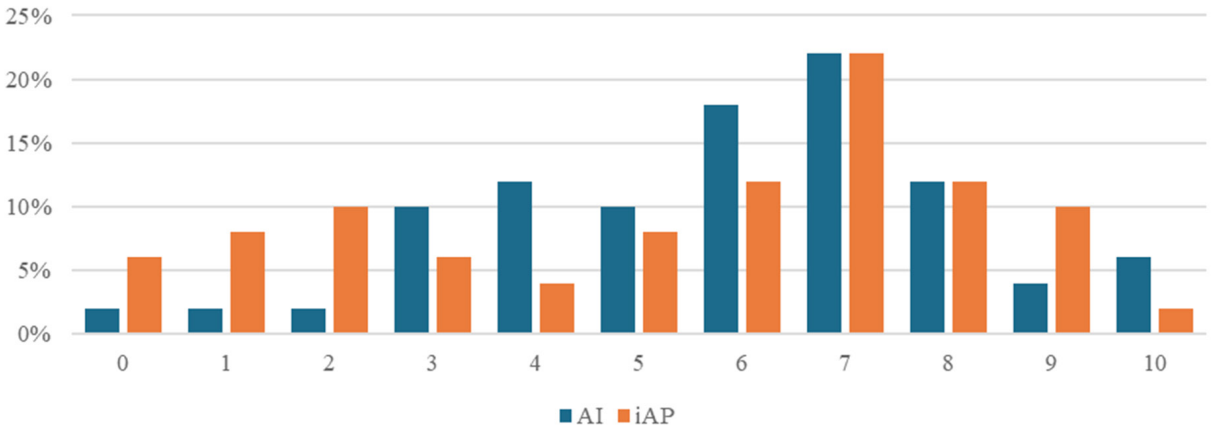


Figure 2. Level of knowledge about AI and iAP

Source: Own calculations

Regarding the level of confidence in use these technologies, the average values were 6.4 for AI and 7.042 for iAP. Similarly to the level of knowledge, a paired t-test was calculated, resulting in a p-value of 0.09, indicating that there is not enough evidence to reject the null hypothesis that there is a significant difference between the confidence levels in using a whistleblowing channel equipped with AI and iAP. Overall, both AI and iAP are viewed positively by the respondents, with iAP being considered slightly more trustworthy.

Table 2. Descriptive statistics and hypothesis testing for the level of confidence about AI and iPAQ

	Min.	Max.	Mean	Std. Dev.	Skewness	Kurtosis	T-student
Level of AI confidence	0	10	6,400	2,491	-0,685	-0,021	1.729
Level of iAP confidence	0	10	7,042	2,713	-1,007	0,382	(0,090)

Source: Own calculations

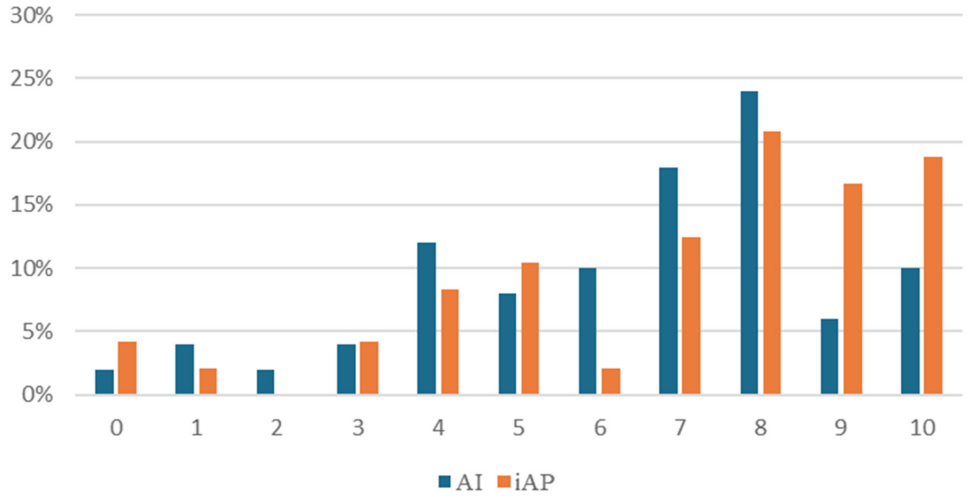


Figure 3. Level of confidence about AI and iAP

Source: Own calculations

Participants were also asked about the usefulness of integrating:

- AI in a whistleblowing channel, to assist the whistleblower in reporting the complaint;
- AI in a whistleblowing channel, as a way to assist in the processing of each complaint;
- iAP in a whistleblowing channel, to improve data transfer between entities.

Table 3. Descriptive Statistics and Hypothesis Testing for the level of usefulness in integrating AI and iAP into a whistleblowing channel

	Min.	Max.	Mean	Std. Dev.	Skewness	Kurtosis	ANOVA
Level of usefulness in integrating AI for reporting	0	10	6,100	2,794	-0,563	-0,398	1.538 (0.218)
Level of usefulness in integrating AI for treatment	0	10	6,680	2,766	-0,798	-0,338	
Level of usefulness in integrating iAP	0	10	7,265	2,699	-1,097	0,723	

Source: Own calculations

The three variables present relatively close averages, all between 6 and 7, indicating that the respondents consider both AI for assisting in reporting and processing, as well as iAP, to be useful. Although iAP has the highest average (7.265) and AI for reporting has the lowest (6.100), the differences are not large enough to be considered significant, as confirmed by the result of the ANOVA test.

The negative skewness in all variables suggests that respondents tend to assign higher values of usefulness, with interoperability being the most favored. The kurtosis values range from slightly platykurtic to leptokurtic, indicating that while some distributions are more flattened, the distribution for interoperability is more concentrated around the mean.

In conclusion, the three variables are considered similarly useful by respondents, with interoperability being slightly more valued. However, these differences are not statistically significant, as indicated by the p-value from the ANOVA.

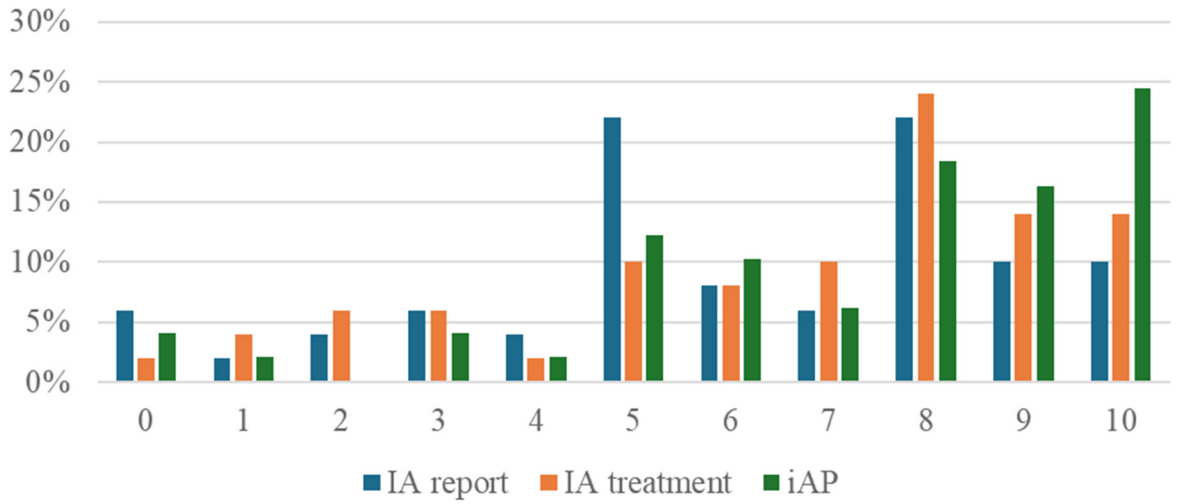


Figure 4. Level of usefulness of AI and iAP

Source: Own calculations

4. FUTURE RESEARCH DIRECTIONS

Based on the results, which indicate that AI and iAP are technologies considered useful within the scope of whistleblowing channels, it may be important to analyze other factors that influence perceived usefulness, such as the user experience with channels that incorporate this technology compared to traditional channels.

Once data on the use of these technologies is available, longitudinal studies on the application of AI and iAP in whistleblowing channels can be conducted, as well as comparative studies across different sectors (e.g., public vs. private, healthcare vs. education) to analyze in which cases greater gains in terms of utility are observed.

Another potential area of research lies in analyzing the reduction of the workload currently carried out by employees, which in the future could be handled by AI, particularly in the classification of reports, identification of false reports, prioritization based on the severity of the reports, and other tasks.

Finally, it would be important to analyze the usefulness of a single whistleblowing channel in Public Administration, equipped with AI and iAP, to achieve synergies in terms of saving financial and human resources, improving the efficiency of information exchange, and enhancing the speed of processes.

5. CONCLUSION

Through this study, it is possible to conclude that there are several advantages to the use of AI and iAP applied to whistleblowing channels, both from the whistleblower's perspective when reporting and from the perspective of the entities responsible for handling such reports. These advantages translate into process efficiency, foreseeing lower costs in the analysis and handling of cases.

Citizens show an average positive level of knowledge regarding AI and iAP, with no significant differences between these variables. Similarly, citizens consider these technologies reliable and useful for application in whistleblowing channels, which serves as an important starting point for their implementation.

References

ACFE. (2024). The Nations ® Occupational Fraud 2024: 2 Foreword Occupational Fraud 2024: A Report to the Nations.

Almeida Prado Cestari, J. M., Loures, E. de F. R., Santos, E. A. P., & Panetto, H. (2020). A capability model for public administration interoperability. *Enterprise Information Systems*, *14*(8), 1071–1101. https://doi.org/10.1080/17517575.2018.1564154

AMA. (2022). Guia para a Inteligência Artificial - Guia para uma inteligência artificial ética, transparente e responsável na administração pública. *AMA – Agência para a Modernização Administrativa, I.P.*

Bazart, C., Beaud, M., & Dubois, D. (2019). *Whistleblowing vs. Random Audit: An Experimental Test of Relative Efficiency*.

Džino, J., Džino, S., & Injac, D. (2023). Analysis of public administration, effects and impact of digitalization and interoperability in public administration. *JITA, 13*, 48–53. https://doi.org/10.7251/JIT2301048D

Gao, L. (2020). *Technology Advancements for Whistleblowing Reporting Platforms and Employees' Decision to Blow the Whistle*. https://doi.org/10.2308/API-2020-001

Kagias, P., Sariannidis, N., Garefalakis, A., Passas, I., & Kyriakogkonas, P. (2023). Validating the Whistleblowing Maturity Model Using the Delphi Method. *Administrative Sciences*, *13*(5). https://doi.org/10.3390/admsci13050120

Kang, M. M. (2023). Whistleblowing in the Public Sector: A Systematic Literature Review. *Review of Public Personnel Administration*, *43*(2), 381–406. https://doi.org/10.1177/0734371X221078784

Mrowiec, D. (2022). Factors influencing internal whistleblowing. A systematic review of the literature. *Journal of Economics and Management*. https://doi.org/10.22367/JEM.2022.44.07

Noor, N. R. A. M., & Mansor, N. (2019). Exploring the Adaptation of Artificial Intelligence in Whistleblowing Practice of the Internal Auditors in Malaysia. *Procedia Computer Science*. https://doi.org/10.1016/J.PROCS.2019.12.126

Previtali, P., & Cerchiello, P. (2022). Organizational Determinants of Whistleblowing. A Study of Italian Municipalities. *Public Organization Review*, *22*(4), 903–918. https://doi.org/10.1007/s11115-021-00554-0

Putra, I., Sulistiyo, U., Diah, E., Rahayu, S., & Hidayat, S. (2022). The influence of internal audit, risk management, whistleblowing system and big data analytics on the financial crime behavior prevention. *Cogent Economics & Finance*. https://doi.org/10.1080/23322039.2022.2148363

Silva, G. R., & Sousa, R. G. (2017). The influence of the anonymous whistleblowing channel on accounting fraud detection in organizations. *Revista de Contabilidade e Organizações*, *30*, 46-57.

Zouvia, K., Investigator, S., & Ombudsman, G. (2020). *Artificial Intelligence and Whistleblowing: Can A.I. be useful for Whistleblowing processes?* http://assembly.coe.int/nw/xml/XRef/Xref-XML2HTML-en.asp?fileid=12302

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Smart City and the Quality of Public Administration Services in the Slovak Republic

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Quality of services;
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Budget

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Abstract: *The concept of smart cities is an opportunity to solve real problems of public administration. In Slovakia, there is a growing interest in the implementation of modern technological solutions within local governments related to public services. Some municipalities show interest in supporting critical areas such as education, mobility, environment, healthcare, security, sustainable development, as well as the engagement of citizens. The paper´s aim is to analyse and identify the current state of development of smart cities in Slovakia, especially the city of Bratislava and to propose improvements in the quality of service provision for residents and visitors. The specific focus will be put on the analysis and evaluation of the mid-term strategy until 2030 according to the IMD index of smart cities, digitalization of public services, indicators of the digital competitiveness of Slovakia and Bratislava and the budget expenditures for 2024 priority areas.*

1. INTRODUCTION

The smart city concept implementation affects the economic, social and environmental aspects of life. The elements of the concept are interconnected and create a system based on the principles of sustainable development. Public administration, private sector and civil society entities enter this system and ensure that the set goals would be achieved. Smart cities are more efficient, have more opportunities to create jobs, ensure economic growth and improve the social inclusion and well-being of their residents.

The European Commission in the "European Innovation Partnership - Smart Cities and Communities" defines smart cities as systems where people interact with each other and use energy inputs, materials, services and finances to accelerate the process of sustainable economic development, raising the standard of living. The mutual interactions become "smart" through the strategic use of information and communication infrastructure and services in the process of transparent urban planning, development and management, which respond to the social and economic needs of the population. Modern information and communication technologies have become a means of effective urban management. They enable the collection and assessment of big data that relate to the quality of urban services and support interactivity between self-government and residents. Computerization can bring an upgrade in management efficiency and optimize processes in key areas such as transport, energy, water supply, waste management and healthcare.

2. SMART CITY CONCEPT IN SLOVAKIA

The concept of smart cities represents an opportunity to solve real problems of public administration. A smart city is a modernized urban area where everything, from transportation to energy,

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can be connected to digital technologies that enable the two-way transfer of information between the city administration, the residents and visitors. By technologies such as "Internet of Things", "Big Data", "Machine Learning" and their interconnections, city officials can apply direct interaction with residents and relevant infrastructure and ensure monitoring of the state of smart city concept development and citizens' requests regarding services in favour of a higher quality of life for residents.

The concept of smart cities is most widely applied in six areas that can connect. They include smart public administration, smart services and life, smart environment and society, smart mobility, and smart economics. In the Slovak Republic, the state acts as a coordinator in the fulfilment of economic policy goals, and local governments possess a considerable degree of freedom in the key areas of smart city development and exercise their competences in taking care of the residents' needs and the development of the territory.

The action plan for smart cities and regions for 2023–2026 (Ministry of Investments, Regional Development and Informatization of the Slovak Republic, 2022) is a strategy to support smart regions and cities in the coordination and use of EU funds, especially the European Social Fund in 2021-2027, with the aim of increasing the ability of state administration to provide comprehensive support to self-governments. The action plan is in line with the long-term sustainable development strategy of the Slovak Republic "Vision and Strategy for the Development of Slovakia until 2030", which aims to improve the predictability of public policies, the efficiency of the use of public resources and the stability of the business environment.

The measures for the development of smart municipalities in Slovakia concern the following areas:
- development of personal and professional capacities,
- education for smart management and innovations in public administration,
- support for the flow of exchange data between municipalities and the state administration,
- development, support and use of geographic information systems (GIS),
- innovative public procurement and innovations in public administration,
- development and support of ICT and information systems sharing,
- international cooperation and exchange of knowledge in smart solutions development,
- evaluation and testing of innovative smart solutions,
- support of test environments for testing/experimentation and scaling of innovative solutions in the field of smart cities and regions
- support of small and medium-sized entrepreneurs and innovative businesses for the development of smart solutions (Ministry of Investments, Regional Development and Informatization of the Slovak Republic, 2022).

For the development of smart cities and regions in Slovakia, funds from the Effective Public Administration Operational Program of almost 13 billion EUR will be used. The budget will be administered via the Recovery and Resilience Plan of the Slovak Republic. This program for the period 2021-2027 was intended for the following areas:
1. A more competitive and smarter Slovakia - allocation of 1.9 billion EUR with the aim of supporting digitization, development of skills and digital connectivity, support of research, innovation, and science, and strengthening of small and medium-sized enterprises.
2. A more connected Slovakia – allocation of 2 billion EUR for constructing and repairing roads, reconstruction of local roads, with the aim of ensuring a safe and sustainable national transport network, local and regional mobility.

3. Fund for fair transformation - allocation of 441 million EUR for the Nitra region, the Banská Bystrica region and the Košice region to solve economic, social and environmental impacts of climate changes with the aim of transitioning to carbon neutrality.
4. A more social and inclusive Slovakia - allocation of 3.3 billion EUR will support inclusive and high-quality education, social services for disadvantaged citizens, family counselling centres, Roma communities, material and food aid for persons dependent on this assistance, as well as the acquisition of skills for inclusion and better adaptability of labour force based on the requirements of the labour market.
5. Europe closer to citizens - allocation of 400 million EUR for the support of culture and natural heritage, public sports fields, sustainable tourism and safety in the regions, intended to support economic, social and environmental development at the local and regional levels.
6. Greener Slovakia - allocation of 4.2 billion EUR for nature protection, biodiversity, protected rural areas, exploration, remediation, monitoring of environmental brownfields, investments in environment-friendly public transport, construction of bicycle paths, reduction of greenhouse gas emissions, adaptation to climate change, etc.

Cohesion policy is a strategy aimed at keeping up competitiveness at the global level and reducing differences in the development of EU member states and their regions. It particularly focuses on rural regions, disadvantaged by various demographic and natural conditions, or affected by various changes in the industry. The EU funds support the above goals through structural and investment funds (ESIF).

The Slovakia Recovery and Resilience Plan became a special financial tool for solving economic and social issues. This plan represents a comprehensive package of reforms and investments, the main goal of which is to achieve the EU average standard of living in Slovakia. It was developed and approved based on Regulation (EU) 2021/241 of the Parliament and of the Council of February 2021, which established a Mechanism to support recovery and resilience. The main priorities of the Plan are quality education, better healthcare, efficient public administration and digitization, green economy, science, research and innovation.

Table 1. Priorities and Components of the Recovery Plan of the Slovak Republic

Green economy	Component 1: Renewable energy sources and energy infrastructure Component 2: Restoration of buildings Component 3: Sustainable transport Component 4: Decarbonisation of industry Component 5: Adaptation to Climate Change
Education	Component 6: Availability, development and quality of inclusive education at all levels Component 7: Education for the 21st century Component 8: Increasing the performance of Slovak universities
Science, research, innovation	Component 9: More effective management and strengthening of funding for research, development and innovation Component 10: Attracting and retaining talent
Health	Component 11: Modern and affordable health care Component 12: Humane, modern and accessible mental health care Component 13: Affordable and long-term quality social and healthcare
Effective public administration and digitization	Component 14: Business Environment Improvement Component 15: Justice reform Component 16: Fight against corruption and money laundering, security and protection of the population Component 17: Digital Slovakia (State in mobile, cyber security, fast internet for everyone, digital economy)

Source: Recovery and Resilience Plan of the Slovak Republic (2021)

Originally, 6 billion EUR (in grants) was allocated for the Plan, but during the years 2022 to 2023, the REPowerEU chapter was added, thanks to which Slovakia received an additional amount of 403 million EUR for new green measures. Each priority of the Recovery and Resilience Plan of the Slovak Republic is part of one of the 17 program components (Table 1).

The integrated package of reforms and investments intended for Slovakia via the Recovery and Resilience Plan is based on priorities focused on the current problems of Slovak economics and the most important societal challenges. From the total amount of 6.4 billion EUR, the amount of 2.09 billion EUR was utilized by the end of the 1st quarter of 2024 to improve the efficiency of universities, more modern and better health care, renewable energy sources and energy infrastructure, sustainable transport and others.

3. SMART CITY CONCEPT FOR BRATISLAVA

Bratislava is the capital of the Slovak Republic, with the highest standard of living and the highest number of inhabitants. As of December 31, 2021, the registered population was 476,922 residents. The Petržalka district has the largest population, followed by the Ružinov and Staré Mesto districts. The forecast for the rise of population in Bratislava indicates an insignificant change in growth and only a slight increase of population by 3.22% in the following 10 years.

Table 2. Population of 17 Bratislava urban districts in 2021 and forecast until 2035

No.	Name of the urban district	Area in km²	Number of residents	Population density per 1 km²	Population forecast until 2035 (in thousands)
1.	Čunovo	18,6	1 751	94	2
2.	Devín	14	2 024	144	2,5
3.	Devínska Nová Ves	24,2	17 112	707	16,3
4.	Dúbravka	8,6	35 759	4135	36,3
5.	Jarovce	21,3	2 923	137	3,9
6.	Karlova Ves	11	35 078	3203	33,7
7.	Lamač	6,5	7 786	1190	8
8.	Nové Mesto	37,5	44 876	1197	49
9.	Petržalka	28,7	113 215	3948	107,5
10.	Podunajské Biskupice	42,5	23 465	552	24
11.	Rača	23,7	26 049	1101	32
12.	Rusovce	25,6	4 459	174	5
13.	Ružinov	39,7	81 741	2059	86
14.	Staré Mesto	9,6	46 929	4893	50
15.	Vajnory	13,5	6 043	447	6,4
16.	Vrakuňa	10,3	20 407	1982	19,3
17.	Záhorská Bystrica	32,3	7 305	226	10,4
	SPOLU		**476 922**		**492 300**

Source: Metropolitný inštitút Bratislavy (2023)

Due to the forecasts, it can be said that Bratislava has growth potential, albeit slow in the coming years. Bratislava is an attractive city, and it is assumed that growth will increase with ongoing global processes. Migration increases the population and partially mitigates aging, which affects the planning of most activities. Without migration, the aging of the numerous senior generations would be much faster, and the reduction of the population would be irreversible due to the low level of fertility. Migrants change the educational, social and cultural composition of the population. It is assumed that the number of women of reproductive age will gradually decrease, and the low number of newborns will have an impact on the number of children in preschool and school age and the number of school buildings.

In Bratislava, there are different estimates of people who immigrated from different Slovak regions, and their records are insufficient, which distorts their real number. The development and functioning of the city depend on the number of the population and its aging. However, aging in the capital will not be as intensive as in other regions of Slovakia, but even here it is assumed that the number of senior citizens will be above average. These factors affect the areas of city life and are a challenge for the self-government responsible for urban development and operation.

Interregional disparities in Slovakia are large, which is why Bratislava is attractive to migrants from other Slovak regions. The city is experiencing a great construction boom, high economic performance and labour productivity. Each of the 17 urban districts of Bratislava has a special character, represents its specificities and requires a different approach to development. Outskirt districts such as Vajnory, Rača, Čunovo, Rusovce and Devínska Nová Ves have a rural character. They suffer from a lack of pre-schools, primary schools, health facilities, access roads are not repaired, they are disproportionately loaded, long lines of cars create traffic jams, and the traffic often collapses. Bad transport infrastructure affects other parts of the city, and therefore the city should invest primarily in this infrastructure.

Bratislava has developed a smart city concept since 2018 under the name Bratislava smart city 2030 (2018). The goal of the smart city concept is to achieve a higher quality of life in Bratislava. The concept was developed following strategic documents at the international, national and local levels. Referring to urban development, the cooperation of the self-government administration with the public and residents, state administration bodies, entrepreneurs, research and educational institutions is important. Within its smart city strategy, Bratislava focuses on 12 smart areas:

1. City administration refers to effective communication with residents about the administration and functioning of the city, including the use of mobile applications, the openness of offices to the public, the involvement of residents in decision-making, the effectiveness of internal self-government processes, implementation of innovative technologies in practice based on cooperation between the city and residents.
2. Transport policy requires the active participation of the self-government with institutions to collect data on transport and their subsequent use for smart management of transport, communication with residents about their views on modern urban public transport policy, support and use of shared bicycles and scooters.
3. Energy policy focuses on energy saving and lower costs, reduction of the negative impact on the quality of the environment, and the use of renewable energy sources.
4. The environment policy focuses on green areas in the city, planting new trees and green, protecting water and soil. A good example is the Community Garden project, which can be replicated, and residents can establish a community garden close to their residences.
5. Circular economy policy refers to smart waste management in waste recovery, reduction of municipal waste landfills, and installation of waste sorting containers. An example of a successful project is the semi-underground containers from the waste management company OLO, a.s., which, in cooperation with the company Sensoneo, have built-in RFID chips for electronic waste registration to detect the filling of containers and improve waste collection.
6. Entrepreneurship policy refers to better communication of the city administration with start-up entrepreneurs, support of opportunities for innovators, support of research and the private sector.
7. Public space policy refers to the domain of several accessible and revitalized public spaces for city residents.

8. Social cohesion policy refers to the improvement of the social services quality in facilities such as dormitories, day centers and facilities for senior residents, their upgrading and the support in favour of various educational programs and leisure activities.
9. Education policy represents the involvement of youth in various innovative projects and training courses, workshops, awareness-raising campaigns about the importance of sorting and recycling waste, and activities in favour of senior residents.
10. Culture policy refers to the modernization and reconstruction of cultural monuments, beautification of cultural heritage, higher comfort for visitors to monuments.
11. Tourism policy includes the supports of tourism development and attracting visitors to Bratislava via the Bratislava Card, which allows tourists to get to know Bratislava at a discounted price and offers free entry to selected galleries and museums and unlimited travel by public transport.
12. Sports policy is supported by the planned Health and Sports Campus project for the Petržalka district, including the construction of a multifunctional hockey hall, locker rooms, education and training areas and an athletics stadium.

For the years 2024-2026, a financial plan for priority areas funding was drawn up. The city self-government body wants to continue the ongoing projects in public infrastructure, revitalization of public spaces, transport, environment, and green care. Part of the priorities will be financed from city income, personal income tax, parking policy income, other taxes and various local fees, business income, rent, gambling proceeds, etc.

The city plans to increase property taxes by 35% and waste collection fees by 30% from 2024. Bratislava will also draw on EU funds, especially from the Cohesion Fund, and the state budget. Capital expenditures will be financed from the Cohesion Fund, mainly the modernization of trolleybus routes, renewal of the public transport fleet, completion of the tram line in Petržalka, and public and transport infrastructure projects.

The source of the capital income is also funds from the sale of city buildings, land, etc. The draft budget of the city of Bratislava for the years 2024-2026 is divided into current expenses (79% of the budget) and capital expenses (21% of the budget).

Table 3. Distribution of capital expenditures of the Bratislava budget for 2024 (in %)

Education and leisure	0,2
Administration and management of city property	12,1
Mobility and public transport	7,3
Effective and transparent self-government	4,4
Culture, sport, tourism services support	3,4
Social aid and social services	1,0
Order and safety	0,3
Public infrastructure	70,9

Source: Based on Hlavné mesto SR Bratislava (2023)

In capital expenditures, the highest amount (70.9%) is allocated to public infrastructure, 12.1% to the administration and management of city property, and 7.3% to mobility and public transport. The least amount of capital expenditure is intended for education and leisure (0.2%).

Current expenses mainly represent operational and financial costs, which are related to self-government activities. They will also be used to ensure effective digitization, e.g. electronic mail

distribution of various documents. The largest part (27.2%) is represented by education and leisure activities. The smallest part (1.9%) is represented by social aid and social services.

Table 4. Distribution of current budget expenditures by programs in 2024 (in %)

Education and leisure activities	27,2
Mobility and public transport	24
Order and safety	13,1
Effective and transparent self-government	13
Public infrastructure	7,7
Culture, sport, and tourism services support	6,8
Administration and management of city property	6,3
Social aid and social services	1,9

Source: Based on Hlavné mesto SR Bratislava (2023)

Based on the above data, Bratislava is mainly focused on improving the residents´ quality of life and communication, modernization of public services, business support, and tourism growth. Bratislava is trying to cope with financial restrictions, which, however, can burden residents and entrepreneurs with an increase in taxes and various fees. The city does not have the resources for investment projects, so it plans to reconstruct and modernize more.

4. BRATISLAVA ACCORDING TO THE IMD INDEX OF SMART CITIES

According to the International Institute for Management Development (IMD, 2023), the Smart City Index (SCI) was prepared for the year 2023, in which Bratislava was ranked 62nd out of 141 countries in the world. The rankings of the neighbouring countries capitals were as follows: Prague (Czech Republic) in 14th rank, Vienna (Austria) in 28th rank, Warsaw (Poland) in 44th rank and Budapest (Hungary) in 87th rank. Interestingly, Zurich (Switzerland) was ranked 1st, Oslo (Norway) 2nd and Canberra (Australia) 3rd.

15 indicators were applied in the assessment of Bratislava, out of which 5 indicators were assessed as the most urgent. The higher the score in a certain area, the more important the priority was, according to the respondents´ views. Table 5 shows the level of satisfaction of Bratislava residents, which is compared with the maximum score of 100.

The highest score of 67.8 out of 100 was received in the category "cultural activities in the city" (cultural events, concerts, shows, galleries, museums) in which respondents expressed satisfaction. In the category "work and education opportunities", satisfaction was expressed with an easily accessible job search (score 67 out of 100), with access to a good school for children (score of 64.2 out of 100), and with the creation of new jobs in companies (score 62.4 out of 100).

In the category "self-government" (score of 61 out of 100), satisfaction was expressed with easy access to information on the Bratislava's self-government decisions. In the categories "health and safety", satisfaction with recycling services and public safety achieved an average score.

In the category "availability of digital technologies in individual smart areas", the respondents were most satisfied with buying tickets online and facilitating access to cultural shows and events, concerts, galleries, museums, etc., (score of 78.5 out of 100). In the category "work and education opportunities" (score of 69.8 out of 100), the respondents also expressed satisfaction with online access to job advertisements to facilitate the job search, with the current speed and reliability of the Internet, which meets the users´ requirements.

Table 5. Smart city index assessment categories for Bratislava in 2023

Categories in which city residents expressed satisfaction with the provision of services based on the survey			Technologies, their availability and expression of satisfaction of city residents with the possibility of their use in individual categories		
1.	**Health and safety**	**Score out of 100**	**1.**	**Health and safety**	**Score out of 100**
	Meeting basic care needs in the poorest areas	57,6		Online reporting of city maintenance issues and quick resolution provision	48,3
	Satisfying recycling services in the city	57,4		A website that allows residents to share and donate unwanted items –re-using	51,5
	Public safety in the city is not an issue	58,2		Free public wifi has improved access to city services	55
	Air pollution is not a problem	37,5		Public security cameras make residents feel safer	52,9
	The provision of health services is satisfactory	42,4		A website or app allows residents to effectively monitor air pollution	36,8
	Finding housing with a rent that is 30% lower than the monthly salary is not a problem	25,2		Improving medical orders and visits online	60,8
2.	**Mobility**		**2.**	**Mobility**	
	Traffic jam is not a problem	22,2		Reducing traffic congestion, car sharing application	34,6
	Public transport is satisfactory	48		Applications for available parking lots and reduction of driving time	36,4
				Renting bicycles has reduced traffic jams	49,4
				Online timetables and ticket sales have simplified the use of public transport	66,7
				The city provides information about traffic jams via mobile phones	36,7
3.	**Activity**		**3.**	**Activity**	
	Green areas and spaces are satisfactory	40,5		Online ticket purchases for cultural shows, galleries, museums and more make it easy to attend	78,5
	Cultural activities (shows, galleries, museums) are satisfactory	67,8			
4.	**Opportunities - work and education**		**4.**	**Opportunities - work and education**	
	Job search is easily available	67		Online access to job postings to facilitate job search	69,8
	Most children have access to a good school	64,2		IT skills are well taught in schools	50
	Lifelong learning opportunities offered by local institutions	61		Online services provided by the city to facilitate starting a new business	38,1
	Businesses create new jobs	62,4		The current speed and reliability of the Internet meet the requirements of users	69,8
	Minorities feel welcome in the city	46,3			
5.	**Self-government administration**		**5.**	**Self-government administration**	
	Information about local self-government decisions is easily available	61		Online public access to city finances has reduced corruption	30,2
	Corruption of city officials is not a problem	28,8		Online voting increased the participation of residents	40,5
	Residents contribute to local government decision-making	40,1		An online platform where residents can propose their ideas, and proposals to improve life in the city	41,6
	Residents provide feedback on local government projects	50,7		Online processing of personal identification documents, applications, shortened the waiting time	54,5

Source: IMD Smart City Index Report (2023)

In the category "mobility" (score 66.7 out of 100), the respondents expressed the greatest satisfaction with the possibility of online tracking of the public transport timetable and online purchase of public transport tickets. In the category "health and safety" (score of 60.8 out of 100), the respondents were most satisfied with online orders for medical category examinations.

The respondents expressed dissatisfaction with the traffic situation and traffic jams in Bratislava. They also assessed as unsatisfactory the availability of easy and affordable housing with lower rent, the corruption of city officials, the car-sharing application to reduce traffic jams, the application for available parking lots, and the information provision about traffic jams via mobile phones.

5. FURTHER RESEARCH DIRECTIONS

Bratislava's long-term problem is the quality of public space, a place for activities and the movement of residents. It has been developing slowly and mainly thanks to private investment plans. The public space has been neglected for years, created without a concept and cooperation between the local government and the private sector, without consideration of the residents´ views related to their needs, and was non-progressive. The non-systematic approach provided opportunities for unregulated activities.

The solution of residents´ engagement is based on intensive awareness-raising activities about the conditions and qualities of public spaces, and the participation of the public and experts in their creation (through meetings with local self-government, presentations, workshops and surveys). The quality development of public space depends on smart and original solutions. Each of the 17 urban districts in Bratislava is locally diverse and specific, and the general approach is to preserve the unique character and unusualness of each of them.

The shortcoming was detected in the use of digital technology, information and communication technology, insufficient technical equipment and cyber security, and insufficient communication with residents via electronic mail. Civic engagement in public affairs is insufficient. The solution consists of the citizens´ online monitoring and online participation in the self-government meetings, online presence, and proposal submission via chats. The access to the proceedings of the self-government meetings will strengthen public control, the availability of resolutions on the website and the access to comment on self-government budget proposals and measures would make the operation of self-government more transparent.

The provision of safe, controllable and inexpensive communication between residents and self-governing bodies through ICT and digital technology and residents' access to these technologies would promote the implementation of the smart city concept. The electronic form of public administration communication with residents would bring advantages such as online communication from home, speed of online communication, and reduced travel costs or postage.

In the field of health care, there persists a shortage of medical personnel, and ambulances, unsatisfactory conditions in hospitals, outdated equipment and devices, and long waiting times for examinations by specialists, or operations, which threatens the medical services and health care quality provision. Quality housing is becoming even more unaffordable. The use of available building plots is insufficient and inefficient.

The long-term unused city buildings and industrial brownfields, mainly towards the city centre, could be gradually transformed into rental apartments, and apartments for socially vulnerable groups such as the homeless, the disabled, the socially dependent, or the housing for young families, reconstructed via the public-private partnerships projects.

6. CONCLUSION

Cooperation between the public sector, the private sector and residents is the key to the success and sustainable development of the smart city concept. Electronic communication between residents and public administration authorities is an important part. An important element of the smart city concept implementation is the provision of sustainable development and population growth. This includes the planning of the urban amenities, infrastructure and budgetary measures due to the prognosed population growth. The monitoring of population status and growth forecasts, together with migration and population aging, indicate the need for effective planning and management of city growth and development. Quality housing and accessible public transport are crucial for sustainable development. Big data files and trained human resources able to process them, and information and communication technologies for service improvement are the key management tools of smart city self-government.

In the paper, we examined the activities and the budgetary measures that Bratislava, developing a smart city concept, spends on the improvement of residents´ quality of life and the support of sustainable development. The effort to materialise the smart city concept is evidenced by projects and initiatives that are implemented in several areas. The integration of smart technologies and innovative solutions in the daily operation of the self-government would upgrade the efficiency of services and empower Bratislava's competitiveness at the national and international levels.

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References

Hlavné mesto SR Bratislava. (2023). *Rozpočet a hospodárenie.*
IMD. (2023). IMD Smart City Index Report 2023
Metropolitný inštitút Bratislavy. (2023). *Demografický potenciál, sociálna a ekonomická geografia, scenáre rozvoja hlavného mesta SR Bratislavy do roku 2050.*
Ministry of Investments, Regional Development and Informatization of the Slovak Republic. (2022). *Inteligentné mestá a regióny.*
Ministry of Investments, Regional Development and Informatization of the Slovak Republic. (2022). *Sprievodca inteligentným rozvojom miest a regiónov 2022.*
Ministry of Investments, Regional Development and Informatization of the Slovak Republic. (2022). *Akčný plán inteligentných miest a regiónov na roky 2023–2026.*
Recovery and Resilience Plan of the Slovak Republic. (2021).

Additional reading

Bratislava - rozumné mesto**.** (2030). Koncepcia smart city. 2018.
EUROPEAN PARLIAMENT. (2014). *Mapping smart cities in the EU*. Publications Office, 2014. 200 pp. ISBN: 978-92-823-4761-4.
Ministry of Investments, Regional Development and Informatization of the Slovak Republic. (2020). *Vízia a stratégia Slovenska do roku 2030.*
Ministry of Investments, Regional Development and Informatization of the Slovak Republic (2023). *Slovensko meníme k lepšiemu vďaka eurofondom z Programu Slovensko.*

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The Development of a New Model of Risk Management in Territorial Administrative Units

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Abstract: *The risk management model represents a decision-making process to identify, control and minimize the consequences of extraordinary incidents through various management techniques that vary according to the specifics of the entity.*

Public sector organizations are currently facing unprecedented challenges in how to tackle complex issues such as poverty, global warming, tax fraud, and global security. Combining the poor functioning of the public administration with the effects generated by the manifestation of risk, there is a need to develop a predictive management process to reduce the risk and increase the chances of performance.

The objective of this paper is to develop a risk management model in order to improve the public system and increase the efficiency and performance of the factors that increase citizens' trust in the public administration.

The result of the research activity consists, both in the identification, adaptation and development of a new risk management model, as well as in its fictitious application and testing during the normal development of the activities of territorial administrative units.

The developed model helps the organization by streamlining the procedures to be followed, determining a strong impact on the level of absorption of European funding, including the increase in the standard of living.

1. INTRODUCTION

Risk management requires changing the management style used by entities, and involves dealing with the consequences of certain events, increasing the degree of achievement of objectives. If we are talking about a performing entity, it is strictly necessary that it is not limited to reactive management, as it is essential to identify risks, respectively, to establish and implement a risk management model.

The need to create a risk management model in the public sector is driven by many external and internal pressures. Some of the external pressures are common to all institutions and relate to audit bodies, institutional investors, and government regulators around the world. Other external pressures come from regulators and legislators who want to ensure that investors, as well as the financial system as a whole, are protected from undue risk.

The concern for risk management is not a new aspect nowadays. Each organization, but also each individual, that aims to achieve certain objectives, establishes the activities that lead to the achievement of the proposed goals and, at the same time, seeks to identify as many of the "threats"

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that would prevent it from doing this work, to take the necessary measures in time. In other words, even if we are not familiar with the concepts of risk and risk management, we act countless times, consciously or not, in this sense.

Although intuition based on past experiences will never lose its importance, it proves to be completely insufficient when management must lead to performance. Therefore, the acquisition of a risk management model based on concepts and rules, unanimously accepted at the organizational level and approved at the international level, becomes an indispensable practice at the level of a current organization in the public sector.

The research methodology used to carry out the work and fulfill the objectives is bibliographic and analytical research, respectively empirical research being carried out and analyzed using qualitative or quantitative methods.

Risk management is nothing but the process of finding, controlling and minimizing (if not completely eliminating) the consequences of extraordinary incidents. It is essentially a decision-making process and consequently an action. Once a risk is observed, its analysis initiates procedures to minimize its negative effects through various management techniques that vary by scope.

2. IDENTIFICATION OF THE MAIN CONCEPTS INVOLVED IN THE ANALYSIS OF A RISK MANAGEMENT MODEL IN TERRITORIAL ADMINISTRATIVE UNITS

A management model can be established as a chain of decisions that are in a direct relationship and that are in a conditioning relationship. The decision-making process established within a management requires rationality, intelligence, respect for the decision-making method and collaboration with different specialists so that the decision taken promptly responds to the problem. The good running of the organization does not depend only on the technical equipment, but an important element is the needs and expectations of the staff. Also, motivation is a factor that conditions the performance of an institution, which means that it can represent a risk factor if for the management of the organization how it influences its employees is not a permanent concern.

Internationally, the main models identified for the organization of the internal control system in close connection with risk management are (Felício et al., 2021):

- The COSO model is the abbreviation for the Treadway Commission Organization Sponsorship Committee. At the initiative of Senator Treadway, in the USA, in 1985 based on research on internal control and its role in the life of organizations, he proposed and established a Commission directly responsible for this aspect, also known as the National Commission Against Fraudulent Reporting.
- The COCO model was developed in 1995 by the Canadian Institute of Chartered Accountants (CICA), and is made up of the same elements as the COSO model, but grouped differently.

To develop the management model, I. Ansoff's Model was also analyzed, which allows the simultaneous use of several strategies and is based on the premise that the most appropriate strategy for intensive sales growth can be determined by the decision to sell existing or new products on existing or new markets. I. Ansoff's matrix is intended to describe the possible strategies of an enterprise in a growing market, to make a decision on the choice of strategy and to serve as a diagnostic tool.

The term model refers to a quantitative method, system, or approach that applies statistical, economic, financial, or mathematical theories, techniques, and assumptions to process input data to obtain a series of estimates of future events and situations. According to the definition, there are three main components of a model: the inputs represented by data and assumptions, the procedures and methods used in data processing, and the resulting information (including the way of reporting and using this information in the organization's activity).

A risk management model must provide for five main aspects:

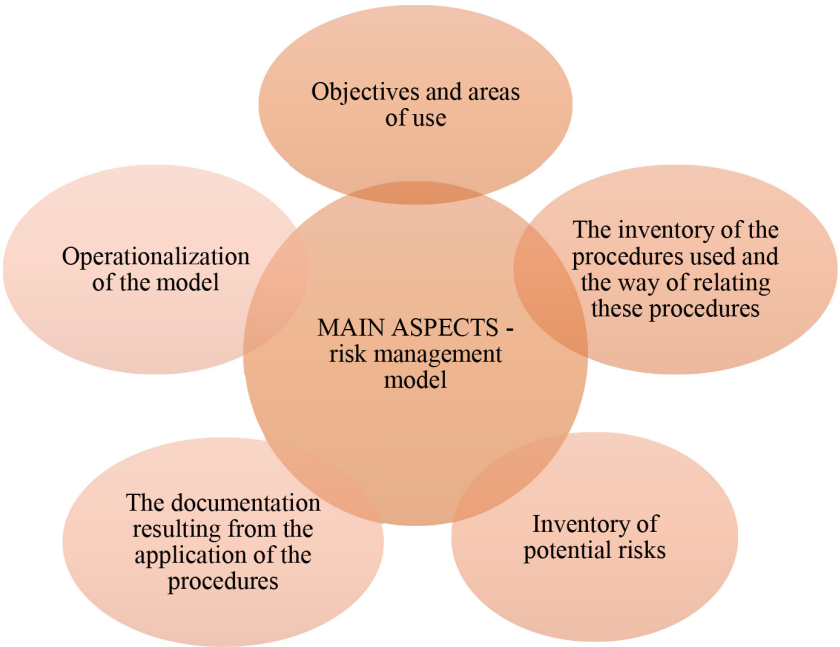


Figure 1. The main aspects of a risk management model.
Source: Own processing

The specific objectives that were the basis of the design and structuring of the risk management model are:

- identification of the model used by territorial administrative units for risk management;
- establishing the areas at which risk management is implemented (typology of risks);
- determining the type of person in charge who implements risk management in the organization;
- establishing the level at which the risk manager implements risk management in the organization;
- determining the types of information sources used to collect data regarding the identification and updating of risks;
- establishing the level of performance registered by UATs in 2023 compared to the previous year (Areia, 2012);
- identification of the types of operational risk effects faced by the UATs;
- establishing the risk profile related to the activity at the level of the three specific components - human resource, process, and system.

Thus, a Territorial Administrative Unit can monitor and improve its performance level regardless of the structure and complexity of the processes, by:

- identifying ways of exploiting opportunities in the business environment;
- avoiding/minimizing negative events;
- identification of activities that do not generate value for the process.

Along with the analysis of the models, a focus group report was made in a meeting made up of 7 people, employees of a public institution with an average size of 12,000 inhabitants. The discussion at the meeting was aimed at gathering information from experts within a territorial administrative unit to clarify issues related to the methodology for developing and applying a risk management model. In the focus group, moderator carried out a qualitative analysis, based on the knowledge and experiences of people in different roles within a territorial administrative unit.

We proceeded to expose some conceptual elements, in the form of a list of theoretical components used in understanding the concept of a risk management model based on the following characteristics:

- The purpose of developing a risk management model is to increase the performance level of a territorial administrative unit. This general objective is realized by quantifying the degree of achievement of specific objectives.
- The processes of the risk management model are: risk identification, risk assessment, risk attitude, risk control, risk monitoring and review, and risk reporting.
- The resources used in the application of the risk management model are: human resources: employed staff; time resources, information and communication technology resources.
- Factors of influence: parliament, government, laws and other regulations, economic conditions, international context.
- Environment: tutelary organization, subordinate organization, partner organizations, other incidental organizations

After the presentation and discussion of these elements, the moderator of the focus group discussed a series of questions. At the end of the discussions, the participants were given a questionnaire to accumulate as much information as possible.

Following the focus group carried out within the present research, it was found that the entities need a risk management model, a model that starts from the specific analysis of the entity to identify the needs and up to the stability and performance monitoring.

It has also been found that it is very difficult for this attribution to be the responsibility of a person within the entity, given the lack of staff. The existence of an external, specialized person would be indicated.

3. DEVELOPMENT OF A NEW RISK MANAGEMENT MODEL IN TERRITORIAL ADMINISTRATIVE UNITS

Based on the research of previous models, an operational risk management model was created with applicability in the Territorial Administrative Units from Romania and exemplified in the following Figure 2. The model presented in Figure 2 establishes the risk management process in component elements, positioned in a logical order of this process, but in reality, these components blend harmoniously to create a whole. Noting that risk management is a linear process, but its components interact. Also, the model tries to suggest that risk management does not consider an isolated organization but, as it happens in reality, an organization integrated with its environment of existence, often called context and establishing elements such as:

- the requirements of UATs regarding the risk management process;
- related activities and information flow;
- the resources needed to implement this process;
- those responsible for the process.

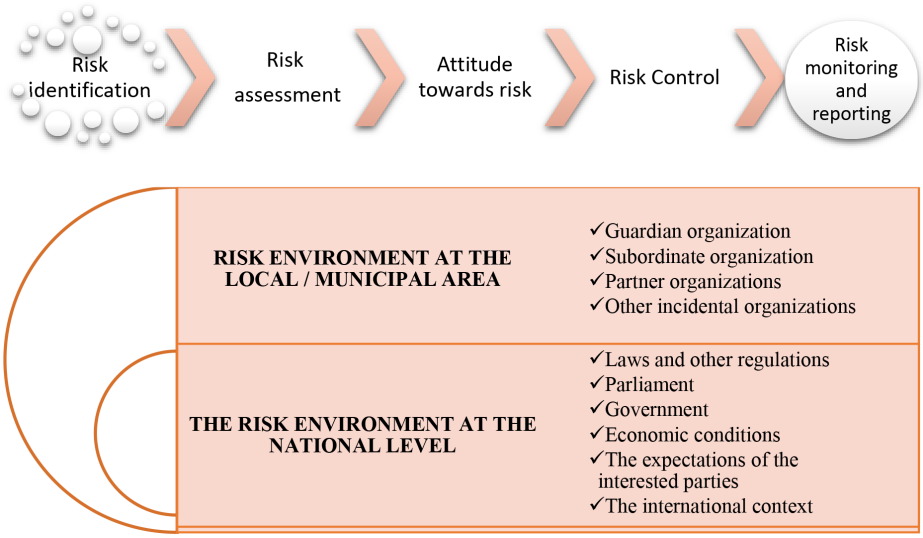


Figure 2. Risk Management Model in the Territorial Administrative Unit

Source: Own processing

In other words, the application of the risk management model is effective only if you take into account the risk environment at the local level, in our case at the commune level, which assumes that there are influences from the subordinate, partner, guardian organizations, at the national level where the risk can be influenced by parliament, government, legislative changes and the international context.

Looking at a smaller scale, in an organization at the level of UATs, it is mainly necessary for a person designated with the application and management of a risk management model.

Therefore, the model is developed on 2 levels of representation, through which the interdependence of the elements related to the risk management system, as well as the process on which the risk management model is applied, is highlighted. Level 1 representation is presented in Figure 2 and level 2 is represented in Figure 3. The figure shows the model related to level II representation, respectively the flow of subprocesses.

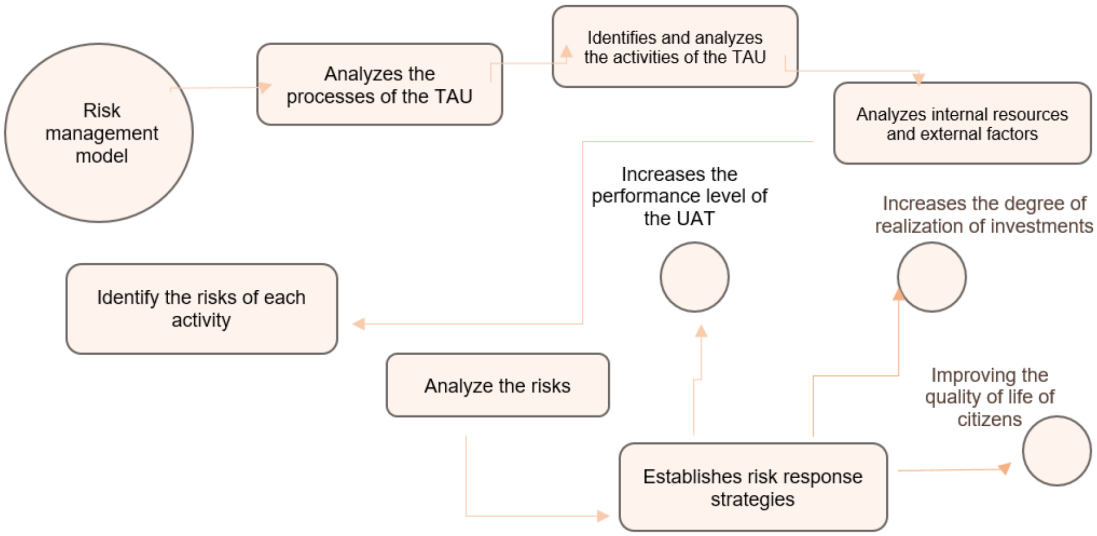


Figure 3. Level 2 of representation

Source: Own processing

The proposed model is an approach to the risk management process, which implies first of all that a territorial administrative unit carries out a rigorous analysis of the processes it carries out. The process is initiated by the "Compliance Audit" trigger, an event through which the entity's need to implement an integrated and transparent risk management model is established.

Considering the two ways of representing the model proposed in this paper, the person responsible for the implementation of risk management in order to apply the model must follow the following 5 steps.

Stage 1 - Identification of Risks - involves a thorough analysis of the UAT's processes and internal and external resources, external factors, more precisely a detailed knowledge of the entity. These aspects substantiate the results of the model and often the causes of the manifestation of risks are identified.

Stage 2 - Risk Assessment - Considering the potential of the risks to be harmful to the company, they are evaluated taking into account the probability of occurrence, respectively the estimated impact. At the end of this stage, the risk is classified on a scale from low to high based on the risk analysis criteria and taking into account the degree of their materialization.

Stage 3 - Attitude towards Risk - indicators are established for each risk identified and evaluated in the first two stages. These indicators are included in three tolerance ranges:

- Tolerance interval:
  - Includes values below the minimum threshold of the indicator,
  - In this interval, no actions related to the event in question are required.
- Warning interval:
  - It includes the range of values between the minimum threshold and the warning threshold,
  - It is the interval that attracts the attention and increases the vigilance of the risk manager,
  - The indicator will be closely monitored taking necessary precautions.
- Intervention interval:
  - ***It includes the values above the warning threshold and which require the immediate application of the intervention measures necessary to improve this risk factor.***

Stage 4 Risk Control - involves identifying the causes that lead to the emergence and manifestation of a risk. The person responsible for implementing the risk management model centralizes and analyzes all identified risks, their degree of occurrence and the impact caused.

Stage 5 - Risk Monitoring and Reporting - in this step, solutions and causes of the risk manifestation are identified, the aim being to improve their impact in the future. In the last stage, that of risk reporting, the monitoring commission must draw up a periodic report that includes the relevant information regarding the risks that have arisen.

4. FUTURE RESEARCH DIRECTIONS

The plan of the research activity is designed and carried out in such a way as to allow the identification, adaptation and development of a new risk management model, as well as its application and testing during the normal development of the activities of territorial administrative units.

In order to consider whether the developed model can be tested, validated or not, depending on the situation, it was found that it is necessary that after the stage of identification of needs and subsequent adaptation of

the model and risk management techniques, a simulation that consists in their application at the level of each activity. A relevant comparative analysis will be carried out to justify and demonstrate the benefits that a Territorial Administrative Unit can obtain as a result of the implementation of such a mechanism.

Regarding the proposals as a result of the research:

- we will initiate an approach at the level of the UATs to ensure the evaluation of the effectiveness of the measures taken in the event of the manifestation of a risk, as well as the monitoring of their effectiveness from the perspective of achievements.
- we will propose the development, approval and implementation of a crisis management strategy in the context of the manifestation of risks, at the level of the communes, as a strategic document for the definition of problems and the stability of strategic and specific objectives, including directions of action.
- we will proceed to improve how the entity's objectives are met, which refers to the decisions issued by the management regarding: the organization of the forms of internal control, the approved organizational structure, the subordinate entities, the accounting and internal control system, the performances and the degree of using computer systems.

5. CONCLUSION

The risk-quality correlation is based on the convergence of risk management systems. The implementation of an integrated model of risk management, within the territorial administrative units that offer services in the field, will allow:

- the existence of a competitive advantage over other organizations, a fact that will make the difference in the medium and long term in terms of business continuity.
- obtaining and keeping the citizens' trust;
- protecting and keeping professionals in the field;
- encouraging employees in order to improve the current situation by developing communication, organization and recognizing effort.

The clear definition of a risk management model, to be adapted to the specifics of the activities within the UATs, is a first step in order to increase the capacity to identify possible risks, to quantify and evaluate the effects they can generate in relation to the assumed objectives.

Taking into account the fact that risk can at any moment become an extremely serious obstacle in the development and implementation of proposed activities at the level of a public entity, we consider the application of a risk management model to be one of the most important tools for organization, control and management that can be available to the manager at the level of an organization being a viable solution.

As can be seen, the proposed solutions focus on the idea of achieving the objectives at a high-performance level by employing a modern risk management process. The latter would generate, in accordance with the studies carried out, a relaxation and streamlining of the procedures to be followed and would determine in a short time a strong impact on the level of absorption of the European funding available in Romania, including the increase in the standard of living in Romania.

As a result of the actions undertaken in this work, it was concluded that the main challenges in implementing a management model are closely interconnected with the concept of risk and can be effectively controlled only through the application of a specific management approach.

References

Areia, N. P. (2012). *Office of the Comptroller of the Currency (OCC) and Board of Governors of the Federal Reserve System (FED).*

Felício, T., Samagaio, A., & Rodrigues, R. (2021). Adoptarea sistemelor de control al managementului și performanța în organizațiile din sectorul public. *Journal of Business Research, 124*, 593–602. https://doi.org/10.1016/j.jbusres.2020.11.053

Additional reading

Brans, M., & Coenen, L. (2016). The Europeanization of public administration teaching. *Policy and Society, 35*(4), 333–349. https://doi.org/10.1016/j.polsoc.2016.10.002

Chakabva, O., & Tengeh, R. K. (2023). The relationship between SME owner-manager characteristics and risk management strategies. *Journal of Open Innovation: Technology, Market, and Complexity, 9*(3), 100112. https://doi.org/10.3390/joitmc9030112

David, S., Zinica, D., Bărbuță-Mișu, N., Savga, L., & Virlanuta, F.-O. (2024). Public administration managers' and employees' perceptions of adaptability to change under "the future of work" paradigm. *Technological Forecasting and Social Change, 199*, 123088. https://doi.org/10.1016/j.techfore.2023.123088

Durst, S., Hinteregger, C., & Zieba, M. (2019). Legătura dintre managementul riscului de cunoștințe și performanța organizațională. *Journal of Business Research, 105*, 1–10. https://doi.org/10.1016/j.jbusres.2019.08.002

Matei, A., & Băieşiu, R. (2014). Good administration and performance of local public administration. *Procedia - Social and Behavioral Sciences, 109*, 684–687. https://doi.org/10.1016/j.sbspro.2013.12.523

Monarcha-Matlak, A. (2021). Automated decision-making in public administration. *Procedia Computer Science, 192*, 2077–2084. https://doi.org/10.1016/j.procs.2021.08.212

Motta Zanin, G., Barbanente, A., Romagnoli, C., Parisi, A., & Archetti, R. (2023). Traditional vs. novel approaches to coastal risk management: A review and insights from Italy. *Journal of Environmental Management, 346*, 119003. https://doi.org/10.1016/j.jenvman.2023.119003

Pashkov, P. (2021). Improving the effectiveness of the risk management system. *Vestnik Universiteta*.

Sitnikov, C., Bocean, C. G., Berceanu, D., & Pîrvu, R. (2017). Model de management al riscurilor din perspectiva implementării standardului ISO 9001:2015 în cadrul companiilor de servicii financiare.

Valtonen, E., Falkenbach, H., & van der Krabben, E. (2017). Risk management in public land development projects: Comparative case study in Finland and the Netherlands. *Land Use Policy, 62*, 246–257. https://doi.org/10.1016/j.landusepol.2016.12.021

Yun, J. (2023). The effect of enterprise risk management on corporate risk management. *Finance Research Letters, 55*(Part B), 103950. https://doi.org/10.1016/j.frl.2023.103950

https://doi.org/10.31410/ERAZ.2024.233

Exploring Barriers to Technology Adoption in Livestock Farming: A Descriptive Comparative Analysis Between Finland, Germany, and Albania

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Sustainability;
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Abstract: *Ongoing developments in digital technologies have been the major driving force for improving productivity and sustainability in livestock farming, leading toward higher economic profits, increased safety standards, and mitigating the impacts of climate change. This paper provides insights into the implications related to the implementation of digital technologies in livestock farming. Through a quantitative survey were investigated the challenges of adoption, similarities, and differences among selected farmers in the regions of Northern Savonia (Finland), Baden Wurttemberg (Germany), and Korça (Albania). In Finland and Germany, the survey was conducted online; while in Albania farmers were contacted face-to-face through a structured questionnaire. A total of 166 participants' observations were documented. The results show a low adoption rate for automated feeding systems, drones for data collection, and GPS for traceability in Finland and Germany. In Albania prevails a low rate of adoption almost in all types of defined technologies. Farmers in three countries indicated uniformly high investment costs and costs of maintenance services as important barriers to not using digital technologies. Differently from their counterparts, farmers in Albania identified the insufficiency of subsidies, lack of strategies to promote digitalization, poor data infrastructure (connectivity), and lack of skills and knowledge to run digital technologies as other significant barriers to adoption. Furthermore, a consistent policy framework that addresses the individual needs of farmers in the respective countries, provides adequate incentives and information and involves stakeholders is critical for determining the most efficient ways of digitization in livestock production.*

1. INTRODUCTION

Modernizing livestock farming through digitalization involves incorporating sensors, drones, robots, and other technologies to improve animal welfare and productivity (Groher et al., 2020).

Due to the increasing utilization of digital technology, there has been an acceleration of research over the last years concerning adoption rates at the farm level. The array of research on the adoption and effects of digital agriculture in OECD nations shows that digital technologies are widely used in crop agriculture. However, less is known about how these technologies are being adopted in livestock farming. Regarding this matter, Barkema et al. (2015) observed that adoption rates of milking robots range significantly among different countries, with adoption rates in Finland and Germany hovering around 15%. Subsequent studies by Gabriel and Gandorfer (2023) and Pfeiffer et al. (2021) suggest that the adoption of various digital technologies such as robots, digital information platforms, sensors, and FMIS is rapidly increasing and already playing a significant role in agriculture and livestock farming in several European countries.

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Only a few studies have provided evidence regarding the factors that drive or inhibit digitalization in livestock farming. McFadden et al. (2022) identified several factors that affect the adoption of precision agriculture technologies at the farm level, including investment costs, lack of relevance for the farms, lack of human capital, imbalance in costs and benefits in vertically integrated chains, uncertain intellectual property rights, and lack of broadband connectivity. Similarly, Pierpaoli et al. (2013) conducted a systematic literature review providing evidence that the most important factors influencing the adoption of precision agriculture technologies were farm size, costs, higher revenues to acquire a positive benefit/cost ratio, total income, land tenure, farmers' education, familiarity with computers, and access to information via extension services.

Even though the digitalization of agriculture is considered important for the agricultural transformation in the Western Balkans (Edmeades & Edinaldo, 2018), the adoption of digital technologies is notably limited. In Albania, there is limited technological advancement in livestock farming (Marku et al., 2024). Even though there is substantial potential for the implementation of digitalization, especially in large-scale farms, rates of adoption remain unclear. To address the challenges related to the adoption of digital technology, it is important to identify the barriers that hinder implementation progress. However, the ability of digital technologies to support the sustainable growth of livestock farming is dependent on the specific circumstances in each country where they are implemented. Hence, in this study small-medium size livestock farms were investigated in the regions of North Savo (Finland), Baden-Wurttemberg (Germany), and large livestock farms in Korça (Albania), to provide evidence on the status of digitalization, identify constraints to adoption and analyzing similarities and differences between countries. The findings can serve as an initial step for farmers and policymakers in Albania (a country that aspires to enter the EU) to overcome barriers to adoption.

2. MATERIAL AND METHODS

This research presents the findings of the empirical study conducted in three nations, two member states of the EU, and one non-EU country. The target population of the survey consisted of livestock farms (mainly dairy, beef, pig, sheep, and goats) located in three distinct regions: Northern Savonia, known for its high-quality livestock farming in Finland; Baden-Wuertemberg, a predominantly rural state in Germany; and Korça region, where livestock production has a significant role in the development of the local and national economy.

A structured questionnaire was designed and delivered to farmers, comprising a wide range of questions organized into two sections. The first section contained questions related to demographic information (age, experience, education, employed workforce, type of livestock, and farm size). The questions in this part were tailored to farmers in the three nations. The second set of questions assessed the degree of adoption of digital technologies, their potential for use in the future, and the obstacles to their implementation at the farm level. The questionnaire was translated into each country's local language, and data was collected between November 2023 and February 2024. The questionnaire was distributed online in Germany and Finland, while in-person interviews were conducted in Albania to collect data.

Different aspects of digitalization in livestock farms and their characteristics are described and compared across three countries using a descriptive comparative approach. The description of phenomena associated with a subject population (in our case, livestock farms), estimating the proportions of a population that has these characteristics, and establishing associations between

variables are among the many research objectives that are attained by descriptive studies, according to Donald and Pamela (2014). To acquire knowledge and make inferences, our study's objective is to examine and comprehend the similarities and differences regarding implementation constraints. Analysis of 165 questionnaires was conducted, with 64 from Germany, 34 from Finland, and 37 from Albania. Due to disparities in farm sizes between the three countries, small- to medium-sized livestock farms in Germany and Finland participated in the study, whereas in Albania were considered only large-scale farms.

3. RESULTS

3.1. Adoption Trends of Digitalization and Prospective Uses in Livestock Farming

The digitalization of livestock farms holds significant potential for enhancing animal health, optimizing resource utilization, and promoting sustainable practices. This potential is attributed to recent technological advancements in big data analytics, artificial intelligence, and the Internet of Things (IoT) (Vlaicu et al., 2024). This section provides a critical review of the current use and future potential for investing in the digitalization of livestock farms in the selected survey countries. Based on a selected list of technologies, obtained through a literature review, the participating farmers were asked to indicate their current use or planned investment in digitalization. Accordingly, the primary categories of digital technologies that can be used in livestock farming include robots (milking robots, barn observations), sensors, farm management and information systems (FMIS), online platforms, mobile apps, automated feeding systems, drones, and GPS for traceability and data collection. Figure 1 indicates the current use of digital technologies in the selected farms.

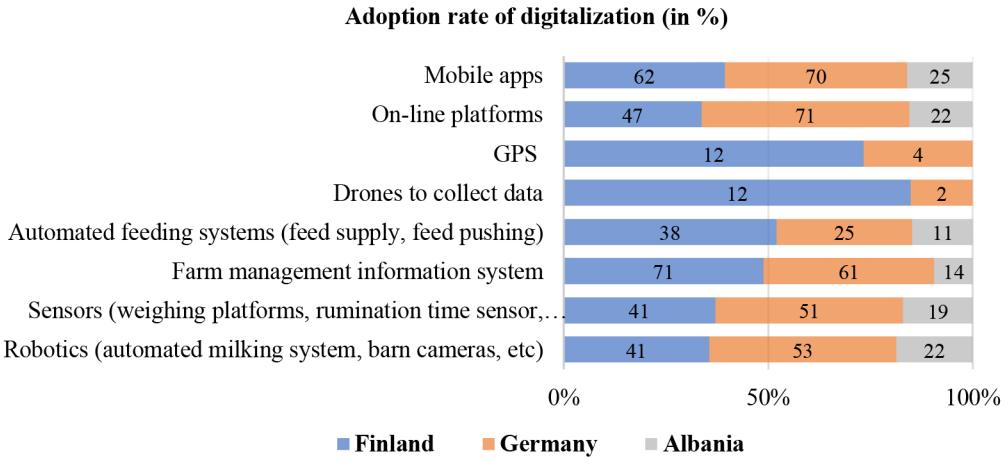


Figure 1. Current adoption rate of digital technologies in livestock farms
Source: Authors processing

The adoption of digital technologies varied slightly among farmers in Finland and Germany. There were significant differences in the adoption rates compared to farmers in Albania. The most commonly used digital tools in Germany and Finland were online platforms, mobile apps, and FMIS, indicating that digital platforms, regardless of farm size, enhance the opportunity to have a better link with customers, thereby facilitating market access. German farmers have higher rates of adoption for online platforms (71%), mobile apps (70%), robotics (53%), and sensors (51%). Finnish farmers are better at implementing FMIS (71%) and automated feeding systems (38%). The implementation rate ranges from 40% to 70% in both countries, showing an increasing trend

as reported in previous and recent studies (De Koning, 2010; Stygar et al., 2021; Utriainen et al., 2019). In Finland and Germany, the use of GPS and drones for data collection was not very common, and in Albania, these technologies were not utilized at all (see Figure 1). The most commonly used digital tools among Albanian farmers were mobile apps (25%), automated milking systems (22%), and online platforms (22%).

Although there is a clear trend of increasing digitalization at the farm gate, there is still limited information available for potential future investments. Therefore, besides the current adoption level, farmers were asked about their intention to invest in selected categories of digital technologies in the mid-term (planned investments in the next 5 years). The anticipated frequencies of future addition technologies are displayed in Figure 2. Finnish farmers are more willing to use digital tools, with a range of 12% to 24%. Drones (24%) are the most popular technology among them, followed by sensors (21%) and GPS (21%). German farmers also intend to use technology more extensively, particularly mobile apps (12%), robots (13%), and automated feeding systems (15%).

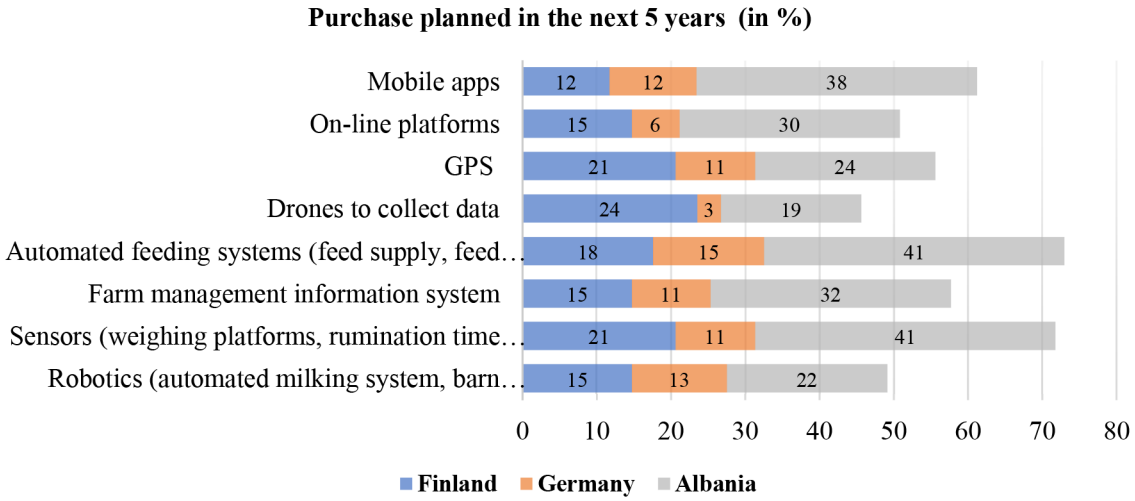


Figure 2. Projected investments in digitalization for the medium-term period.
Source: Authors processing

Despite Albania's relatively low current usage of digital technologies, the statistics from Figures 1 and 2 show that farmers have a strong ambition to invest in these technologies within the next five years. This implies that Albania's livestock industry has a great chance of gradually going digital.

The survey data from farmers includes information on the adoption of digital technologies at different periods in time. This covers current use, planned investments in the next 5 years, and trends for technologies not planned for at least the next five years. According to the results provided in Figure 3, Finnish farms have low adoption rates for automated milking and feeding systems (44% non-adoption rate), drones (65%), and GPS for traceability (68%). Similarly in Germany, a large number of farmers do not plan to use drones (95%), GPS (85%), automated feeding systems (61%), and sensors (38%) in the next five years. In Albania, over 50% of the surveyed farmers indicated that they do not intend to invest in digitalization in the next five years.

Though digital technology adoption varies by nation and is currently at a promising stage of development, with European countries such as France, Germany, and the Netherlands leading the way toward digitalization (Abiri et al., 2023), future investments will need to address the existing barriers to ensure equitable access and optimize the benefits of digitalization across the livestock farming context.

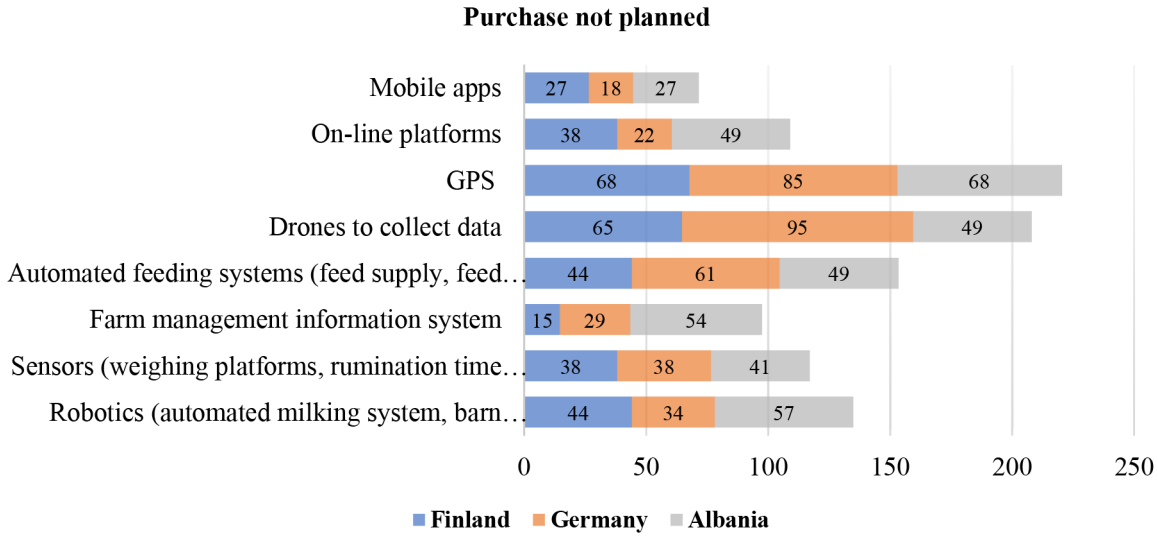


Figure 3. Non-adoption rate of digital technologies (at least the next five years)
Source: Authors processing

3.2. Identified Constraints to Digitalization

The discussion in this section covers the main obstacles to farmer's adoption in the three nations. In a specific questionnaire session, livestock farmers from three countries were asked to provide their opinions using specific statements organized on a Likert rating scale. The statements were related to the main constraints that prevent them from investing in digital technologies on their farms. The data in Table 1, report the selected barriers by Finnish farmers preventing them from adopting digital tools at the farm level. The most prevalent factors that play a particular role and add to the complexity of investing in digitalization are those related to economic and financial conditions. Specifically, 94% of the farmers mentioned the initial investment cost, while 85% cited high maintenance expenses.

Table 1. Constraints to digital technology adoption in Finnish livestock farms

Constraints	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Farm size	11.8	32.4	8.8	38.2	8.8
Farm ownership (own compared to rented)	18.2	15.2	51.5	12.1	3
High investment costs	0	2.9	2.9	70.6	23.5
High costs of maintenance services	0	5.9	8.8	70.6	14.7
Specialization in specific farm/business type	8.8	32.4	23.5	29.4	5.9
Relevance of digital tools to farm/business	5.9	23.5	23.5	41.2	5.9
Farmers age	11.8	32.4	11.8	23.5	20.6
Lack of knowledge and skills to run digital technologies	2.9	23.5	17.6	47.1	8.8
Lack of information on benefits	5.9	14.7	41.2	32.4	5.9
Poor data infrastructure (connectivity, internet)	5.9	38.2	11.8	23.5	20.6
Lack of adequate strategies to promote digitalization	3	36.4	42.4	6.1	12.1
Insufficient state subsidies for supporting investments in digital technology	0	20.6	52.9	20.6	5.9

Source: Authors processing

Additionally, according to the farmers' responses presented in Table 1, lack of knowledge and skills to run digital technologies, the relevance of application at the farm type, farm size, farmer's age, and poor connectivity are among the factors considered in the process of adopting digital technologies by Finnish farmers.

German farmers share similar opinions with their Finnish counterparts, citing costs as the single most significant constraint, implying that current technologies are prohibitively expensive. According to the data in Table 2, 75% of farmers in Baden-Wurttemberg, Germany, identified investment costs as the most significant obstacle to adoption, while 69% indicated high maintenance costs.

Table 2. Constraints to digital technology adoption in German livestock farms

Constraints	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Farm size	2.2	20.4	32.3	34.4	10.8
Farm ownership (own compared to rented)	3.2	25.8	46.2	18.3	6.5
High investment costs	3.2	4.3	17.2	50.5	24.7
High costs of maintenance services	3.2	5.4	22.6	49.5	19.4
Specialization in specific farm/business type	4.3	21.5	55.9	14	4.3
Relevance of digital tools to farm/business	4.3	11.8	48.4	32.3	3.2
Farmers age	14	35.5	24.7	16.1	9.7
Lack of knowledge and skills to run digital technologies	10.8	39.8	29	16.1	4.3
Lack of information on benefits	8.6	43	35.5	6.5	6.5
Poor data infrastructure (connectivity, internet)	6.5	25.8	20.4	31.2	16.1
Lack of adequate strategies to promote digitalization	3.2	18.3	44.1	28	6.5
Insufficient state subsidies for supporting investments in digital technology	6.5	10.8	38.7	31.2	12.9

Source: Authors processing

Other factors mentioned by German farmers included poor data infrastructure (47%), insufficient governmental subsidies (44%) to encourage investments in digital technology, and farm size. Compared to Finnish farmers, only 20% of them indicated a lack of knowledge and ability to operate digital technologies.

Table 3. Constraints to digital technology adoption in Albanian livestock farms

Constraints	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Farm size	2.7	5.4	29.7	43.2	18.9
Farm ownership (own compared to rented)	2.7	13.5	35.1	40.5	8.1
High investment costs	2.7	0	10.8	62.2	24.3
Lack of cooperation/farm associations	0	5.4	10.8	48.6	35.1
High costs of maintenance services	2.7	2.7	10.8	54.1	29.7
Low level of education	11.3	21.1	19.7	38	9.9
Specialization in specific farm/business type	5.4	16.2	24.3	40.5	13.5
Relevance of digital tools to farm/business	0	8.1	24.3	54.1	13.5
Farmers age	5.4	5.4	37.8	37.8	13.5
Lack of knowledge and skills to run digital technologies	2.7	5.4	8.1	51.4	32.4
Lack of information on benefits	2.7	8.1	27	45.9	16.2
Poor data infrastructure (connectivity, internet)	2.7	0	13.5	48.6	35.1
Lack of adequate strategies to promote digitalization	2.7	0	16.2	56.8	24.3
Insufficient state subsidies for supporting investments in digital technology	0	2.7	10.8	37.8	48.6

Source: Authors processing

Albania is in the process of entering the European Union, and implementing European policies on the digital plan of action is a priority. In this context, the use of digital technologies is crucial for the successful implementation of precision livestock farming in practice. As shown in Figure 3, the utilization of digital technology is still limited. Even though digital technologies have the potential to increase livestock production (an industry that has witnessed a decline in recent years), various barriers are hindering their adoption. Similar to farmers in Finland and Germany, Albanian

farmers also face significant hurdles due to the substantial investment and maintenance costs. In addition to financial barriers, they also highlight the lack of cooperation, poor infrastructure and limited knowledge further hindering their ability to adopt digital tools on their farms.

Governments play a crucial role in overcoming barriers to technology adoption. This involves providing accurate information about the costs and benefits of various technologies, offering incentives for innovation, promoting strategies for integrating digital technologies, investing in the skills and expertise of their workforce, and encouraging cooperation and collaboration between farmers and other stakeholders. According to Mendes et al. (2024), creating cooperative networks or farmer associations through the exchange of information and sharing of resources can help alleviate barriers related to costs, as well as the lack of knowledge and skills to operate digital technologies. Although the findings of several studies on the limitation factors to digital adoption are not uniform and vary across different regions of the world, notably some of them point out the role of government and policies and investments in research and development (Raimi et al., 2021), investments in human capital (Hoek & Miller, 2021), relevance to farm type (DEFRA, 2020), farm size (Tamirat et al., 2017), costs (da Silveira et al., 2023), training and knowledge on digital skills (Gaspar et al., 2021).

4. LIMITATIONS OF THE STUDY

Even though the findings of the study are very significant, it's important to note the limitations of the analyzed case studies. The technologies were selected based on literature research, focusing on technologies relevant to Finland, Germany, and Albania. However, due to the low level of digitalization in Albanian farms, some technologies may not be suitable for implementation. Moreover, it's essential to mention that the information on barriers and adoption factors comes only from the perspective of the farmers interviewed in each specific country. Therefore, views may be influenced by farmer bias and as a consequence, other barriers of adoption may need to be considered.

5. CONCLUSION

This study aims to assess the current adoption rates of specific technologies and prospects in livestock production within two European countries, Finland and Germany, as well as in Albania, which aspires to become a member of the European Union in the future. The analysis of the primary factors influencing adoption patterns provides insight into the potential for transforming the livestock sector.

The process of digitalization appears to be complex, posing challenges but also offering numerous opportunities for farmers and other stakeholders in the food industry. However, implementing digitalization in livestock farming in developing countries requires more time and effort compared to developed economies. Mapping the current adoption rates is a crucial step for policymakers, providing valuable evidence for understanding and addressing the challenges and potential benefits associated with the modernization in agriculture.

The adoption of digital technologies varies between Finnish and German farms. Some technologies are more prevalent in one country than the other. Online platforms (71%) and mobile apps (70%) are more widely used among German farmers, while FMIS (71%) and automated feeding systems (38%) are more common among Finnish farmers. Adoption rates for GPS and drones are low in both countries. Finnish farmers are more willing to invest in drones, sensors, and

GPS for the future, while German farmers plan to use automated feeding systems and robotics more extensively. Despite recent progress, farmers in both countries cannot be considered fully digitalized. In Albania, digital technology implementation is still in its early stages. The most commonly used technologies are mobile apps, online platforms, and automated milking systems. However, the findings suggest that large-scale farmers are increasingly willing to invest in these technologies in the future.

The investigation of adoption obstacles revealed that economic and financial resource constraints, inadequate data infrastructure, and farm size are important issues hindering investments in digitalization. The initial cost of investment and maintenance services was identified as significant barriers to digital adoption among farmers in all three countries. Based on the various circumstances and differences that exist between nations, Albanian farmers have identified several impediments to their willingness to digitize their farms. These include lack of knowledge and skills, absence of cooperation, government support, and advice. Therefore, policies in Albania should not only provide incentives to enhance the adoption level but also prioritize the promotion of suitable technologies and their benefits. Additionally, it is important to strengthen extension services to share knowledge with farmers and enhance their skills in utilizing these technologies effectively.

In the context of factors affecting technology adoption in Finland and Germany, farmers expressed differing views. Finnish farmers identified several factors, including lack of knowledge and skills, farmers' age, and the importance of digital tools as key influences on their willingness to invest more in digitalization. This indicates that skills and human capital are closely tied to the successful integration of digital adoption. On the other hand, German farmers reported the lack of strategies to promote innovation and insufficiency of subsidies as influencers of their decision to adopt digital tools. This brings out the necessity to rethink the issues surrounding the digitalization of the livestock sector.

References

Abiri, R., Rizan, N., Balasundram, S. K., Shahbazi, A. B., & Abdul-Hamid, H. (2023). Application of digital technologies for ensuring agricultural productivity. *Heliyon, 9*(12), e22601. https://doi.org/10.1016/j.heliyon.2023.e22601

Barkema, H. W., von Keyserlingk, M. A. G., Kastelic, J. P., Lam, T. J. G. M., Luby, C., Roy, J. P., LeBlanc, S. J., Keefe, G. P., & Kelton, D. F. (2015). Invited review: Changes in the dairy industry affecting dairy cattle health and welfare. *Journal of Dairy Science, 98*(11), 7426–7445. https://doi.org/10.3168/jds.2015-9377

da Silveira, F., da Silva, S. L. C., Machado, F. M., Barbedo, J. G. A., & Amaral, F. G. (2023). Farmers' perception of the barriers that hinder the implementation of agriculture 4.0. *Agricultural Systems, 208*, 103656. https://doi.org/10.1016/j.agsy.2023.103656

DEFRA.(2020).https://www.gov.uk/government/organisations/department-for-environment-food-rural-affairs

De Koning, C. J. A. M. (2010). Automatic Milking – Common Practice on Dairy Farms. Proceedings of The First North American Conference on Precision Dairy Management. http://precisiondairy.com/conferenceproceedings.html

Donald, C., & Pamela, S. (2014). Business Research Methods. New York, United States of America. (12th ed), pp. 122-41. McGraw- Hill/Irvinn

Edmeades,S.,&Edinaldo,T.(2018).ExploringthePotentialofAgricultureintheWesternBalkans:ARegionalReport. World Bank Group. Washington, D.C. http://documents.worldbank.org/curated/en/364261563175550384/Exploring-the-Potential-of-Agriculture-in-the-Western-Balkans-A-Regional-Report

Gabriel, A., & Gandorfer, M. (2023). Adoption of digital technologies in agriculture: An inventory in a european small-scale farming region. *Precision Agriculture, 24*, 68–91. https://doi.org/10.1007/s11119-022-09931-1

Gaspar, P. D., Fernandez, C. M., Soares, V. N. G. J., Caldeira, J. M. L. P., & Silva, H. (2021). Development of Technological Capabilities through the Internet of Things (IoT): Survey of Opportunities and Barriers for IoT Implementation in Portugal's Agro-Industry. *Applied Sciences, 11*(8), 3454. https://doi.org/10.3390/app11083454

Groher, T., Heitkämper, K., & Umstätter, C. (2020). Digital technology adoption in livestock production with a special focus on ruminant farming. *Animal, 14*(11), 2404-2413. https://doi.org/10.1017/s1751731120001391

Hoek, J., & Miller, M. (2021). "12 Equipping Humans-Optimizing Performance: The Role of Technology in Human Capital. *Journal of Animal Science, 99*, pp. 142-143, https://doi.org/10.1093/jas/skab054.242

Marku, D., Minga, A., & Sosoli, I. (2024). Circular Economy Perspective and Implications for Livestock Farming in Albania. *Open Agriculture Journal, 18*, e18743315312132. http://dx.doi.org/10.2174/0118743315312132240611074625

McFadden, J., Casalini, F., Griffin, T., & Anton, J. (2022). The digitalisation of agriculture: A literature review and emerging policy issues", OECD Food, Agriculture and Fisheries Papers. https://doi.org/10.1787/285cc27d-en

Mendes, J. de J., Carrer, M. J., Vinholis, M. de M. B., & Meirelles de Souza Filho, H. (2024). Adoption and impacts of messaging applications and participation in agricultural information-sharing groups: an empirical analysis with Brazilian farmers. Journal of Agribusiness in Developing and Emerging Economies, 14(4), 676-693. https://doi.org/10.1108/jadee-09-2022-0194

Pfeiffer, J., Andreas, G., & Markus, G. (2021). Small versus large comparison of small and large-scale agricultural regions in the use of digital technologies. 41st GIL Annual Conference, Information and Communication Technology in Critical Times. pp. 247-252.

Pierpaoli, E., Carli, G., Pignatti, E., & Canavari, M. (2013). Drivers of Precision Agriculture Technologies Adoption: A Literature Review. *Procedia Technology, 8*, 61-69. https://doi.org/10.1016/j.protcy.2013.11.010

Raimi, L., Panait, M., & Sule, R. (2021). Leveraging Precision Agriculture for Sustainable Food Security in Sub-Saharan Africa: A Theoretical Discourse. Shifting Patterns of Agricultural Trade, 491-509. https://doi.org/10.1007/978-981-16-3260-0_21

Stygar, A. H., Gómez, Y., Berteselli, G. V., Dalla Costa, E., Canali, E., Niemi, J. K., Llonch, P., & Pastell, M. (2021). A Systematic Review on Commercially Available and Validated Sensor Technologies for Welfare Assessment of Dairy Cattle. *Frontiers in Veterinary Science, 8*. https://doi.org/10.3389/fvets.2021.634338

Tamirat, T. W., Pedersen, S. M., & Lind, K. M. (2017). Farm and operator characteristics affecting adoption of precision agriculture in Denmark and Germany. *Acta Agriculturae Scandinavica, 68*(4), 349–357. https://doi.org/10.1080/09064710.2017.1402949

Utriainen, M., Pastell, M., Rinne, M., Kajava, S., & Myllymäki, H. (2019). Sensor Technologies in Dairy Farms in Finland. In B. O'Brien, D. Hennessy, & L. Shalloo (Eds.), Precision Livestock Farming 2019: Papers Presented at the 9th European Conference on Precision Livestock Farming, (pp. 98-104)

Vlaicu, P. A., Gras, M. A., Untea, A. E., Lefter, N. A., & Rotar, M. C. (2024). Advancing Livestock Technology: Intelligent Systemization for Enhanced Productivity, Welfare, and Sustainability. *AgriEngineering, 6*(2), 1479-1496. https://doi.org/10.3390/agriengineering6020084

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Food Safety Practices in Dairy Farms in Albania

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Abstract: *The aim of this study is to investigate the level of food safety compliance of dairy farmers, as well as to identify factors that hinder farmers to comply with food safety standards (FSS). This study is focused on the region of Fier, interviewing 76 dairy farmers in selected villages. The results show that 32%, 29% and 39% of farmers are respectively low, medium and high adapters of FSS. Challenges in FSS compliance include lack of farmer awareness, supply chain issues, weak law enforcement, low government support, and poor infrastructure. To improve milk quality at the farm level, farmers require better education through training programs, resolution of supply chain problems, strengthened laws, and improved infrastructure. By addressing these issues, Albania can boost its dairy sector, leading to a more sustainable sector for the future.*

1. INTRODUCTION

As it grows rapidly, the food industry is facing increasing challenges related to the quality and safety of its products. Food products, especially agricultural products, are very perishable due to their biological characteristics. Therefore, their quality can change very quickly. In addition to that, foods are prone to adulteration and fraudulent activities, mostly because of financial gain motives, jeopardizing consumer health.

Soon and Wahab (2022) have identified milk as one of the most fraudulent food products, along with beverages and meat, and the adulteration of these products primarily occurred during the manufacturing process. Milk is very important for a healthy diet, providing essential nutrients for people of all ages. As milk production rises to meet growing demands, ensuring the safety of this product becomes paramount. Milk fraud is a common problem in developing countries, with water being the most common adulterant used, decreasing the nutritional value and posing serious health risks for consumers (Handford et al., 2016).

In Albania, dairy farming is a vital source of income, particularly in rural areas, as most of families living there rely on agriculture. Dairy products are the main products of the Albanian household consumer basket. Albania is the eighth largest milk consumer in the world, with a consumption of 305.94 kg/capita (World Population Review, 2024). The dairy sector is considered a priority sector by the government of Albania due to its importance for employment in rural areas, and its contribution to the agricultural sector and GDP. Despite recent growth, the sector still faces various challenges, including compliance with quality and safety standards (Imami et al., 2021). It is for

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this reason that Albania is not yet able to export dairy products to EU markets. Subsequently, most of the milk is destined to fulfill the increasing domestic demand and only a small part is exported, mostly to Kosovo* (AASF, 2019). Food quality and safety challenges in the milk sector are related to limited farmer awareness about animal diseases and food safety standards, gaps in the supply chain, weak law enforcement, inadequate infrastructure and a legislative framework that is not in compliance with EU standards (Gjeci et al., 2016). Milk adulteration can happen at any point along the value chain. Compromising the safety and quality of the milk at the farm level can be a result of unintentional or intentional actions of dairy farmers. For that reason, it is important to first understand the importance of following good agricultural practices (GAP) at the onset of the supply chain. GAP can significantly minimize the environmental, social, and economic impacts associated with milk production and consumption, making the sector more sustainable.

There are approximately 83 000 active registered farmers and half of them are engaged in livestock and dairy production (General Directorate of Taxes, 2022). The latest report from Institute of National Statistics (INSTAT) shows that total milk production during the year 2022 is 824.942 tones, and cow's milk dominates by milk production by 85% (INSTAT, 2024). The number of cattle and small ruminants has been decreasing during this period, as shown in Table 1, while the yield has been improving due to better farming management, feeding practices, animal disease control, government support, etc. However, the milk production yield is far below EU levels. The average milk yield per cow in the EU reached 7,653 kg in 2022 (EUROSTAT, 2024), meanwhile in Albania the milk yield was only 2.76 kg in 2023 (INSTAT, 2024). The regions with the highest level of production of cow milk are Fieri, Tirana and Korça, characterized by relatively larger farm sizes, contributing to 42% of total production followed by Elbasani and Tirana region (INSTAT, 2024).

Table 1. Livestock number and milk production during 2000-2022

Category	2000	2005	2010	2015	2016	2017	2018	2019	2020	2021	2022
(000 heads)											
Cattle	728	655	493	504	492	475	467	416	363	337	298
Sheep & goat	3,045	2,701	2,581	2,850	2,911	2,859	2,781	2,621	2,332	2,256	2093
(000 tons milk)											
Cattle	807	930	930	964	975	983	974	947	897	859	824
Sheep & goat	141	146	140	167	170	174	171	166	155	153	145
Yield											
kg/cattle	1.11	1.42	1.89	1.91	1.98	2.07	2.09	2.28	2.47	2.55	2.76

Source: INSTAT (2024); Own processing

The available previous studies that are conducted in order to assess the level of practices with regard to food safety standards in dairy farms predominantly focus on low and middle-income countries, mostly of which indicate a low level (Kumar et al., 2017; Chengat Prakashbabu et al., 2020; Nyokabi et al., 2021; Patel & Sabapara, 2023). There are only a few studies conducted in Albania (Gjeci et al., 2016; Bicoku et al., 2018) or similar countries such as Kosovo* (Zeqiri et al., 2015) and Greece (Moutos et al., 2022). The existing studies conducted in Albania have primarily explored farmers' and consumers' awareness of food safety standards. There is a lack of studies about the level of practices, as well as the factors that determine compliance with FSS within Albanian dairy farms. The research questions of the study are the following:

- What are the levels of practices of dairy farmers with regard to food safety standards?
- What are the challenges and problems of dairy farmers in complying with food safety standards?

* Under the UN Resolution 1244.

Through a detailed analysis, this study not only contributes to filling a crucial gap in the literature, but also offers valuable recommendations on how dairy farms can improve their food safety standards, thereby strengthening food safety culture within the sector.

2. METHODOLOGY

2.1. Study Area

Albania is divided into 12 administrative regions, 31 districts and 61 municipalities. Fier region includes the districts of Fier, Lushnja and Divjaka, and is one of the biggest milk producers in Albania in terms of the number of dairy farms and milk processing plants. It produced 160,778 ton of milk in 2022, which accounts 19.4% of the total milk production in the country (INSTAT, 2024).

Fier district was chosen as the study area, as it comprises half of the total dairy farms within the region. There are 545 dairy farmers meeting the inclusion criteria of owning at least 5 cows. There are located 14 milk processing plants, out of 37 across the region. Frakull, Levan, Libofshë, Mbrostar and Dermenas are the villages included in the study (Figure 1).

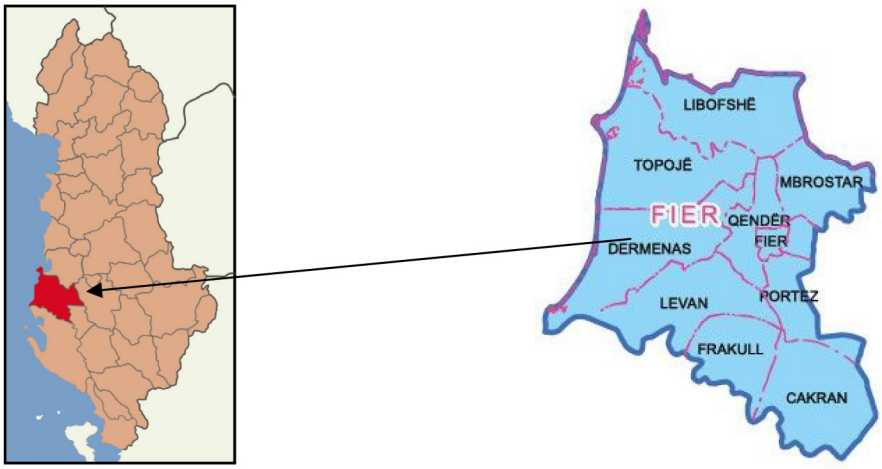


Figure 1. Fier municipality and its administrative units

Source: Wikipedia (n.d.)

2.2. Sampling Procedure

Villages were randomly selected, and the selection of farmers who were willing to collaborate in each village was also randomized to ensure representativeness. The inclusion criterion was dairy farms with at least 5 cows, which are typically considered to be at a commercial scale rather than small-scale or hobbyist operations, and are significant contributors to the dairy industry. These farms are more likely to keep detailed records and have more standardized practices, making data collection and analysis more feasible.

2.3. Data Collection

In order to meet the objectives of the study, face-to-face questionaries were conducted with 76 dairy farmers in several administrative units in Fier municipality during July-August 2023. A prior pilot study included 15 farmers. Each interview lasted approximately 40 minutes and was recorded manually for accurate capture of responses. Short interviews, informal conversations and on-site

observation complemented the questionnaires, allowing for deeper insights and rapport-building with participants. Secondary data from Institute of Statistics (INSTAT) and the Ministry of Agriculture and Rural Development (MARD) provided additional context and validation. Excel and R-Studio were used to manage and process the data.

2.4. Questionnaire Design

The design of the questionnaire was based on a literature review (Armagan et al., 2009; Young et al., 2010; Kumar et al., 2017), opinions of experts in the field from the Agricultural University of Tirana and similar studies conducted in other countries as well. The questionnaire was built in the QuestionPro program. Divided into four sections, it began by introducing participants to the concept of FS and gathered general data about their farm activities. This section explored their familiarity with food safety concepts and importance, farm products and operational scale. Following this, socio-demographic questions provided insights into the profile of respondents, including age, gender, education level, and farm experience. The core of the questionnaire focused on FS knowledge with a series of fourteen yes/no questions probing participants' awareness of hazards and regulations. Last section included nineteen Likert five-point scale questions (ranging from never to always) that measured the frequency of various FS practices implemented by farmers, covering aspects such as sanitation, hygiene, and farm management. Ethical considerations, including obtaining informed consent and ensuring confidentiality, were prioritized throughout the research process.

3. RESULTS

Initial data analyses start with descriptive statistics about farmer's socio-demographics, farm activity and knowledge about food safety standards (FSS). The number of farmers included in this study is 76 from a total of 545 dairy farmers in Fier. As previously mentioned, the inclusion criteria were that farms have at least 5 cows. Among the surveyed farmers, the average age is 51 years old, with a gender distribution of 30% females and 70% males. Regarding the level of education, 7% of farmers have completed only primary education, while 69% secondary education, 21% high school and 3% have graduated from university. The average number of cows per farm is 7. The average of other livestock kept in the farms, such as small ruminants, is 4 animals.

The farm activity began immediately after the fall of communism, specifically in the early '90s, for 62% of the farmers and it continues to be the main or sole source of income for all of farmers' family. In addition to selling milk, they also raise livestock for meat. A trend was observed towards selling milk directly to processors compared to other channels. In fact, milk collectors (known as middle man) are almost non-existent now because processors offer better contract terms. Meanwhile, there is hesitation to sell milk locally (e.g., to neighbours or local markets) because it is more convenient to deal with processors only, in terms of consistent demand, prices stability, quality standards support and contractual agreements. Therefore, 72% of farmers sell the milk to processors or collectors.

The majority of the farmers were not very familiar with the concepts of food safety, and only 8% of them had participated in at least one training session about FSS at the farm level. These trainings were primarily organized by the U.S. Agency for International Development (USAID) and took place several years ago. In recent years, none of the interviewed farmers had participated in such training. The main information source about FSS was the milk processor, which also collects milk directly from the farmers. According to reports, 81% of the farmers indicated that they were often or always advised by the processor.

3.1. Food Safety Practices

The microbial quality and safety of milk and milk products in the 21st century is influenced by environmental factors, production, and storage parameters, with emerging and re-emerging pathogens posing major food safety challenges (Fusco et al., 2020). Using a similar approach to Kumar et al. (2017) the questions about food safety practices at the farm level were categorized in four categories, respectively: milking hygiene practices (Table 3), animal health management practices (Table 4), animal care and environment practices (Table 5) and record-keeping and management practices (Table 6). A five-point Likert scale was used to measure the level of farmers' practices and the mean for each question is calculated.

Strict hygiene practices such as cleaning udders before milking, using disinfected milking and transportation equipment and maintaining a clean milking environment significantly reduce the risk of bacteria entering the milk. Regular hand washing by milkers before and after milking is another important step in preventing the transmission of bacteria. In addition, wearing appropriate protective clothing forms a barrier that prevents hair, dust and other contaminants from entering the milk from the milker.

Table 2. Milking hygiene practices

	Never (1)	Sometimes (2)	Half of the time (3)	Often (4)	Always (5)	Total	Mean
Is the barn clean?	0%	0%	0%	89%	11%	100%	4.1
Is the milking area clean?	0%	0%	0%	93%	7%	100%	4.1
Do you check and clean the udders of the animals before milking?	0%	0%	4%	11%	86%	100%	4.8
Do you check the cleanliness of the milking and transportation equipment?	0%	0%	0%	11%	89%	100%	4.9
Do you wash your hands before and after milking?	0%	0%	0%	39%	61%	100%	4.6
Do you use appropriate caps, masks, and clothing during milking?	0%	0%	7%	61%	32%	100%	4.3
Do you use a cooling tank?	0%	29%	4%	14%	54%	100%	3.9

Source: Own research

Herds should be free of diseases such as tuberculosis and brucellosis because they carry a significant risk of bacterial contamination and can be transmitted to humans (Khurana et al., 2021). Regular testing for diseases allows for early detection and treatment and prevents these bacteria from contaminating the milk. Vaccination and responsible use of antibiotics, under veterinary supervision only, protects cows from various diseases. It is important to avoid selling the milk from sick animals, milk which contains antibiotics or sediment because it is not accepted by the dairy industry (Achaw & Danso-Boateng, 2021).

Table 3. Animal health management practices

	Never (1)	Sometimes (2)	Half of the time (3)	Often (4)	Always (5)	Total	Mean
Do you check your animals for tuberculosis/brucellosis?	0%	0%	0%	36%	64%	100%	4.6
Do you vaccinate your animals?	0%	0%	0%	7%	93%	100%	4.6
Do you administer antibiotics without consulting a veterinarian?	93%	4%	0%	0%	4%	100%	1.2
Do you sell the milk when animals are sick?	100%	0%	0%	0%	0%	100%	1.0

Source: Own research

Factors affecting milk quality include temperature, relative humidity, air quality, livestock housing, hygienic practices, stocking density, and materials used in livestock houses (Granados et al., 2018). Ensuring the health of dairy cows is the first step toward producing safe milk. Healthy cows that feel well are crucial for good milk quality. Checking animal feed for safety ensures that cows do not ingest molds or insects that could transmit toxins or bacteria. Comfortable flooring and appropriate barn materials minimize stress for the cows and reduce the risk of injuries. The quality of milk is significantly impacted by the presence of water, which is a common adulterant. Therefore, providing comfortable housing and good overall care can contribute to improved milk quality.

Table 4. Animal care and environmental practices

	Never (1)	Sometimes (2)	Half of the time (3)	Often (4)	Always (5)	Total	Mean
Do you check if the foods you buy for the animals are safe (e.g., do not contain mold, insects, etc.)?	0%	0%	4%	71%	25%	100%	4.2
Is the ventilation system suitable for the animals?	0%	0%	4%	93%	4%	100%	4.0
Are the flooring and materials of the barn suitable for the animals?	0%	0%	4%	93%	4%	100%	4.0
Do you check the quality of the water source you use for your animals?	4%	18%	21%	43%	14%	100%	3.5
Do you practice open grazing for your animals?	93%	0%	0%	7%	0%	100%	1.2

Source: Own research

Effective record-keeping practices are essential for maintaining a high standard of milk quality. Recording books enable documentation of animal health, vaccinations and milking practices. These detailed records facilitate traceability and the identification of potential problems that could affect milk quality. Through the use of ear tags or other methods of animal identification, individual animals and their health status can be tracked so that targeted action can be taken if necessary. Registration certificates ensure that animal health is monitored and meets legal standards, which in turn contributes to the overall safety and quality of the milk produced.

Table 5. Record-keeping and management practices

	Never (1)	Sometimes (2)	Half of the time (3)	Often (4)	Always (5)	Total	Mean
Do you have a farm registry book to keep track of your farm activities?	100%	0%	0%	0%	0%	100%	1.0
Do you use ear tags for identifying your animals?	0%	0%	0%	0%	100%	100%	5.0
Do you have registration certificates for your animals?	4%	0%	0%	0%	96%	100%	4.9

Source: Own research

A composite Food Safety Index, based on Kumar et al., (2017) and Gedara et al. (2023) methodology, was calculated for each farmer. Each question was evaluated on a scale of 1 to 5 points, ranging from 'Never' to 'Always,' except for the questions regarding the 'use of antibiotics without consulting a veterinarian' and 'selling milk from sick cows'. In these cases, 'never' would indicate a good practice, therefore the assigned point would be five, and not one. Weights are assigned to each category (Milking hygiene practices; Animal health management practices; Animal care and environment practices; and Record keeping and management practices) concerning their relative importance to quality and safety production of milk, respectively, 0.35; 0.25; 0.25 and 0.15.

$$FSI_i = \sum_{j=1}^{4} W_j S_{ij}$$

- W_j represents the weight of category *j*.
- S_{ij} represents the sum of points of farmer *i* for category *j*.

After calculating the FSI for each farmer, they were divided in three categories: low adapter, medium adapter and high adapter of FSS. Using the percentiles of 30 and 60 as cut-off points, we found that the level of practices is low for 32%, medium for 29% and high for 39% of the farmers.

4. CONCLUSION

This study aimed to investigate the level of compliance with food safety practices among dairy farmers in Albania. The results show that 32% of the farmers are low adapters of FSS, 29% are medium adapters and only 39% are high adapters. Through questionaries and interviews, different factors were identified, within or beyond the control of farmers, which hinder their efforts to comply with FSS on the farm. The lack of financial support, such as input subsidies or cash payments, is one of the main factors. Only 40% of them have received at least one subsidy from the government for their activity. The change in legislation to financially support farms that have no less than ten cows (from five cows that was before) has excluded a considerable number of farms from the support scheme, as the average number of cows per farm is only seven. Albania still continues to have problems with fragmentation and land ownership, causing plots to be far from each other and increasing operational costs. A significant number of farmers are also renting land to produce the feed. The costs are even higher after the war in Ukraine and the inflation of recent years, therefore increasing the prices for animal feed. An obvious tendency to reduce the number of animals is observed, as a result of the increase in the age of farmers and the decrease in the interest of young people to participate in agriculture, among other factors. Meanwhile, the development and implementation of good agricultural practices are accompanied by additional costs for farmers, which limits the farmers to improve the safety and quality of the milk they produce. The low yield of production, the high prices of the farm activity, and low gate price of milk demoralize the growth and development of dairy farms, jeopardising the future and sustainability of the sector.

Several practical interventions can be suggested to policymakers and agricultural authorities in order to further improve food safety in dairy farms, such as educational training that focus on hygiene, sanitation, and proper handling of dairy products; increased financial support and subsidies for equipment upgrades and infrastructure improvements; promoting good agricultural practices through regular audits, certification programs, and technical support to ensure compliance; supporting youth engagement for more innovative and sustainable practices; and establish networks that provide ongoing support and knowledge exchange among farmers, such are cooperatives. These measures and incentives are necessary to increase the importance of food safety practices, to enhance the reputation of the sector and achieve the export of dairy products and by-products to the European market and beyond. This way, the productivity and sustainability of the sector can increase, benefiting not only farmers, but also consumers and the country's economy in general.

5. FUTURE RESEARCH DIRECTIONS

This is a preliminary study; therefore, to conduct more advanced and detailed statistical analyses a bigger sample is required. This way, we can identify the main determinants and mediating factors, and their importance regarding farmers' compliance with FSS.

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References

AASF. (2019). https://aatsf.com.al/

Achaw, O., & Danso-Boateng, E. (2021). Milk and Dairy Products Manufacture. Chemical and Process Industries. https://doi.org/10.1007/978-3-030-79139-1_11

Armagan, G., Koc, A., & Ozden, A. (2009). Food safety at the dairy farm level: knowledge, practices and attitudes of farmers. Milchwissenschaft, 64(1), 6-9.

Biçoku, Y., Zeqiri, M., & Gjeçi, G. (2018). Awareness about Livestock Standards - the Case of Dairy Farmers Albania and Kosovo. Albanian Journal of Agricultural Sciences, 17(4), 187-196.

Chengat Prakashbabu, B., Cardwell, J. M., Craighead, L., Ndour, A. P. N., Yempabou, D., Ba, E., Bada-Alambedji, R., Akakpo, A. J., & Guitian, J. (2020). "We never boil our milk, it will cause sore udders and mastitis in our cows"- consumption practices, knowledge and milk safety awareness in Senegal. BMC Public Health, 20(1). https://doi.org/10.1186/s12889-020-08877-1

EUROSTAT. (2024, May). Milk and milk product statistics. Retrieved from https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Milk_and_milk_product_statistics

Fusco, V., Chieffi, D., Fanelli, F., Logrieco, A., Cho, G., Kabisch, J., Böhnlein, C., & Franz, C. (2020). Microbial quality and safety of milk and milk products in the 21st century. Comprehensive reviews in food science and food safety, 19 4, 2013-2049. https://doi.org/10.1111/1541-4337.12568

Gedara, P. K., Weerahewa, J., & Roy, D. (2023). Food safety in milk: adoption of food safety practices by small-scale dairy farmers in Sri Lanka and their determinants. *Food Control, 143*, 109274.

General Directorate of Taxes. (2022, July). Lista e fermerëve aktive. Retrieved from https://www.tatime.gov.al/c/8/129/326/lista-e-fermereve-aktive

Gjeci, G., Bicoku, Y., & Imami, D. (2016). Awareness about food safety and animal health standards–the case of dairy cattle in Albania. Bulgarian Journal of Agricultural Science, 22(2), 339-345.

Granados, L., Pérez, F., & Valero, A. (2018). Food Quality Management Systems in the Dairy Industry: A Case Study on the Application of Predictive Microbiology in the Microbial Quality of Milk. Technological Approaches for Novel Applications in Dairy Processing. https://doi.org/10.5772/INTECHOPEN.73309

Handford, C., Campbell, K., & Elliott, C. (2016). Impacts of Milk Fraud on Food Safety and Nutrition with Special Emphasis on Developing Countries. Comprehensive reviews in food science and food safety, 15 1, 130-142. https://doi.org/10.1111/1541-4337.12181

Imami, D., Valentinov, V., & Skreli, E. (2021). Food Safety and Value Chain Coordination in the Context of a Transition Economy. International Journal of the Commons, 15(1), 21-34. https://doi.org/10.5334/ijc.1039

INSTAT. (2024, May). Statistikat e blegtorisë. Retrieved from https://databaza.instat.gov.al:8083/pxweb/sq/DST/START__BL/NewBL0012/

Khurana, S. K., Sehrawat, A., Tiwari, R., Prasad, M., Gulati, B., Shabbir, M. Z., Chhabra, R., Karthik, K., Patel, S. K., Pathak, M., Iqbal Yatoo, M., Gupta, V. K., Dhama, K., Sah, R., & Chaicumpa, W. (2021). Bovine brucellosis - a comprehensive review. *Veterinary Quarterly, 41*(1), 61-88. https://doi.org/10.1080/01652176.2020.1868616

Kumar, A., Thapa, G., Roy, D., & Joshi, P. K. (2017). Adoption of food safety measures on milk production in Nepal: Impact on smallholders' farm-gate prices and profitability. *Food Policy, 70*, 13-26. https://doi.org/10.1016/j.foodpol.2017.05.002

Moutos, A., Doxani, C., Stefanidis, I., Zintzaras, E., & Rachiotis, G. (2022). Knowledge, Attitude and Practices (KAP) of Ruminant Livestock Farmers Related to Zoonotic Diseases in Elassona Municipality, Greece. *European Journal of Investigation in Health, Psychology and Education, 12*(3), 269-280. https://doi.org/10.3390/ejihpe12030019

Nyokabi, S., Luning, P. A., de Boer, I. J. M., Korir, L., Muunda, E., Bebe, B. O., Lindahl, J., Bett, B., & Oosting, S. J. (2021). Milk quality and hygiene: Knowledge, attitudes and practices of smallholder dairy farmers in central Kenya. *Food Control*, *130*, 108303. https://doi.org/10.1016/j.foodcont.2021.108303

Patel, P., & Sabapara, G. (2023). Knowledge level of improved dairy husbandry practices in tribal areas of Southern Gujarat. Indian Journal of Animal Production and Management. https://doi.org/10.48165/ijapm.2023.37.1.9

Soon, J., & Wahab, I. (2022). A Bayesian Approach to Predict Food Fraud Type and Point of Adulteration. Foods, 11. https://doi.org/10.3390/foods11030328

Wikipedia. (n.d.). https://en.wikipedia.org

World Population Review. (2024, May). Milk Consumption by Country. Retrieved from https://worldpopulationreview.com/country-rankings/milk-consumption-by-country

Young, I., Hendrick, S., Parker, S., Rajić, A., McClure, J. T., Sanchez, J., & McEwen, S. A. (2010). Knowledge and attitudes towards food safety among Canadian dairy producers. Preventive veterinary medicine, 94(1-2), 65-76. https://doi.org/10.1016/j.prevetmed.2009.11.010

Zeqiri, M., Bytyqi, H., Imami, D., & Biçoku, Y. (2015). Dairy farmers awareness about food standards-the case of Kosovo. Albanian Journal of Agricultural Sciences, 14(2), 93.

https://doi.org/10.31410/ERAZ.2024.253

The Advantages of Energy Efficiency Projects and Their Impact on the Economy of Romania and the EU

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Abstract: *Energy efficiency projects play an essential role in shaping a more sustainable and competitive economy in Romania and across the European Union (EU). Reducing energy consumption and greenhouse gas emissions, these initiatives help combat climate change and generate new jobs, enhance living standards, and drive technological advancements. With the EU setting ambitious climate targets, Romania faces the pressing need to implement large-scale energy efficiency programs. This paper researches the benefits and economic implications of these projects at both the national and European levels, using a multidisciplinary perspective that considers economic, environmental, and social factors. The findings underscore the importance of well-defined policies and robust funding mechanisms to unlock the full potential of energy efficiency measures.*

1. INTRODUCTION

Energy efficiency is fundamental to sustainable development and economic resilience (Weg, 2025). The European Union (EU) has established stringent energy policies to reduce greenhouse gas emissions (EU, 2021) by at least 55% by 2030 as part of the Fit for 55 packages (European Commission, 2019). As an EU member, Romania must align its energy policies with these objectives. However, the country faces significant challenges, including outdated infrastructure, inefficient energy use, and limited funding for renewable projects. This paper examines Romania's potential to enhance energy efficiency through geothermal energy, biomass utilization, and sustainable forestry management.

1.1. Romania in Terms of Green Energy Potential and Efficiency

Romania has tried to improve the energy efficiency of its buildings and has had ambitious strategies, but the results have been more modest.

From the quality of the materials used for the energy efficiency of apartment blocks to the replacement of rusty pipelines in major cities, the cost and quality of the works, as well as the proven low efficiency or, more seriously, the lack of monitoring or assessment of the degree of improvement in energy efficiency following the implementation of projects, lead us to view Romania's energy efficiency with considerable leniency.

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Instead of engaging in a harsh, critical analysis of what was done poorly, focusing on our potential and what we could reach in terms of energy efficiency by strictly using Romania's enormous untapped potential—geothermal energy and biomass (Asociația New Projects, 2017).

Currently, according to the form of ownership, the area of the national forest fund is divided as follows:

- Total area – 6.3 million ha.
- Public property of the state – 3.02 million ha.
- Private property – 3.28 million ha.

1.2. Structure by Species of the National Forest Fund

Percentage-wise, the composition of Romania's forests by major species groups is as follows:

- beech: 969,933 ha - 32%.
- conifers: 780,230 ha 25.7%.
- oaks: 551,382 ha - 18.2%.
- various other complex species: 517,727 ha - 17.1%;
- various other soft species: 212,428 ha - 7%.

In line with "Fit for 55," a package of measures proposed by the European Commission aimed at reducing greenhouse gas emissions in the EU by at least 55% by 2030 compared to 1990 levels (Magazine, 2019), Romania has developed National Forest Strategy 2030 (SNP 2030), a document that provides new guidelines for the sustainable development of forests and the forestry sector (Coroianu, 2024).

Today, the new EU Forest Strategy 2030 (EUSF 30), introduced in 2021, is among the flagship initiatives of the European Green Deal. Strategically, EUSF 30 integrates the commitments and objectives outlined in the EU's strategic documents related to forestry. EUSF 30 becomes an integrative policy document for the forestry sector, linking it with the strategic intersectoral objectives assumed at the European Union level (SNP 2030, 2021).

Economic viability is a key parameter in the sustainable management of forests and is crucial for supporting the multiple benefits they provide to society. The national forestry sector has a positive external trade balance, utilizing a renewable resource by exporting finished and semi-finished products. However, economic viability is limited by the high costs of timber harvesting and collection, coupled with outdated technological equipment used in forest exploitation, which often affects the quality of the forest environment. Additionally, the reduced accessibility of Romania's forests presents economic challenges due to the inability to fully harvest the volume of timber established by forest management plans and ecological issues that limit the application of necessary forestry work for the stability of forest ecosystems and nature-based silvicultural treatments.

1.3. Sustainably Manufactured Wood Products with a Long Lifespan Can Contribute to Achieving Climate Neutrality

Wood products with a short lifespan also play an important role, especially in heating for vulnerable households with limited access to other energy sources. In Romania, firewood is an indispensable resource for most families, particularly in rural areas. A significant challenge is addressing energy poverty (the lack of access to modern energy services) for local communities while adhering to best practices regarding the sustainability of biomass production (Ffe, 2020).

The European concept regarding continuity and maintaining ecological balance has led to the so-called close-to-nature forestry, which was introduced in Romania by Prosilva (2018), a non-governmental organization advocating for forestry practices focused on individual tree extraction. The functional classification of forests in Romania includes two main categories in Table 1.

Table 1. Classification of forests in Romania

Category	Subcategory	%
I. Forests with Special Protection Functions - 1,993,914 ha	Forests for water protection	31%
	Forests for land and soil protection	42%
	Forests for protection against harmful climatic and industrial factors	6%
	Forests for recreation	11%
	Forests of scientific interest for the protection of the ecological and genetic forest fund (including 18,389 ha in the national catalog of virgin and quasi-virgin forests)	10%
II. Forests for Production and Protection - 1,037,786 ha		34%

Source: Own research

Regarding the functional zoning mentioned above, it should be noted that all forests in Romania have been assigned various protection functions, even if the stands they comprise are used for timber production for different industrial purposes or to support game cultivation and intensive growth.

It is observed that forests in Category I have a larger share than those in Category II, with the former continually expanding since 1954.

The high percentage of forests in Category the following factors justify:

- Most forests are in mountainous and hilly regions that are particularly vulnerable to geomorphological and hydrological hazards; most of Romania's water resources are within the forest fund, necessitating protective forestry measures, especially for reservoirs.
- Most protected areas are also within the forest fund, fulfilling biodiversity conservation functions.

Forest management aims to establish the functional effectiveness of Romania's forests by carefully studying the relationship between their structure and the socio-economic functions assigned to the national forest fund. Thus, forest management can be understood as the science of organising and directing forests toward a desired state of multifunctional effectiveness by ecological, economic, and social objectives of forestry management.

2. LITERATURE REVIEW

Developing at the intersection of biological and socio-human sciences, the technologies proposed in the forest management process adhere to modern ecological requirements and strategies.

The Romanian national forest fund is 6.3 million ha of forest, with a forest cover percentage of approximately 27% (below the European average). Examining the distribution of forests territorially highlights characteristic aspects with significant influences on their functions and services, revealing an unequal distribution of forests, which persists both nationally and locally. The characterization of the national forest fund is based on indicators such as area, territorial distribution

of forests, species composition, stand structure by age classes, regimes and treatments applied in the management system, standing timber volume, and the degree of industrialization.

Defining the forest management concept, this represents the process of making medium-term decisions (10-20 years) at the level of a forest production unit based on long-term objectives and data describing the forest at a given time (Drăgoi, 2004).

In Romanian forestry literature, forest management is defined as the science and practice of organizing forests by forest management tasks.

Forest management is the primary means of ensuring the continuity of production and forest policy. Through management, forest policy can be changed when there are enough new elements regarding the dynamics of forest ecosystems or when some political, economic, and social environmental characteristics change radically (Gherghel, 2016).

It is advisable to reintroduce these areas into agricultural use to produce biomass necessary for biofuel production, especially given that today, more than ever, the fossil fuel crisis is ongoing, and there is increasing emphasis on the broader use of renewable, non-polluting energy sources.

Moreover, in our analysis, we must also consider the potential of permanent pastures in our country, which cover approximately 4.9 million hectares. Romania ranks fifth in Europe, after France, the United Kingdom, Spain, and Germany. Pastures in our country, representing 33% of the agricultural area, are a significant part of the national wealth due to the size and quality of forage resources and their other functions that benefit the protection and beauty of the environment.

The distribution area of pastures is found across all types of terrain, from the altitudes of the Danube Delta and plains to the 2,500 meters on the alpine plateaus of the Carpathian Mountains. This makes the land resources for pastures in Romania extremely varied in all aspects: physical-geographical, climatic, hydrographic, soil depth, soil types, and their physicochemical properties. Depending on their use, pastures are classified into grazing lands and meadows. Of the total pasture area in the country, 68% is represented by grazing lands and 32% by meadows. It is noted that 79% of the pasture area is in hilly and mountainous regions.

According to regulations, the average green mass harvested per hectare is about 3 tons. For example, suppose a pasture supports an average of 0.5 livestock units per hectare for 150 days with 25 kg/day of dry matter consumption. In that case, it will result in 3,750 kg/ha, with an additional 30% unused residues. In the case of a poor, degraded pasture, the dry matter production determined by mowing and weighing the grass would be 4,875 kg/ha.

In addition to the two mentioned renewable resources, which are not adequately and judiciously exploited, Romania also has its Black Sea coast, spanning 244 km, where the contribution of freshwater and nutrients brought by the Danube through its three mouths aids the exponential growth of algae, especially in the summer months. Another critical factor for algae development is the predominant direction of marine currents from north to south. Moreover, algae thrive mainly when the waters are rich in nutrients, and the biomass potential from algae harvested from the Black Sea and/or washed ashore is estimated at around 80,000-100,000 tons per year (Maruşca et al., 2014).

3. SUSTAINABLE SOLUTIONS FOR ENERGY EFFICIENCY FOR THE FUTURE

The future we speak of, depending on the intelligence of leaders, could be tomorrow, meaning within a reasonable estimated timeframe, or never if we stubbornly ignore the potential we have and remain energy-dependent on others, with the population paying unjustifiably high costs. We must understand that if, 35 years after the December 1989 Revolution, Romania finally starts to utilize its vast geothermal potential, the same could be achieved with the biomass harvested and not used in Romania—currently not utilized at all.

3.1. Geothermal Energy Potential

Romania's geothermal resources offer a viable solution for energy efficiency. A notable example is the geothermal basin north of Bucharest, covering 300 square kilometers, with water temperatures ranging from 58 to 84°C. On February 7, 2024, ELCEN and the U.S. Department of Energy (DoE) signed an agreement in Washington to explore investment opportunities in renewable geothermal energy and conduct a feasibility study on integrating geothermal resources into Bucharest's district heating system. After evaluating multiple collaboration options, the DoE proposed a partnership between ELCEN and Sage Geosystems. Sage introduced its geothermal technology to ELCEN and drafted a memorandum of understanding to outline the framework for future cooperation (Green Forum, 2024).

Out of the 24 wells drilled in this basin before 1990, 18 produce geothermal water with flow rates between 22 and 35 liters per second. Given the reservoir's qualities, the geothermal resources in the ground north of Bucharest could be used for heating and preparing hot water for consumption in residential buildings, social services such as hospitals, schools, or kindergartens, and in the industrial sector or greenhouses. Suppose substantial investments were made in this green, sustainable, and practically inexhaustible energy. In that case, Romanian government experts have estimated that thermal energy consumption from conventional sources could be reduced by up to 75%, and heating costs for consumers could be reduced by 40%.

Although geothermal energy in Romania is primarily available in the west of the country, in the Banat region and near the Apuseni Mountains, with the most significant geothermal resource located in Bihor, there are also geothermal basins in Oltenia, Muntenia, the Harghita-Covasna counties, the Herculane region, and the Hârșova area.

Geothermal energy has been exploited in this region for approximately a century, providing heating for 5,500 homes in Oradea, and the city of Beiuș is the only city in the country heated exclusively with geothermal resources. Currently, the geothermal capacity exploited in Romania is 480 MW, making the country the third largest in Europe, after Greece and Italy, in terms of geothermal energy. However, geothermal power plants are costly to build, with a 1 MW capacity plant costing between $3-10 million, although the initial cost can be recovered over time as a long-term investment.

3.2. Biomass Utilization

Returning to biomass is the biodegradable part of products, waste, and residues from agriculture, including plant and animal substances, forestry, and related industries, as well as the biodegradable part of industrial and urban waste (e-mc2, n.d.). Biomass has been used for energy purposes

since humans discovered fire. The energy embedded in biomass is released through various methods, ultimately representing the chemical process of combustion (chemical transformation in the presence of molecular oxygen, an exergonic process par excellence). Biomass is the most abundant renewable resource on the planet. It includes all organic matter produced through the metabolic processes of living organisms. Typically, plants contain 25% lignin and 75% carbohydrates (cellulose and hemicellulose) or saccharides, which help initiate "fermentation" reactions that produce biogas through gasification.

In Romania, both local administrative units (UATs) and the National Company for Road Infrastructure Administration (CNAIR), as well as CFR Infrastructure (CFR), the National Administration of Romanian Waters (ANAR), and the National Forest Administration Romsilva (RNP, n.d.), harvest enormous quantities, as demonstrated, from the areas they manage. The combined investment potential of these entities amounts to several hundred million euros annually.

Table 2. Clearance achievements – vegetation cutting and hazardous tree cutting as of 31 December 2023

	SRCF	Vegetation clearance for gauge and signal visibility as of 31.12.2023 (sqm)		Vegetation clearance at level crossings (LC) with railway as of 31.12.2023		Total vegetation cutting and clearance as of 31.12.2023 (sqm)		Hazardous tree cutting completed for trees with a diameter between 30-60 cm and greater than 60 cm (number of trees)	
		Own strengths	Third parts	Own strengths	Third parts	Own strengths	Third parts	Own strengths	Third parts
1	Bucuresti	1.492.000	0	244.721	0	1.736.721	0	10	0
2	Craiova	731.425	0	221.450	0	952.875	0	7	1
3	Timisoara	1.592.760	202.700	334.920	0	1.927.680	202.700	0	160
4	Cluj	1.643.540	0	521.510	0	2.165.050	0	0	0
5	Brasov	1.278.066	0	0	0	1.278.066	0	0	808
6	lasi	1.097.973	0	130.148	0	1.228.121	0	0	0
7	Galati	1.421.295	0	129.390	0	1.550.685	0	0	360
8	Constanta	846.357	0	272.228	0	1.118.585	0	0	0
	Total network	10.103.416	202.700	1.854.367	0	11.957.783	202.700	17	1329

Source: CFR (2022)

By leveraging the exceptional potential available, with proper organisation and an investment program focused on this area of green energy derived from biomass, biomass power plants could likely be established throughout Romania. Utilising inexpensive raw materials, these plants could not only balance Romania's energy portfolio and contribute to achieving climate neutrality for Romania and the EU, but they could also serve as a model for other countries.

Based on the data analysed and the information collected from the National Forest Administration, the National Company for Road Infrastructure Administration, CFR Infrastructure, and the National Administration of Romanian Waters, there is no comprehensive data on the total biomass collected during the "cleaning" campaigns for roads, railways, or even water bodies and forests. This lack of data prevents us from determining the available volume of biomass for "industrialisation." For example, CNAIR allows mowed grass to decompose on the sides of roads, while RNP collects the wood mass. Similarly, algae collected by ANAR decompose, despite the expense of cleaning the coastline, and disposing of them in landfills incurs additional costs. This annual energy waste is significant.

An investment consortium involving these four entities, potentially supplemented by other large local administrative units (UATs) on a case-by-case basis, could invest in all 40 counties. This project, extending over 5 years, could amount to over 200 million euros. It would not only generate green energy and use an untapped resource but also create jobs, utilise materials and equipment from Romania's horizontal industry, and balance and diversify the energy portfolio of the National Energy System. This would provide an excellent backup when wind or solar energy production is insufficient, with biomass energy as a valuable and significant backup option. Certainly, in-depth studies would reveal the capacities to be installed along the coast, the cost-benefit analysis, and the possibilities for efficiently producing this type of energy. This energy could be used not only by the consortium members for their own consumption needs but also by local communities. "From the perspective of biomass energy potential, Romania's territory has been divided into eight regions (Figure 1), namely: 1. The Danube Delta – a biosphere reserve, 2. Dobrogea, 3. Moldova, 4. The Carpathian Mountains (Eastern, Southern, Apuseni), 5. The Transylvanian Plateau, 6. The Western Plain, 7. The Subcarpathians, 8. The Southern Plain".

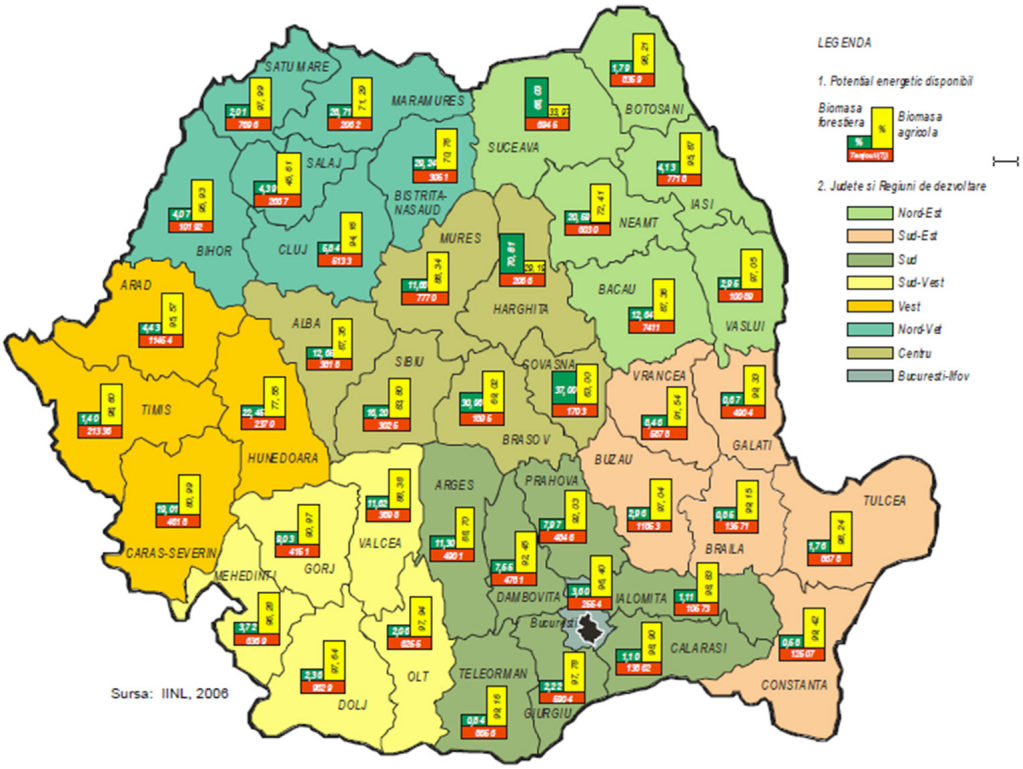


Figure 1. Biomass Energy Potential Regions in Romania
Source: Asociația New Projects (2017)

Analysis of the Geographic Distribution of Biomass Resources with Available Energy Potential:

- The wealthiest counties in forest resources are: Suceava: 647.0 thousand cubic meters, Harghita: 206.5 thousand cubic meters, Neamț: 175.0 thousand cubic meters, Bacău: 132.0 thousand cubic meters;
- The poorest counties in forest resources are in the south: Constanța: 10.4 thousand cubic meters, Teleorman: 10.4 thousand cubic meters, Galați: 10.4 thousand cubic meters;
- The richest counties in agricultural resources are: Timiș: 1432.0 thousand tons, Călărași: 934.0 thousand tons, Brăila: 917.0 thousand tons;
- The poorest counties in agricultural resources are: Harghita: 41.004 thousand tons, Covasna: 73.000 thousand tons, Brașov: 89.000 thousand tons.

According to Şumălan (2011), the energy content of various types of biomasses (electric MWh) is as follows:

- 1 ton of coal = 2.5 MWh,
- 1 ton of wood pellets = 1.8 - 2 MWh,
- 1 ton of sawdust = 1.8 MWh,
- 1 ton of wood chips = 0.8 - 1.5 MWh,
- 1 ton of coffee grounds = 1.6 MWh,
- 1 ton of organic waste = 10 MWh,
- 10,000 liters of oil = 40 tons of wood chips = 22 tons of pellets,
- 1 ton of oil = 2.5 tons of pellets.

4. DISCUSSION

With a national forest area in Romania of 6.3 million hectares and the potential of permanent pastures in the country, which cover approximately 4.9 million hectares, Romania ranks fifth in Europe after France, the United Kingdom, Spain, and Germany. This gives Romania a vast potential for green energy from biomass, estimated at around 65%, according to the Ministry of Environment, which remains underutilized.

In addition to the two previously mentioned non-exhaustible resources that are not properly and judiciously exploited, Romania also has the Romanian coastline along 244 km of the Black Sea. Here, the influx of fresh water and nutrients brought by the Danube into the sea through its three mouths fosters the exponential growth of algae, especially during the summer months. Another important factor for algae development is the predominant north-to-south direction of marine currents. Furthermore, algae grow particularly well when the waters are rich in nutrients, and the biomass potential from algae harvested from the Black Sea and/or brought to shore is estimated at around 80,000 to 100,000 tons per year.

Biomass is the biodegradable part of products, wastes, and residues from agriculture, including plant and animal substances, forestry, and related industries, as well as the biodegradable part of industrial and urban waste (i.e., that which essentially ends up in landfills!). It includes all organic matter produced through the metabolic processes of living organisms. Plants typically contain 25% lignin and 75% carbohydrates (cellulose and hemicellulose) or sugars, which help trigger "fermentation" reactions that produce biogas through gasification.

In Romania, both local administrative units and the administrator of the national and motorway network, the National Company for Road Infrastructure Administration (CNAIR), as well as CFR Infrastructure (CFR), the National Administration of Romanian Waters (RNAR), and the National Forest Administration Romsilva (RNP), collect huge quantities, as demonstrated, from the areas they manage. The combined investment potential of these entities amounts to several hundred million euros annually. By harnessing this exceptional potential with proper organization and an investment program in green energy from biomass, biomass power plants could be established across Romania, utilizing inexpensive raw materials. This would not only balance Romania's energy portfolio and contribute to achieving climate neutrality for Romania and the EU but could also serve as a model for other countries.

From the analyzed data and information collected from the National Forest Administration, the National Company for Road Infrastructure Administration, as well as CFR Infrastructure and

the National Administration of Romanian Waters, there is no data on the total amount of biomass collected during the "cleaning" campaigns of roads, railways, or even waters and forests, to determine the volume of biomass available for industrialization. For example, CNAIR allows mown grass to rot along roadsides, while RNP takes the wood mass. Similarly, algae collected by RNAR also rot, despite the cost of cleaning the coastline and disposing of them in landfills incurs additional expenses. This energy waste occurs annually. An investment consortium comprising these four entities, possibly including other large local administrative units, could invest in all 40 counties to utilize the obtained biomass. Such an investment project, spanning over 5 years, could be valued at over 200 million euros annually, from own funds, government or attracted funds, and European funding. This would not only generate green energy and utilize an unused resource but also create jobs, use materials and equipment from Romania's horizontal industry, balance and diversify the energy portfolio of the National Energy System, and provide an excellent backup during periods when wind or solar energy is insufficient.

5. FUTURE RESEARCH DIRECTIONS

To fully leverage Romania's green energy potential, future research should prioritize the development of advanced energy monitoring systems, enhancing technological innovations in geothermal and biomass energy, comprehensive cost-benefit analyses of large-scale green energy investments, and strengthening public-private partnerships to attract foreign and domestic investors.

6. CONCLUSION

Romania's transition to a sustainable energy model requires significant investment and policy coherence. Geothermal and biomass energy have the potential to play key roles in reducing energy dependency, lowering costs, and enhancing environmental sustainability. Implementing well-structured energy efficiency projects, supported by EU funding and strategic national policies, is crucial for Romania's economic growth and alignment with EU climate objectives. Future research and investment in sustainable energy solutions will be essential to maximizing Romania's energy potential.

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References

Asociația New Projects. (2017). Biomasa – o alternativă de energie verde pentru România. *Revista online New Projects*. ISSN 2065-7781. https://revista.newprojects.org/?p=1160

CFR. (2022). *Raport de activitate*. https://cfr.ro/wp-content/uploads/2023/06/Raport-activitate-CFR-2022-v7.pdf

Coroianu, E. (2024). *The 2030 National Forest Strategy*. Radio Romania International. https://www.rri.ro/en/features-and-reports/green-planet/the-2030-national-forest-strategy-id153516.html

Drăgoi, M. (2004). *Amenajarea pădurilor*. Editura Universității Suceava.

e-mc2. (n.d.). *Biomass energy*. https://www.e-mc2.gr/en/vivliothiki/energy/biomass-energy

European Commission. (2019). Fit for 55.. https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/european-green-deal/delivering-european-green-deal/fit-55-delivering-proposals_en

European Union. (2021). *Norgesportalen*. https://www.norway.no/en/missions/osce/norway-and-the-osce/statements/statements-with-norwegian-alignment-2021/eu-statement-on-the-occasion-of-earth-day/

Ffe. (2020, March 3). *Fundación Finanzas Éticas engages Endesa on energy poverty*. Shareholders For Change. https://www.shareholdersforchange.eu/fundacion-finanzas-eticas-engages-endesa-energy-poverty/

Gherghel, M. (2016). *Cartea pădurarului*. Regia Națională a Pădurilor, București, România.

Green Forum. (2024). Romanias ELCEN Signs MoU with US company Sage Geosystems. *Green Forum*. https://www.green-forum.eu/business/20240723/romanias-elcen-signs-mou-with-us-company-sage-geosystems-1270

Magazine, A. P. O. (2019). Palm oil strategy requires reconsideration. *Asia-PalmOil*. https://www.asia-palmoil.com/post/palm-oil-strategy-requires-reconsideration

Marușca, T., Mocanu, V., & Haș, E. C. (2014). *Ghid de întocmire a amenajărilor pastorale*. Capolavoro, Brașov.

Prosilva. (2018). *Pro Silva*. https://www.prosilva.org/

RNP. (n.d.). *Regia Nationala a Padurilor*. https://www.rosilva.ro/articole/prezentare_generala__p_178.html

SNP 2030. (2021). *Schița Strategiei Naționale pentru Păduri*. https://strategieforestiera.ro/process/snp30

Șumălan, R. (2011). BIOMASA - Sursă de energie regenerabilă. *Gazeta de Agricultură*. https://www.gazetadeagricultura.info/eco-bio/565-energie-regenerabila/11375-biomasa-sursa-de-energie-regenerabila.html

Weg. (2025). The importance of energy efficiency in water management. *Smart Water Magazine*. https://smartwatermagazine.com/news/weg/importance-energy-efficiency-water-management

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The Process of Decarbonization in the Croatian Energy System

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Abstract: *This work delves into the crucial scientific research on the transition of the Croatian energy system, a process that commenced in the early 1990s. Today, the energy system confronts new challenges, including deregulation, liberalization of energy markets, heightened competition, escalating demands for supply security, and notably, the imperative to curtail CO2 emissions in line with subsequent EU regulations and standards on environmental protection. Research is also underway to establish the Environmental Kuznets Curve (EKC) between economic development and environmental pollution in Croatia. To empirically estimate the curve, data on 21 counties were scrutinized for various types of pollution. The paper also analyses the macroeconomic effects of the announced investments in renewable energy sources for electricity production. The entire energy transition process can be seen as the beginning of the renewal of industrial production capacities, i.e., reindustrialisation.*

1. INTRODUCTION

At the beginning of the early 90s, Croatia entered the process of a very deep transition, which had a substantial impact on all aspects of society. The analysis carried out in this work refers to changes within the Croatian energy sector and the impact of these changes on macroeconomic trends in Croatia. The first steps in the framework of the energy transition in Croatia were related to the decarbonization of the production sector through the production of renewable energy to reduce harmful emissions (GHG), following the recommendations of the Kyoto Protocol in 2005 (Baus & Kresic, 2024). This opened a new era of energy production from renewable energy sources (RES), which led not only to a substantial transformation within the energy sector, but also to a very strong impact on the wider aspect of economic and social changes.

The entire process of this energy transition could be analyzed through four parts: the process of building renewable energy sources, the process of closing existing energy sources that have a large GHG emission, the process of reindustrialization in Croatia due to the construction of RES and the process of a new approach to protection environment.

The objectives of the paper are to:

1. Analyze the potential natural resources needed for the production of renewable (solar) energy
2. Analyze the economic correlation, as well as the emission of greenhouse gases GHG, between 1MWh of energy produced in the Plomin coal-fired thermal power plant and in the 1MW solar power plant.
3. Analyze if Croatia can rely on its own electricity, derived from renewable sources and from sources with low CO_2 emissions that use natural gas.

All research is carried out through descriptive analysis of publicly available foreign and domestic relevant literature and data from appropriate reliable sources. This refers to the study of several scientific papers on this topic, annual reports, books, and especially to the input-output tables, from which numerous data were used in this paper.

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2. THE PROCESS OF DECARBONIZATION OF THE ENERGY SECTOR IN CROATIA

At the beginning of 2020, the Strategy of the Republic of Croatia until 2030 with an outlook to 2050 was adopted. The Strategy analyzes two energy transition scenarios, the accelerated energy transition and the moderate energy transition. The Strategy is guided and defined by goals set out by the European Union (EU), which primarily states to decrease greenhouse gas emissions and increase the share of renewable energy sources. To reach these goals, it is necessary to substitute fossil fuel capacities with new capacities to produce electricity from renewable sources.

Consumption of fossil fuels harms the environment and is the leading cause of climate change. This fact influenced energy to become one of the essential areas of common interest to all EU member states within the common energy and climate policies. Today, the EU, guided by the common energy policy, leads the process of decarbonizing economic activity and focuses on transformation toward a low carbon economy according to the Paris Agreement. All member states are following the common energy and climate policies by achieving the set goals. After the 2020 goals were met, 2030 goals were defined.

The capacity of renewables in Croatia in 2020 was 1060 MW. The largest portion came from the wind, with almost 70% of the total capacity. The next largest share was in cogeneration and biomass power plants with 10%. Solar and biogas plants generated 5% each. Around 1% came from landfill gas. The trend is expected to follow the current pattern in the next decade, given the energy and climate policies of the EU.

The Croatian parliament accepted the Energy Strategy in 2020 which aims to decrease greenhouse gas emissions, increase the share of renewables, increase energy efficiency, security and quality of supply, development of the EU energy market, energy infrastructure, and competitive economy and the energy sector. The Strategy analyzes two energy transition scenarios, scenario 1 (S1- accelerated energy transition) and scenario 2 (S2 - moderate energy transition). According to S1, decarbonization of electricity production aims to increase the share of renewables to 66%, and according to S2, to 61% until 2030. According to both scenarios, the share of renewables in total energy consumption is set to 32%. Scenarios encompass 12 activities where investments are considered to reach the goal. Electricity production is one of 12 activities analyzed for both scenarios in the Strategy. This paper focuses on the macroeconomic effects of investments in the production of electricity only. Table 1 exhibits the production structure of electricity given the defined scenarios (Energy Institute, 2018.).

Table 1. Expected electricity production and its structure according to the production technology for S1 and S2 scenarios

in GWh	2017	Share	S1	Share	Change	S2	Share	Change
Production Technology	**(Base Year)**	**%**	**2030**	**%**	**2030/2017**	**2030**	**%**	**2030/2017**
Industrial cogeneration	414	3	320	2	77%	320	2	77%
Public cogeneration	3383	28	3316	19	98%	3508	21	104%
Thermal plants	1397	12	720	4	52%	800	5	57%
Geothermal plants	0	0	129	1	-	129	1	-
Solar plants	79	1	1371	8	1742%	1013	6	1288%
Wind plants	1204	10	4332	25	360%	3549	21	295%
Hydro plants	5508	46	7307	42	133%	7319	44	133%
TOTAL	11,985	100	17,495	100	146%	16,638	100	139%

Source: Author; Energy Institute (2018)

Within the energy transition framework, renewables are expected to increase along with the greater diversification of energy sources. In S1 until 2030, the use of renewables would increase to 42%, while in S2, it goes to 49%. The most significant changes are in considerable increases in the share of wind and solar. Electricity production from wind and solar should increase from 1.3 TWh in 2017 to 5.7 TWh in 2030 in S1 and 4.6 TWh in 2030 in S2. The share of wind and solar should grow from 11% in 2017 to 33% in 2030 in S1, and 27% according to S2. To achieve these projections, considerable investments are needed in renewables. Table 2 shows investment in electricity production and its structure according to technology and scenario for the period 2021–2030.

Table 2. Investment in production of electricity according to S1 and S2, 2021–2030.

Billion EUR		**2021-2030**		
Production Capacity	**S1**	**%**	**S2**	**%**
Wind	0.84	32.9	0.67	30.7
Solar	0.68	26.8	0.54	24.7
Hydro	0.58	22.6	0.51	23.5
Gas	0.3	11.8	0.03	13.3
Biomass	0.12	4.8	0.13	5.9
Energy storage	0.007	03	0.015	0.7
Geothermal	0.012	0.5	0.02	0.9
Heat pumps and electric boilers	0.008	0.3	0.01	0.4
TOTAL	2.55	100.0	2.18	100.0

Source: Author; Energy Institute (2018)

According to S1, total expected investments amount to EUR 2.55 billion in the ten-year period, which means annually on average EUR 0.25 billion. That amount of 11% of expected investments in all 12 activities for energy transition for the period 2021–2030 amounted to EUR 22.5 billion (around EUR 2.25 billion annually). The greatest share goes towards investment in the refurbishment of old or construction of new buildings (44%). Investment in solar and wind plants is scheduled at 60% of investments in renewables, which is EUR 0.15 billion. The hydro potential is in third place, followed by gas power plants. Gas plants are not a renewable source but are needed given their flexibility in the power system with many other renewables. In the S2 case, 15% less investment is scheduled for 2.18 billion EUR in the ten years (EUR 0.22 billion annually). This amounts to 11.5% of total scheduled investment in 12 activities which amounts to EUR 18.86 billion (EUR 1.93 billion annually). The share in this scenario is led by investment into wind and solar plants, which amount to 55% or EUR 1.2 billion. It is assumed that the investment in both scenarios is linearly distributed in the ten years. For estimates of effects, energy scenarios of the moderate and accelerated energy transition were used.

Conducted input–output analysis and associated results point to weak macroeconomic effects of an investment in renewables in the period 2021–2030 according to the Energy Strategy of the Republic of Croatia for the Croatian economy. The results are shown through GDP and employment, both total and by sector. We estimate that for every EUR 1 million of investment in capacities for electricity production from renewables, the Croatian economy creates, directly and indirectly, only EUR 0.336 million of value added and EUR 0.410 million of GDP. Investment in renewables significantly increases imports which is more than double of newly created GDP. At the same time, EUR 1 million investment creates 14 new jobs (out of which 46% in industry, 32% in construction, and 22% in services). Given the results presented here, and data from previous studies on Croatia, it can be concluded that our estimates are expectedly lower because we have not included induced effects, but the average of all renewables investment, and the previous studies included the separate

investment of each respective renewables on macroeconomic variables. Thus, our results show the impact of 14 new jobs created per EUR 1 million investment, while other studies show the range of 15–27 jobs created, with the highest impact of bioenergy in the range (Mikulić et al., 2018).

3. GLOBAL VALUE CHAINS (GVC) FOR ELECTRICAL POWER SYSTEMS

Economic analysts view electricity and heat as commodities with market prices, quantities, quality, delivery time, etc., like any other commodity, which can be analysed through GVC. The specificity of this exchange, in relation to other exchanges of goods and services in GVC, is that this exchange lasts continuously, 24 hours a day, 365 days a year, which results from the phenomenology of the power system itself and its interconnection with several such correspondent systems of other countries. In this way, several countries merge into one power system, and thus, a single, common electricity market governed by all market laws and other goods and services. Therefore, every electrical power system of each country is already in the international GVC system, including the Croatian national electrical power system.

More recently, the economic development of a developing country, such as Croatia, undergoing a process of intensive reindustrialization, is the fastest possible through the international division of labor. By switching to a market economy, the Republic of Croatia has undergone premature and indiscriminate deindustrialization, which has decreased the number of employees in the industry. This transition has had a substantial consensus on Croatia's positioning on the GVC scale (Kersan-Škabić, 2019).

The economic analysis found that Croatia achieves worse results than other EU member states, with a high share of domestic value added in total exports. According to the GVC participation index, Croatia did not experience significant changes in 1995-2011 and is in the GVC position in the downstream part of the scale, meaning that higher imports of intermediate products prevail compared to exports (Kersan-Škabić, 2019).

Better positioning on the GVC scale requires different strategies, which allow the realization of higher added value in the final product. This is achieved in practice using advanced technologies and employing a highly skilled workforce. The economic analysis of RESC and its positioning on the GVC scale can be carried out at the local, national, regional, or global level regarding participation in electricity generation. It is also possible to examine the positioning of RESC on the GVC scale through manufactured or imported technical equipment required for RESC. The implementation of this analysis provides insight into the decomposition of the production process to the lowest microeconomic level, entering the production capacities and financial results, if necessary, of the lowest production organizational units and their interaction.

This fragmentation of internationalization of production and exchange of goods and services enables companies to be more competitive in the market but also reduces business risks. In previous scientific papers in Croatia, the analysis of Croatia's involvement and positioning in the field of electric power engineering in the GVC has not been sufficiently investigated. However, according to many scientists in this field, this is crucial for the development of one country.

However, this constant trend of economic growth in industrially developed countries leads to conflict with many current constraints related to sustainable development. These are primarily energy conversion in accordance with environmental protection. In recent years, it has been

particularly emphasized through European recommendations, which have a legislative character, the construction of clean, renewable energy sources, which have little or almost no adverse effect on the environment.

Accordingly, energy production trends are changing, where the production of "green" and "clean" energy and its placement in the electricity consumption network, goat (RESC), is increasingly represented. This crucial global change also results in a substantive shift in energy production sources, i.e. the application of entirely different modern energy technologies (Notton et al., 2018). New energy trends have multiple meanings for Croatia, as follows:

1. use of renewable energy are developing in line with EU recommendations;
2. significantly contributes to better positioning of Croatia in GVC by creating a domestic newly created added value;
3. significantly contributes to the protection of the environment;
4. the positive implications for society's economic and social aspects are significantly strengthened.

One of the main goals of Croatia's energy policy is to increase the participation of renewable energy sources in total energy consumption. Accordingly, the fundamental indicators for monitoring the share of renewable energy sources are defined as follows:

1. the share of renewable energy sources in gross final energy consumption (RES);
2. the share of renewable energy sources in gross final electricity consumption (RES-E);
3. the share of renewable energy sources in gross final consumption of energy for heating and cooling (RES);
4. the share of renewable energy sources in final energy consumption in transport (RES-T).

4. BASIC CORRESPONDENT FEATURES (RESC) AND (GVC)

With the arrival of new renewable energy technologies, the equipment of the entire supply chain is significantly changed, which requires completely different device production, servicing, operational maintenance and much more recent knowledge and skills of the employed personnel. Exceptionally high demands have been placed on the supply chain regarding decarbonization, reliability, and plant safety (Ahmad & Zabri, 2018).

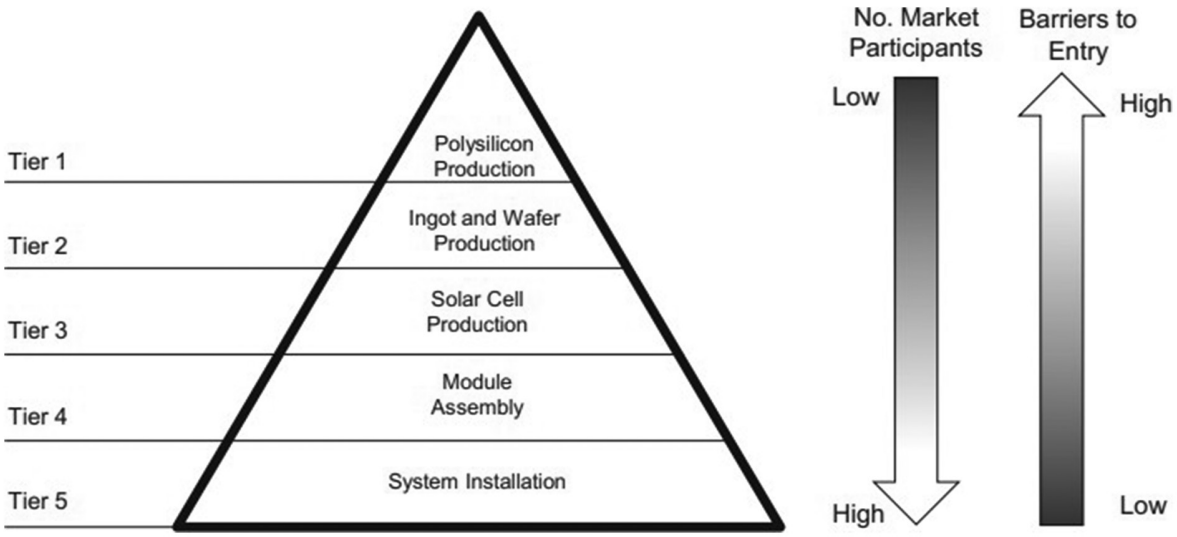


Figure 1. The RESC - The PV supply chain

Source: Own illustration

An essential part of RESC should be the so-called "smart grid", which allows optimal use of electricity and heat. In this way, considerable energy savings can be achieved. In addition, this gives the entire supply chain much greater working flexibility. Because of this, the energy transition process is very complex and will last for decades because traditional technologies are based on fossil fuels, deeply rooted in existing energy systems. Of all renewable sources, photoelectric (PV) is the most widespread. In addition, in the construction and organization of this supply chain, it is possible to increase the participation of domestic production entities. Therefore, it is explained below it in more detail.

As seen in Figure 1, the PV supply chain can be presented through five levels, as follows: 1- Tier 1 – the production of the polysilicon material; Tier 2 – production of ingots and wafers; Tier 3 – production of solar cells; Tier 4 – module assembly; and Tier 5 system installation.

By analyzing the levels of the organizational pyramid, we see that the PV supply chain's structure is such that almost all its levels, except for the 1st level, can be successfully realized by domestic companies in Croatia.

Level 1 products are made mainly by Asian companies, which account for about 86% of the world's production of this equipment (Grubler et al., 2012).

For performing work at level two of the organizational pyramid, there are two large domestic companies that, with their production capacities, can fully cover the domestic market but also place about 20% of their annual production on the foreign market. At all other levels: 3, 4, and 5, Croatia has a lot of domestic companies with highly specialized and well-trained personnel who can build and commission the PV supply chain in a relatively short time. This example shows that domestic companies have a share of more than 90% of the total random engagement for the construction and commissioning of the PV energy supply chain, which defines the new value-added. Furthermore, this is, in fact, a perfect example, which gives a clear picture of the interaction between the supply chain (RESC) and the global chain GVC.

On the one hand, it inevitably follows that a larger share in domestic companies' production of equipment and services in (RESC) automatically gives a better position to the Croatian economy in GVC. Likewise, a detailed recursive analysis of the previous example shows that GVC significantly impacts RESC. As seen in Figure 1, imported equipment, which financially amounts to less than 10%, is located only at level 1, the organizational pyramid of the supply chain. Although this imported technical equipment participates so little in the entire supply chain, this supply chain could not be realised without it. This indicates how big and significant the role of GVC is in the international exchange of goods and services and the interconnection with RESC.

In other words, this means that here, when organizing the RESC, we have a two-way movement process on the GVC scale, Downstream when importing equipment at levels 1 and Upstream for other levels, 2, 3, 4, and 5.

$$BackGVC = \frac{foreign\ added\ value\ in\ exports\ of\ the\ country}{total\ added\ value\ \ in\ exports\ of\ the\ country} \times 100$$

$$ForwGVC = \frac{domestic\ added\ value\ in\ exports\ of\ other\ country}{total\ added\ value\ \ in\ exports\ of\ the\ country} \times 100$$

Here, BackGVC shows the foreign-added value contained in the exports of the analysed country, expressed as the share of foreign-added value in the total value of that country's exports (Mikulić, 2018).

ForwGVC defines "forward links" and represents a country's added value in exporting to other countries. It is necessary to measure the indirect export of a country's added value contained in the export of all other countries in the model. Then, the share of the calculated total value added (included in the export of all other countries in the model) in the total value added of the exports of the analyzed country is calculated.

Inclusion in GVCs is the sum of two of the following indicators:

$$GVCinclusion = BackGVC + ForwGVC$$

If the result is positive, it means that "forward connections" prevail in the analyzed industry, and if it is negative, it means that "backward links" prevail in the analyzed industry. A microeconomic analysis of the inter-impact between industrial manufacturing sectors to produce technical equipment for renewables could be carried out in further research.

Different renewable energy sources (wind, solar, geothermal, biomass) are complex and heterogeneous, so they cannot be classified into one industrial sector. Economic analysis is carried out at the microeconomic level by monitoring the interdependence of production sectors by applying fundamental indicators and multipliers in input-output analysis.

However, this method has certain drawbacks. Namely, grouping the entire economy into only a few sectors makes it easier to monitor the calculation of different indicators. Still, it reduces the analytical strength of the model since such production sectors are very heterogeneous, and the cross-sectoral dependence between more homogeneous sectors remains hidden.

5. FUTURE RESEARCH DIRECTIONS

Renewable energy sources are built for well-known reasons: cost-effective energy production, cessation of fossil fuel use, ecology, etc. It is important to point out here that it is not only about the construction of new renewable sources but also about the closure of existing energy sources that are major polluters of the environment. These are primarily coal-fired thermal power plants, then heavy oil derivatives, then light oil derivatives and finally natural gas, and propane. Thus, it is a very complex process of energy transition, which is reflected through the substitution of outdated technology to reduce CO_2 emissions and decarbonization.

The transition process should be integral, and comprehensive, which means that every closed power plant should be adequately replaced with renewable energy sources. Furthermore, some of the questions arising from the current consideration of the Croatian electric power system are presented:

1) Can Croatia produce enough electricity for its own needs in the coming period of 5 years, including all energy sources (primary and renewable)?
2) Can this new production capacity refer only to renewable energy sources?
3) Can Croatia, and in what timeline, close the coal-fired thermal power plant TE Plomin with a capacity of 350 MW (the biggest polluter of the environment) and replace it with RS energy?
4) Can Croatia reduce the emission of harmful gases (CO_2 and NO_x) compared to the current situation and in what period and to what extent in the future?

5) Can Croatia export electricity derived from RS? In which months of the year and in what quantities? What is the economic benefit of that export?
6) Does Croatia have the opportunity for greater participation in technological innovations and the development of new technologies during the construction of RS? Can this analysis be carried out using global value chains (GVCs)?
7) How does the increased development and construction of the RS affect the overall development of industry and economy, and thus the GDP?
8) What are all the barriers and to what extent do they affect the faster development and construction of RS?

The answers to these questions are not simple and require a deep dive into the topic but could be a modest scientific contribution to the creation of initial guidelines for the implementation of the short- and medium-term Strategy for the development of renewable energy sources in the Republic of Croatia.

6. CONCLUSION

This analysis aimed to estimate the macroeconomic effects of an investment in electricity production according to the approved and accepted Energy Strategy of the Republic of Croatia. Croatia freely exchanges electricity, not only with neighbouring countries but also with countries such as Bulgaria, Germany, Switzerland, etc., and thus is a member of the global electricity market in the exchange of electricity. Economic analysts view electricity and heat as commodities with market prices, quantities, quality, delivery time, etc., like any other commodity, which can be analyzed through GVC.

The specificity of this exchange, compared to other exchanges of goods and services in GVC, is that this exchange lasts continuously during the year, which stems from the phenomenology of the standard power system for several countries. On the other hand, looking at the changes at the local level of the power system, in recent years, the production of renewable electricity and heat following global trends and recommendations of the European Union to maintain environmental ecological standards has been intensified.

As a result of this process, energy production and placement in the public consumer electricity network is generated through activity, first private entrepreneurship, and then public-private partnerships, thus establishing the first RESCs in Croatia, which are interpolated into a standard power system and thus into GVC. The result of this interpolation is an integral part of the global energy diffuse, creeping transition, very ambitiously planned, that by 2050, Croatia should have in RESC installed capacity in the amount of 50% of the total installed energy capacity of the entire country.

The final analysis concludes that the interaction of RESC and GVC greatly accelerates the energy transition process and achieves multiple positive effects essential for Croatia's better energy, socio-economic and general cultural development perspective. The topic of this paper is very complex. It requires a lot of theoretical and practical knowledge from various scientific, technical and social disciplines and goes beyond the framework of this paper.

References

Ahmad, K., & Zabri, S. (2018). The deployment of performance measurement system under the supply chain management environment: The case of Malaysian manufacturing companies. *Management and Production Engineering Review*, 3-12.

Baus, D., & Kresic, D. (2024). Solar Energy for Tourism in Croatia. In *Managing Destinations: Volume 14 From Theories to Practices* (pp. 161-175). Leeds: Emerald Insights.

Energy Institute. (2018). *Analize i Podloge za Izradu Energetske Strategije Republike Hrvatske.* Zagreb: Hrvoje Požar.

Grubler, A. A. F., Gallagher, K., Hekkert, M. J., & Mytelka, L. (2012). Policies for the Energy Technology Innovation System (ETIS). *Global Energy Assessment – Toward a Sustainable Future. Cambridge University Press, Cambridge, UK and New*, 1665–744.

Kersan-Škabić, I. (2019). The Drivers of Global Value Chain (GVC) Participation in EU Member States. *Economic research*, 1204-1218.

Mikulić, D. (2018). *Osnove input-output analize s primjenom na hrvatsko gospodarstvo.* Zagreb: University of Economics in Zagreb.

Mikulić, D., Lovrinčević, Ž., & Keček, D. (2018). Economic Effects of Wind Power Plant Deployment on the Croatian Economy. *Energies*, 11, 1881.

Notton, G., Nivet, M., Voyant, C., Paoli, C., Darras, C., Motte, F., & Fouilloy, A. (2018). Intermittent and stochastic character of renewable energy sources: Consequences, cost of intermittence and benefit of forecasting. *Renewable Sustainable Energy, 81*, 95-105.

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Stakeholder Engagement in Energy Efficiency: A Case Study of Greece's Clean Energy Transition

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Abstract: *Effective decision support processes depend on robust stakeholder engagement, ensuring informed, equitable outcomes through collaborative dialogue and participatory governance. This paper presents a strategic approach to stakeholder engagement aimed at mobilizing energy efficiency investments, with a focus on Greece. Emphasizing inclusivity, structured dialogue, and tailored collaboration, the methodology identifies and prioritizes stakeholders across sectors such as finance, public authorities, technical services, and civil society. Findings reveal that public authorities (30%), financial institutions (24%), and technical providers (19%) are critical for driving energy efficiency initiatives, with 70% of stakeholders requiring high engagement. The study underscores the importance of aligning stakeholder roles with project goals to foster sustainable investments and meet the European Union's climate targets. Recommendations include participatory tools like roundtables and cross-country labs to enhance collaboration and disseminate best practices.*

1. INTRODUCTION

Energy efficiency initiatives are considered pivotal for promoting sustainable economic growth, environmental protection, and energy security in view of Europe's clean energy transition. Lack of capital and the high associated costs related to energy efficiency projects are the main challenges that hinder such investments (Karakosta et al., 2021). Therefore, ensuring prompt access to financial resources is crucial when initiating such projects, overcoming challenges posed by high initial expenditures, and removing obstacles to progress toward established goals.

According to the European Commission, buildings in the EU are responsible for 40% of our energy consumption and 36% of greenhouse gas emissions. On 15 December 2021, the European Commission adopted a legislative proposal to revise the Energy Performance of Buildings Directive, as part of the so-called 'Fit for 55' package. A new European Climate Law (July 2021) enshrined both the 2030 and the 2050 targets into binding European law.

All new buildings should be zero-emission as of 2030; new buildings occupied or owned by public authorities should be zero-emission as of 2028. According to the new directive, member states will have to renovate 16% worst-performing non-residential buildings by 2030 and, by 2033, the worst-performing 26% through minimum energy performance requirements (EC, 2024).

Although requiring substantial initial costs, energy efficiency measures have the capacity to generate significant long-term financial returns. The reduction in energy consumption consequent to these

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projects results in notable decreases in utility expenses, which translate into savings that can surpass the initial outlay over time and serve as justification for such investment. Financing mechanisms play a crucial role as an essential link between front-end expenditures and subsequent cost-saving measures.

In the above context and with the energy transition underway, the question of how to engage communities as stakeholders in the decision-making process and address their needs through an equitable and just transition remains unresolved. An equitable transition includes the fair treatment and meaningful involvement of affected stakeholders (McCauley & Heffron, 2018). For the energy transition to also be a just transition, it must address who gets what, how processes drive the distributive principles behind "who gets what," as well as who gets brought to the decision-making table, and how participatory governance structures influence who gets heard (Cha, 2020).

Identifying stakeholders' influence on project outcomes, prioritizing their importance and managing their interests accordingly is an effective strategy for maximizing benefits (Karakosta et al., 2018). Quantifying the influence of stakeholders on the energy efficiency of housing allows for the development of an engagement plan that takes into consideration stakeholders' diverse goals, needs, levels of expertise, knowledge, authority, connectivity and closeness to decision-making processes throughout the different stages of the renovation project (Karakosta et al., 2023; Zedan & Miller, 2018).

Stakeholder engagement is considered an important component of all decision support processes, while the involvement of key stakeholders is very useful to get an alternative perspective, and direct focus, but also, if needed, to shift the focus from related activities to intended results at an early stage (Karakosta & Fujiwara, 2020). Given the stakeholders' critical role, stakeholders representing diverse target groups in the entire energy efficiency investments value chain (Loureiro et al., 2020), such as government entities, regional authorities, financial institutions, Energy Service Companies (ESCOs), homeownership associations, and industry and construction sectors should be brought together to mobilize investments in energy efficiency projects (Karakosta et al., 2021). In addition to these groups, consumer advocacy and citizen organizations could also contribute significantly towards this direction.

This paper aims to present a strategic approach towards stakeholder engagement that involves identifying diverse groups of stakeholders, while analyzing their interests before initiating meaningful collaboration around knowledge exchange. The scope is to facilitate stakeholders' effective engagement, by ensuring organized, comprehensive stakeholder involvement through pragmatic methods, so as to maximize favorable outcomes for promoting energy efficiency projects and investments.

2. STAKEHOLDER ENGAGEMENT

A key aspect of the proposed methodology's success lies in its strategic focus on stakeholder engagement. This approach is based on seven fundamental principles to promote a collaborative, inclusive and dynamic environment. These core considerations include an emphasis on inclusive participation, structured dialogue and collaboration, knowledge sharing and transparency, establishing feedback mechanisms to ensure ongoing communication between all parties involved and long-term commitment toward stakeholders' needs (Karakosta et al., 2018).

Inclusive Participation: The approach is built upon a fundamental principle of inclusivity, whereby all stakeholders are accorded active participation. This encompasses government bodies, local

and regional authorities, financial institutions, Energy Service Companies (ESCOs), homeownership entities, industrial and construction sectors, Small-to-Medium Enterprises (SMEs), and consumer/citizen associations. The unique perspectives and expertise brought forth by each group constitute central inputs towards the comprehensive development plus implementation of energy efficiency strategies.

Dialogue and Collaboration: Emphasizing structured dialogue, this project places significant importance on consistent communication channels to facilitate the ongoing exchange of ideas, feedback, and best practices.

Knowledge Exchange: Stakeholders are strongly encouraged to utilize forums, such as working groups, and cross-country labs, to acquire and disseminate energy efficiency financing. Such collective exchange represents a crucial step towards addressing current energy-related challenges while cultivating a unified approach to energy efficiency not only within the EU but also beyond it.

Transparency and Accessibility: It is essential to ensure transparency throughout all process phases as it establishes trust and sustains continual participation. This involves the transparent formulation of objectives, methodologies, and consequences. It is also indispensable that information and resources are accessible to stakeholders from different backgrounds and proficiency levels so they can contribute effectively.

Feedback Mechanisms: Integrating efficient feedback channels enables stakeholders to express their viewpoints, concerns, and recommendations. The approach allows flexibility and potential for modifying its methodologies and tactics in response to stakeholder input and changes within the energy domain.

Focus on National Needs: Acknowledging the distinctive energy-related issues and prospects when dealing with various European areas, and countries, is imperative. Customizing strategies tailored to meet local and regional environments will amplify project efficacy and significance.

Long-Term Engagement: Ultimately, the approach relies upon cultivating enduring relationships and partnerships between all parties involved. This requires comprehensive engagement, continuous involvement, and unwavering dedication to communal objectives.

3. ENERGY EFFICIENCY TARGET GROUP IDENTIFICATION

Identifying distinct stakeholder groups with unique interests, expertise, and influence in energy efficiency financing is a strategic imperative in order to promote this kind of investments (Kleanthis et al., 2022). This identification allows us to tailor efforts to each group's needs and strengths. Such a strategic focus ensures that the initiatives, including roundtables, working groups, and information dissemination efforts, are relevant and highly effective.

Understanding the specific target groups is also crucial in fostering more effective collaboration and partnerships. It creates opportunities for synergy between groups with complementary interests and objectives. Table 1 presents an analysis of the target groups based on four axes, namely residential buildings, public buildings, small and medium-sized enterprises (SMEs), and the tertiary sector.

Table 1. Energy efficiency stakeholders per sector

FINANCIAL SECTOR			
RESIDENTIAL	PUBLIC BUILDINGS	SMEs	TERTIARY SECTOR
Banks (National – Regional – EU), Finance Companies and Institutions, Authorities Managing Public Funds, Insurance Companies, Real Estate Investment Companies (Reics), Real Estate Portfolio Valuers and Brokers, Energy Service Companies (ESCOs)			
PUBLIC AUTHORITIES & POLICYMAKERS			
RESIDENTIAL	PUBLIC BUILDINGS	SMEs	TERTIARY SECTOR
EU Decision Making – Policymakers, European Parliament (Representing EU Citizens) - Council of the European Union (Representing EU governments) - European Commission (Representing the EU's Overall Interests), National Public Authorities, Regional Public Authorities, Local Public Authorities			
TECHNICAL AND SERVICE PROVIDERS			
RESIDENTIAL	PUBLIC BUILDINGS	SMEs	TERTIARY SECTOR
Technical Chambers – Associations of Engineers, Energy Auditors, Building Managers, Energy Managers, Project Developers (Associations & Individual Companies), Construction Companies (Associations & Individual Companies)			
RESIDENTIAL			
Building Owners Associations, Rental Housing Associations, Social Housing Associations			
PUBLIC BUILDINGS			
Public Building Managers, Public Building Managing Authorities			
SMEs			
SME associations, SMEs belonging to the primary and secondary sectors			
TERTIARY SECTOR ASSOCIATIONS			
Indicatively: Private Education Services, Private Health Services, Hospitality Industry			
ACADEMIA, CIVIL SOCIETY, MEDIA			
RESIDENTIAL	PUBLIC BUILDINGS	SMEs	TERTIARY SECTOR
Academia (Business & Financial Segments), Think Tanks, NGOs (relevant to energy and environmental conservation), and Media.			
OTHER STAKEHOLDERS			
RESIDENTIAL	PUBLIC BUILDINGS	SMEs	TERTIARY SECTOR
EU LEVEL ASSOCIATIONS (representing all the above domains), EU countries (out of SMAFIN Expanded) stakeholders relevant to the project domain, EU potential countries stakeholders (for the Cross Country Labs, mainly), LIFE sister projects and HORIZON 2020 active projects)			

Source: Own research

4. STAKEHOLDER ANALYSIS IN GREECE

The participatory approach is growing in popularity and increases the potential long-term success of the process through increasing stakeholder literacy and ownership (Karakosta & Papapostolou, 2023). Furthermore, in order to promote the implementation of intelligent financing practices in energy efficiency investments it is crucial to reach out and engage the most appropriate target groups working in this field. Indeed, knowledge about the expectations, roles and needs of external and internal players who have the potential to either influence or be influenced by energy efficiency investments is an initial but crucial step in the analysis of stakeholders' impact on mobilizing more notable investment in energy efficiency projects (Karakosta et al., 2021).

For the purposes of this study and in order to facilitate the LIFE Programme project "SMAFIN Expanded" (grant No. 101120412), so as to establish a wide stakeholders' network in Greece that could potentially be engaged in the SMAFIN Expanded project, have been identified 138 stakeholders.

More particularly, Figure 1 presents the visualization of the target groups identified. The majority are Public Authorities & Policymakers (30%), the Financial Sector (24%) and Technical & Service Providers (19%) are also highlighted, indicating the significant economic and technical dimensions of promoting energy efficiency investments. Secondary Stakeholders like academia and media (19%) highlight the role of research and communication, while Other Stakeholders (8%) suggest a diverse array of supporting participants.

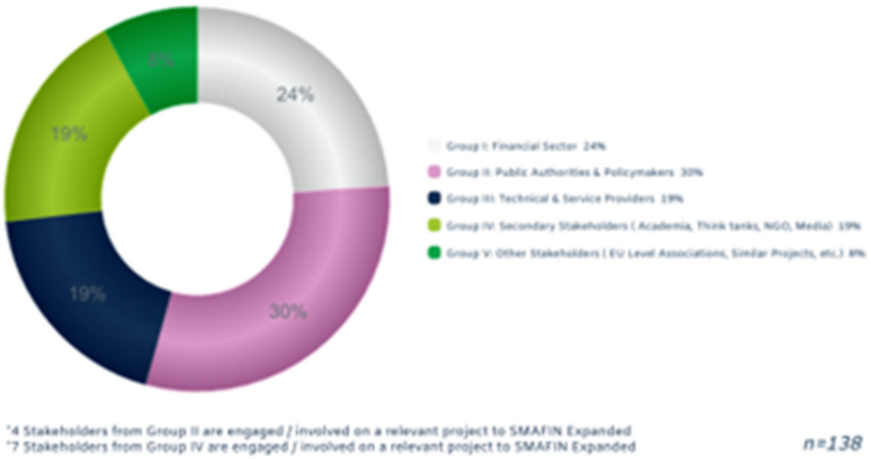


Figure 1. Distribution of Greek Stakeholders per Target Group

Source: Own research

Figure 2 illustrates stakeholder prioritization towards mobilizing more notable investment in energy efficiency projects. A significant majority, 68%, are deemed High Priority, indicating essential importance to promoting energy efficiency investments. Medium Priority stakeholders constitute the remaining 32%, while there are no stakeholders classified as Low Priority, suggesting that all identified parties are considered at least moderately vital to this objective.

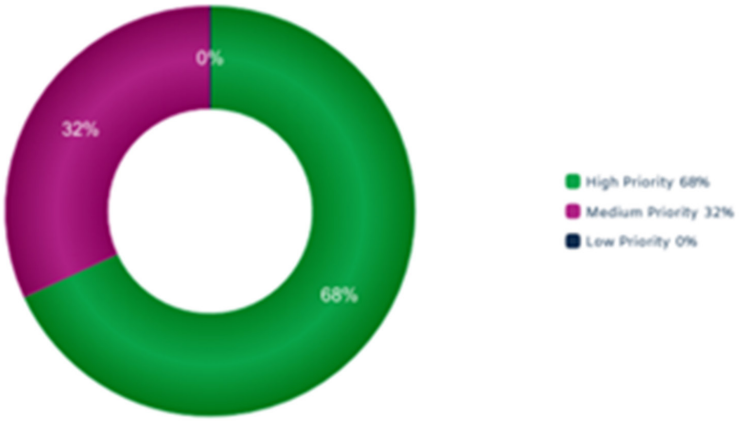


Figure 2. Greek Stakeholders Prioritization

Source: Own research

Figure 3 illustrates the categorization based on the significance level for stakeholder involvement using a 6-point rating scale (zero (0) – none; one (1) – very low; two (2) – low; three (3) – moderate; four (4) – high; five (5) – very high). As indicated in the chart, 70% of stakeholders have been outlined as having an elevated need for engagement (ratings 4 and 5), thereby highlighting their central role in achieving success in this undertaking. Conversely, approximately one-third (30%) are classified under the medium necessity category with rating-3 assigned to them.

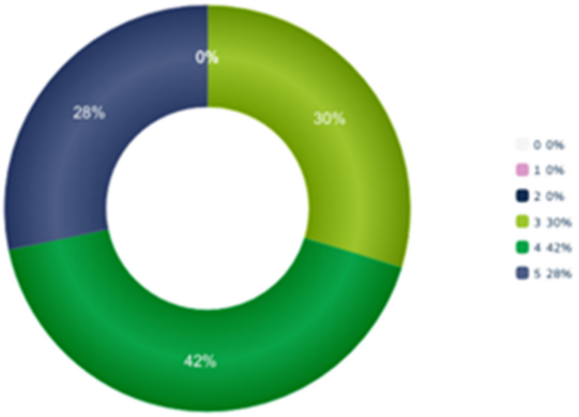


Figure 3. Greek Stakeholders' Value
Source: Own research

The stakeholders' potential influence is depicted in Figure 4, focusing on formal and professional language using a scale from zero (0) – none to five (5) – very high. The findings indicate that approximately 43% of stakeholders hold moderate influence (rated as 3). Additionally, notable segments possess high levels (16%) and very high levels (11%) of influence, respectively, while one quarter is rated at lower levels (2), with only a negligible percentage holding minimal sway over proceedings (5%).

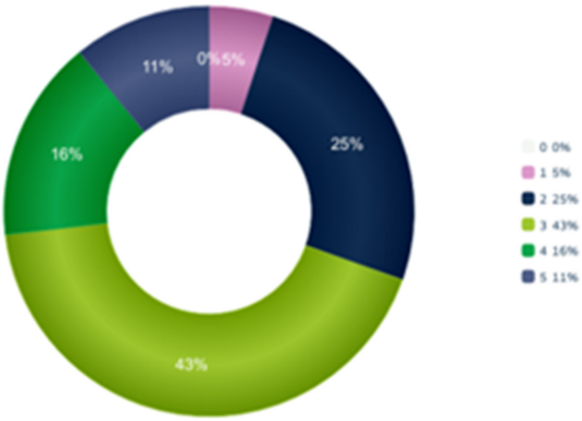


Figure 4. Greek Stakeholders' Level of Influence
Source: Own research

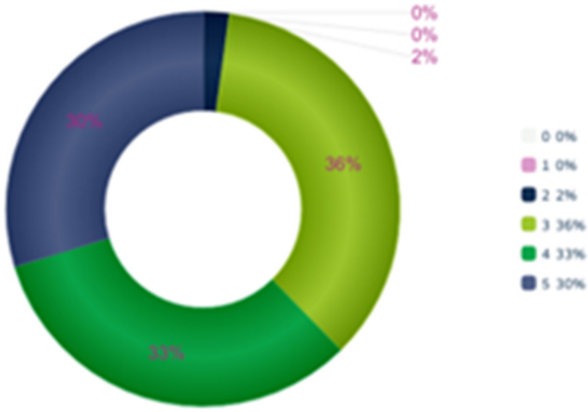


Figure 5. Greek Stakeholders Level of Expertise
Source: Own research

Figure 5 presents an analysis of stakeholders' expertise level (6-point rating scale from 0 - none to 5 - very high), indicating moderate interest in this endeavor (rating 3), while minimal concern registers at just about 1%. A vast majority, accounting for 69% of participants, exhibit moderate to high levels of expertise (ratings ranging from 3 to 5) concerning the project's subject matter. A minor percentage, approximately 2%, has been registered as low-level expertise ratings (rating 2).

5. FUTURE RESEARCH DIRECTIONS

As a next step and enhancement of this research is to define the specific short-term and long-term goals and objectives tailored to the needs and contributions of each stakeholder group. In this way stakeholder engagement process will align with the goals of enhancing energy efficiency and promoting sustainable practices.

Furthermore, further research could include the use of participatory tools in a case study, such as national roundtables, working groups, and cross-country labs. Thus, key outcomes and possible implications would result from the tailored stakeholders' engagement so as to maximize involvement from all stakeholders, disbursing best practices and mobilising private finances towards enhancing investments in energy efficiency.

6. CONCLUSION

An effective engagement approach fosters inclusive participation by creating opportunities for dialogue and exchanging knowledge while encouraging long-term commitment among financial institutions, public authorities, technical service providers, SMEs, and the tertiary education sector.

The stakeholders' identification process for the case of Greece resulted in 138 stakeholders with diverse backgrounds. For the purposes of this study the following criteria have been considered as important for facilitating an effective stakeholder engagement plan regarding energy efficiency investments in Greece:

- The necessity of involving the stakeholder.
- The extent of influence the stakeholder has in the market to contribute to the comprehensive communication, dissemination, and further exploitation of the project's outcomes.
- The level of expertise and knowledge in the specific subjects.

Following identifying the stakeholders, determining which groups and individuals are essential to engage according to the engagement's purpose and scope is fundamental. The level of engagement of specific stakeholder groups should be based on a balanced approach, closely related to their interest in participating and their expertise to contribute to the project's core objectives.

Based on the research conducted and through the proposed approach, knowledge about the expectations, roles and needs of external and internal players who have the potential to either influence or be influenced by energy efficiency investments have been easily extracted. This knowledge is an initial but crucial step in the analysis of stakeholders' impact on mobilizing more notable investment in energy efficiency projects.

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References

Cha, J. (2020). A just transition for whom? Politics, contestation, and social identity in the disruption of coal in the Powder River Basin. *Energy Res Soc Sci.*, 69:101657.

EC (European Commission). (2024). Energy efficiency of buildings: MEPs adopt plans to decarbonise the sector. Press Service, Directorate General for Communication European Parliament - Spokesperson: Jaume Duch Guillot Press switchboard number (32-2) 28 33000, Press release 20240308IPR19003.

Karakosta, C., Flamos, A., & Forouli, A. (2018). Identification of climate policy knowledge needs: a stakeholders consultation approach. *International Journal of Climate Change Strategies and Management*, *10*(5): 772-795, ISSN: 1756-8692.

Karakosta, C., & Fujiwara, N. (2020). *Scaling Up and Intensifying Stakeholders Engagement for Evidence-Based Policymaking: Lessons Learned*. In: Saleem Hashmi and Imtiaz Ahmed Choudhury (eds.). Encyclopedia of Renewable and Sustainable Materials. Oxford: Elsevier. ISBN 9780128131961, 1, 773-782. https://doi.org/10.1016/B978-0-12-803581-8.11137-3

Karakosta, C., Mylona, Z., Papathanasiou, J., & Psarras, J. (2023). Integrating Existing Knowledge to Accelerate Buildings Renovation Rates in Europe. In: Liu, S., Zaraté, P., Kamissoko, D., Linden, I., Papathanasiou, J. (eds) Decision Support Systems XIII. Decision Support Systems in An Uncertain World: The Contribution of Digital Twins. ICDSST 2023. Lecture Notes in Business Information Processing, vol 474. Springer, Cham. https://doi.org/10.1007/978-3-031-32534-2_10

Karakosta, C., & Papapostolou, A. (2023). Energy Efficiency Trends in the Greek Building Sector: A Participatory Approach. Euro-Mediterranean. *Journal for Environmental Integration*, 8(1), 3-13, INVITED PAPER. https://doi.org/10.1007/s41207-022-00342-2

Karakosta, C., Papapostolou, A., Vasileiou, G., & Psarras, J. (2021). 3 - Financial Schemes for Energy Efficiency Projects: Lessons Learnt from In-Country Demonstrations. Editor(s): David Borge-Diez and Enrique Rosales-Asensio, In Energy Services and Management, Energy Services Fundamentals and Financing (pp. 55-78). USA: Academic Press, Elsevier, ISBN: 9780128205921. https://doi.org/10.1016/B978-0-12-820592-1.00003-8

Kleanthis, N., Koutsandreas, D., Karakosta, C., Doukas, H., & Flamos, A. (2022). Bridging the transparency gap in energy efficiency financing by co-designing an integrated assessment framework with involved actors. *Energy Reports*, 8: 9686-9699, ISSN 2352-4847. https://doi.org/10.1016/j.egyr.2022.07.066

Loureiro, T., Gil, M., Desmaris, R., Andaloro, A., Karakosta, C., & Plesser, S. (2020). De-Risking Energy Efficiency Investments through Innovation. *Proceedings 65*(1): 3. https://doi.org/10.3390/proceedings2020065003

McCauley, D., & Heffron, R. (2018). Just transition: integrating climate, energy and environmental justice. *Energy Policy*, 119:1–7. DOI: 10.1016/j.enpol.2018.04.014

Zedan, S., & Miller, W. (2018). Quantifying stakeholders' influence on energy efficiency of housing: development and application of a four-step methodology. *Construction Management and Economics*, *36*(7), 375-393, DOI: 10.1080/01446193.2017.1411599

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Organization and Functioning of Economic Diplomacy: Exploring the Impact of Economic Aid as a Tool of Economic Diplomacy

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Abstract: *Depending on the goals it seeks to accomplish, economic diplomacy in the modern, globalized world has access to a wide range of methods. Even though they are diverse, their nature and traits allow for the primary division of two sizable groups. International relations analysis is made easier by the classification of economic diplomacy instruments, which is more for academic and instructional purposes than for practical use.*

This paper aims to study how foreign economic aid is a tool widely used in international relations. Economic aid is institutionalized in the global economy, often to certify "good behavior". Foreign economic aid is a very complex issue in international relations. The case of aid packages to Ukraine during its conflict with Russia highlights their importance but also raises questions about their effectiveness.

Nevertheless, economic aid is considered one of the most important tools of economic diplomacy, primarily when directed towards poor and developing countries to strengthen economic structures, reinforce democratic institutions, consolidate the rule of law, reduce corruption, etc.

1. INTRODUCTION

International relations and the economy must work together more than ever in the modern day. Economic and trade interests are being analyzed and applied in foreign policy more and more. Military might rarely have the same political sway as economic might. Globalization processes are unavoidably connected to this. States are considerably more interested in "conquering" markets than they are in capturing land. Nowadays, the main security guarantor is rapidly being replaced by expanding economic dependency, which eclipses military strategies. The fields of international relations, from bilateral to multilateral, include economic diplomacy, economic security, and environmental preservation (Papastamou, 2018, p. 310). It is difficult to say that political power alone suffices in today's environment. Therefore, financial collaboration, enhancing cross-cultural interactions, and raising public awareness of environmental protection-in other words, vision is needed. Economic aid comes from a variety of sources and takes several forms. Fund transfers, loans, supplies, technical support, and specialized expertise are a few examples of what it can contain. Economic and military help are the two main categories into which foreign aid is typically classified. It's not always easy to distinguish between military and economic help because a state may use the former for military objectives.

Undoubtedly, several global crises appear to have little, to nothing, to do with the economy. Upon closer inspection, it becomes evident that an economic component is part of their analysis. Agreements on the non-proliferation or reduction of nuclear weapons are examples of such issues, as are peacekeeping deployments of the United Nations. However, discussing its success necessitates funding, which is strongly related to global economic policies. Appropriate finance is

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at least partially necessary for all of these things to succeed. When no recession or serious crisis affecting the world economy, financing can be beneficial. Successful foreign policies become less financially capable when faced with economic challenges.

Depending on the goal they seek to accomplish, economic diplomacy in today's globalized world can employ a variety of tools. Notwithstanding their diversity, they can be broadly categorized into two sizable groupings according to their traits and nature. There are economic and political instruments in the first group. In the second, there are tools for coercion or sanctions on the one hand and tools for aid on the other. The goal of economic diplomacy is thought to be shared by both, development aid and sanctions. Both are instruments of power. The classification of economic diplomacy tools facilitates the study of international relations and is more didactic than practical. One of the most crucial instruments of economic diplomacy is economic aid, which is mostly given to underdeveloped and impoverished nations in an effort to improve their economic systems, democratic institutions, rule of law, corruption, etc.

2. LITERATURE REVIEW

In international relations, foreign economic aid is a common tool, despite being a relatively recent development, having surfaced in the late 1940s and early 1950s. The majority of wealthy countries, along with certain developing countries, have substantial programs for economic help through which they facilitate the distribution of aid through financial institutions. Studies have demonstrated that the assistance given for development is highly vague, therefore it is unclear whether or not developing nations will continue to receive economic aid. Nevertheless, the global economy depends heavily on economic aid, which is institutionalized and frequently validates "good behavior" (Wood, 1986, p. 2). In international relations, foreign economic aid is a particularly complicated topic. Both its efficacy and goal are hotly contested topics. There is disagreement among academic research regarding the reasons and circumstances in which states will give their resources to other nations.

Definition and explanation of the notion of economic aid is necessary when evaluating its function and effects. This includes putting it in its historical context and outlining how economic aid evolved into policy. Examining different critiques of economic aid policies is necessary at the same time. Finally, it's important to find new aid policy models.

International relations throughout the post-World War II era and the early 1970s disregarded economic considerations. Strange (1970, pp. 304-315) identified three primary causes for this to have happened. First of all, preventing a nuclear exchange between the superpowers of the two main camps was the primary goal during the Cold War. Scholars focused their examination on topics related to ideological rivalry, politics, and the military. Consequently, the economic aspect of the conflict received less emphasis. The economy was confined to the domain of low politics in the formation of classical realist theory. The second justification has to do with the approach. An attempt was made to develop a "science of international relations" during this time. As a result, whether on purpose or accidentally, the economics was ignored in the analysis. Economics and politics are distinguished clearly by Hans Morgenthau (Molloy, 2004, pp. 6-7). He was an advocate of the theory that politics was about power and economics was about riches. Whereas the latter was predicated on homo politicus, the former was predicated on homo economicus. It is related to American hegemony in the third place. International politics and international economics are distinct fields, a point that was further supported by the US hegemonic role in the post-World War II global economy. As the dominant industrial and financial force after the war, the United States was able to establish post-war economic regulations.

This guaranteed economic primacy, especially in light of the necessity for Western Europe to face the Soviet Union. The delusion that international economic relations were unopposed, at least among the Western camp, will result from Europe's incapacity to oppose the US. The 1970s marked the end of this disregard for economics in international affairs.

The transfer of resources from a government and public agencies of one state, or those of a group of states, to the government(s) and public agencies of other states for any reason other than meeting a duty, is referred to as economic aid, according to Economides and Wilson (2001, pp. 3-4). Only if there is no quid pro quo (Economides & Wilson, 2001, p. 123) or element of reciprocity can such a resource transfer be classified as aid. The exchange of public economic resources between governments is known as aid, and it can be broadly classified as either multilateral (from one or more states or international institutions to a state or group of states) or bilateral (from one state to another). However, it is challenging to define economic aid properly and to quantify its effects. According to research conducted by two of the most prominent IMF economists (Raghuram & Subramanian, 2005), there isn't any solid proof that aid has any kind of beneficial or bad influence on development.

Another theory contends that aid serves as a catalyst for the expansion and general development of the global economy and, as such, primarily pursues economic objectives as opposed to political ones. The underlying premise that the intended purposes of help are primarily political remains valid even in the presence of a compelling economic case for aid extensions. After weighing these considerations, it is clear that any analysis of aid policy needs to take into account the intricate relationship between its political, economic, and moral aspects.

Aiming primarily at political objectives rather than humanitarian or economic ones, economic aid serves as an instrument to get to an end. Economic resources are used specifically to accomplish these political objectives by influencing the internal or external actions of other governments. Economic aid, as compared to the other tool, economic sanctions, seeks to influence or alter a state's targeted conduct by offering support as an alternative to applying punishment (Baldwin, 2010, p. 19). Consequently, providing economic assistance has a significant political advantage. Governments attempt to influence other governments both directly and indirectly through the provision of economic assistance.

Asteris Houliaras (Tsardanidis, 2018, p. 207) highlights four changes in the field of development-oriented economic aid over the past 25 years: a) its decrease as a result of bipolarity and the end of the Cold War; b) the motivations behind giving aid; the attainment of economic interests by the aid-providing state took the place of the strategic and ideological motive; c) the introduction of political conditions (political conditionality), mostly by Western states, for giving aid to recipient states in the framework of political liberalization, respect for human rights, modernization of the administration, etc.; and d) the rise in emergency and humanitarian aid as a result of humanitarian crises faced by humanity, such as the war in the former Yugoslavia, the genocide in Rwanda, the war in Syria, and the war in Iraq.

3. THE ROLE OF ECONOMIC AID AND ITS OBJECTIVES IN INTERNATIONAL RELATIONS.

Governments, international organizations, private voluntary organizations, and charitable organizations, execute economic aid programs using both public and private resources. Offered financial assistance has more significance when viewed through the lens of international relations. The

emergence of significant international organizations, which have consistently contributed to the upkeep of world peace and balance, matched the growth of the provision of economic help. Thus, in July 1944, forty-four nations, led by the United States, convened at Bretton Woods to deliberate on the post-war global economic structure, while the world was being tested by World War II. The participating states believed that worldwide economic cooperation would ensure world peace.

The goal of the intended cooperation was to establish a worldwide common market where commodities and capital could flow freely, governed by international organizations that would serve as regulators to guarantee stability and the general good of the market. As a result, the World Bank, the International Monetary Fund, and the International Trade Organization-which began as the General Agreement on Tariffs and Trade[2] and eventually evolved into the World Trade Organization-were founded (Peet, 2009, pp. 74-75). The Development Assistance Committee was established as part of the European Organization for Economic Cooperation and Development, which was established in 1948. For many years, the DAC pushed the OECD to standardize aid and implement best practices in their recipient nations. Other than this, the World Bank and the IMF were the primary organizations that developing nations had to deal with. Allowing international financial institutions to alter their procedures, would be a major alteration to DAC agreements in terms of policies or behaviors. Put more simply, though, DAC emerged as the first among equals by giving development through economic welfare and poverty reduction priority. A committee made up of members from the member nations of the DAC and a secretariat to support the committee make up this auxiliary body of the OECD. The council, which is made up of ministers for international development, is the highest decision-making body (DAC, 1995a). All OECD committees combined have a less autonomous posture than the DAC has historically had. The Development Assistance Committee (DAC), which was formed by developed nations, saw a rise in aid to developing nations in 2019 and is ongoing[3].

In the meantime, a major component of UN policy has been and now is the transfer of financial resources from wealthy to developing nations. The Millennium Declaration, the Millennium Development Goals through 2015, and the Sustainable Development Goals through 2030 serve as tangible examples of this.

States also created their own systems for delivering aid within this framework. To provide financial assistance to developing nations with goals including advancing the rule of law, reducing conflict, bolstering resilience, combating crime, and getting rid of threats, the United States Agency for International Development, or USAID, was established in 1961 (USAID, 2023). The International Development Agency was founded in Canada with the main goals of promoting human rights, reducing poverty, and assisting with sustainable development (WHO, 2021). European nations similarly established development and aid organizations. Established in Sweden, the Swedish International Development Collaboration Agency has expanded bilateral collaboration to approximately 35 countries in Europe, South America, Asia, and Africa to support groups that fight poverty (SIDA, 2024).

Operationalizing under the Ministry of Foreign Affairs, Norway formed the Norwegian Agency for Development Cooperation. The five main goals of NORAD are as follows: first, it offers guidance

[2] GATT, in particular, distinct from the other two organizations (WB and IMF), was created in 1947 through the approval of 23 states in Geneva. During the Uruguay Round in 1994, GATT was transformed into the World Trade Organization.

[3] The total ODA (Official Development Assistance) in 2019 increased by 1.4% in real terms compared to 2018, as bilateral aid for low-income countries. OECD – Paris, 16 April 2020. It should be noted that the European Union is the largest donor for aid, with around 75.2 billion Euros for 2019. See: OECD Report, accessed on 29/01/2021, at 18:21.

and support for development; second, it guarantees the quality of aid; third, it provides funding to academic institutions, businesses, civil society, and scientific research that collaborates with organizations in developing nations; fourth, it disseminates information about Norwegian aid; and fifth, it is in charge of conducting an impartial assessment of activities funded by Norway's development budget (NORAD, 2024).

It should be made clear that development aid, in particular, should not necessarily be regarded as an instrument of economic diplomacy. Nonetheless, the goal of economic diplomacy via the distribution of financial assistance is to (Tsardanidis, 2018, pp. 193-194): a) determine the goals and priorities for distributing financial aid, including the states that are going to get it and in what quantity; b) ascertain the method by which financial assistance is implemented. Depending on what is more important to them, states might decide whether to grant aid bilaterally or multilaterally; c) assess development initiatives for funding; d) engage in active participation in international organizations that provide multilateral help.

There are four main factors that the extension of foreign aid is motivated by. *The first part* is that financial assistance is provided in exchange for strategic and political advantages. To draw other regimes into their respective areas of influence and consolidate ties with preexisting allies, the US and the Soviet Union, for instance, each spent substantial sums of money during the Cold War. If the Marshall Plan was taken into account, this was especially true for their ties with emerging nations, since they were more receptive to financial incentives. Western Europe's economic recovery was greatly aided by the Marshall Plan, which was implemented after World War Two. On the other hand, it made US foreign policy more powerful. A highly effective aid program, the Marshall Plan-officially named the European Recovery Program-distributed more than 13 billion dollars to Western European nations between 1948 and 1952 (The George C. Marshall Foundation, 2024). This aid came mostly in the form of grants. It was believed to be a policy that could be implemented more broadly because it aided in Europe's recovery and progress. As a result, the economic and strategic pillars formed the foundation of the Marshall Plan. To facilitate the development of lucrative economic relations with the US and to secure policies for their investments, it was first designed to rebuild and boost the economies of Western Europe.

Undoubtedly, the assistance sought to use it to counter the perceived Soviet threat, backed by a calculated foreign policy agenda. The Marshall Plan was an aid program that relied on five options: a) trade liberalization; b) military control; c) endorsement of nationalist revolutions, even socialist ones; d) institutional multilateralism; and e) "market regulation".

Economic aid started a new phase with the events that transpired in the aftermath of the 9/11 attacks on the United States. After the events of September 11, it has been seen through a fresh lens on the strategic role of US foreign policy with regard to aid, and has been utilized as a tool for avoiding terrorism. For a considerable amount of time following the terrorist assault, security concerns took precedence over economic ones on the political agenda. However, given that economic diplomacy takes a practical approach to understanding the causes of modern threats-terrorism in particular-it remained crucial. Fighting the two main sources of insecurity-economic deprivation and poverty-especially about the latter, is crucial to overcoming it.

For instance, the attitudes of US foreign policy, along with the dearth of progress and widespread corruption in the Afghan administrations of Hamid Karzai and his successor Ashraf Ghani, were significant contributors to the resurgence of the extreme Taliban. People may choose radical

alternatives when they lose faith in the system due to poverty and corruption. The conflict in Ukraine has highlighted the importance of aid programs and the application of sanctions as tools for conducting global diplomacy. The US leads the G7 and G8, among other Western-controlled organizations that oversee the world, along with the IMF, World Bank, WTO, and OSCE. According to American policy, there is nothing fundamentally wrong with the current global capitalist system and no need for significant adjustments. America's economic, military, and political might serve as justifications for this position. In essence, we may argue that since 9/11, the world changed into a safer place for the "American world" (Peet, 2009, p. 119).

Nonetheless, it should be highlighted that US foreign policy has indicated a shift away from conflict areas throughout three administrations, beginning with President Obama's second term and continuing with President Trump and President Biden's decision to completely withdraw American forces from Afghanistan. One may argue that the conflict in Ukraine, which was perceived as military and economic assistance rather than actual military engagement, marked a turning point in this situation.

The second component, states that aid is being used to enhance global economic growth. Aid was provided to encourage more states to join the free international trading order following World War II. Increased involvement in the free trade framework would result in higher trade volumes. The rationale behind states' intervention in the global trade of goods and services is attributed to market inadequacy, given that the majority of nations function within a market-based economic framework nowadays. To supply commodities and services that the market is unable to supply, governments must therefore step in. Nearly all of the aid provided by states comes in the form of concessions, either directly (via bilateral agreements) or indirectly (through multilateral organizations like the World Bank). On the other hand, some argue that aid ought to be directed toward the country's domestic growth. States provide this assistance on a bilateral and international basis. The United Nations development plan has traditionally placed a high priority on eradicating poverty and hunger, achieving universal primary education, and advancing gender equality through financial assistance. His Holiness Pope Paul VI, who spoke at the Assembly on October 4th, 1965, defending the impoverished and hungry around the world, stated that "his duty was to ensure that there is enough bread on humanity's table" and so backed the goal of development to reduce hunger. The World Food Program was continuously extended by the Assembly in that same year [resolution 2095 (XX)] (UN, 2024), which also established a 275 million dollars voluntary contribution target for the 1966-1968 period. Additionally, the Executive Director of FAO was asked to investigate and recommend strategies and plans for broad international action to effectively combat hunger [resolution 2096 (XX)] (Dollar & Svensson, 2000, pp. 894-917). It is important to note that development assistance works best when it is backed by political will and internal commitment.

Giving aid for moral and humanitarian reasons makes up *the third element*. Emergency relief efforts following natural and humanitarian disasters are one way that aid is provided. It's important to note that this is the only kind of assistance that is typically selected only for the acquisition of particular goods or participation in particular initiatives. Economic assistance packages have long been utilized by former colonial powers like France and Great Britain to facilitate the integration of former colonies into the international system and ease their transition. The huge divide between newly underdeveloped states and advanced Western states, however, became a fresh threat to global balances when the first attempts at the independence of colonial countries surfaced. Additionally, it was at this time in the 1960s and 1970s that the first UN development programs-UNCTAD, UNDP, etc. -with more precise aims and objectives started to be established. To support elections,

demobilization, and reconciliation efforts in addition to human rights, for instance, the UNDP works with the security sector. In terms of humanitarian assistance, the organization provides strategies for national reintegration, rebuilding, and recovery as well as support for catastrophe prevention, mitigation, and readiness. It also helps with the reintegration of refugees and internally displaced people. To help communities coping with catastrophic events like earthquakes and violent conflicts become more resilient, UNICEF implemented specific actions and strategies since 2011 (UNICEF, 2011).

Nevertheless, post-colonial states perceived their economic situation as a result of previous colonial policies and current power politics, which created an uneven economic playing field. This contrasted with the Bretton Woods institutions, which were founded on the idea that the economy and economic development could be broadly separated from politics.

The post-Cold War era, in which aid is utilized as a tool to pursue a wide range of other objectives, mostly in Eastern Bloc nations, *is included in the fourth component*. Defending human rights, advancing "good governance", combating corruption, and establishing democratic norms and institutions are all included in this. Shared accountability and duty are based on the Monterrey Consensus (UN, 2023), which was ratified at the International Conference on Financing for Development in March 2002. In exchange for bigger support from donor nations, aid-receiving nations should invest more to increase the efficient use of resources by taking steps like battling corruption and bolstering institutions. Reducing poverty, safeguarding the environment, fighting corruption, combating terrorism, defending human rights, and other universal challenges are being addressed in one way or another by all of the major international organizations. The challenge facing international organizations is the widening disparity between the efforts of world leaders to shape policy and their capacity to turn novel issues into concrete outcomes, particularly in cases where accountability frameworks are inadequate and conceptual alignment with institutional execution is lacking.

Two more controversial forms of economic aid have evolved in the post-Cold War era. Proposed by global financial organizations like the World Bank and the International Monetary Fund, the first one concerns structural adjustment programs. The ideals and values of Western liberal democracies and their economic systems were progressively mirrored in several policy areas covered by structural adjustment initiatives. Through structural adjustment, the World Bank took a strong stand against government intervention. The process of changing the worldwide economic system and the economic positions of some governments that occurred as a result of increases in oil prices during the years 1973–1974 and 1979–1980 as a result of the OPEC embargo is what structural adjustment would be called in the spirit of these changes (Giles Mohan et al., 2013, p. 4). A combination of supply and demand policies... in the direction of changing the structures of an economy, in response to significant imbalances and improving microeconomic efficiency was the fundamental tenet of the theory behind structural adjustment (Stern & Common, 1997, pp. 523-609). As a result, the structural adjustment component generally consisted of two main directions: (a) altering the incentives so as to focus them on profit, enhancing the role of markets relative to the state, and fortifying personal property rights; (b) reorganizing the structure of particular economic sectors to produce tradable (and particularly exportable) products. Large financial amounts that pique the interest of borrowing countries' policymakers are made available through directly collected loans within the framework of the World Bank's structural adjustment program, which accounted for one-half of all loans. In exchange, borrowers are required to pledge to promote significant changes to either the overall economy or a particular sector of it. The initiative involved

fifty governments, mostly in Latin America and Africa, and at the end of the 1990s, at the height of structural adjustment, the World Bank lent money to each state, averaging 100 million dollars annually (Kapur et al., 1997, p. 520). Aid from OECD countries is now routinely conditional on adopting different anti-inflation policies, privatizing state firms, liberalizing trade policy, shrinking the public sector, and tightening oversight over public finances.

The former Soviet Union and the United States both decreased economic help to countries inside their sphere of influence when their conventional goals shifted due to a loss of geopolitical interest. Following the Cold War, political concerns that required attention were the main focus of the second type of aid. Promoting human rights, democratizing the nation, and fostering good governance were the three primary goals. Notably, though, financial assistance also underwent alteration when the Soviet Union collapsed and the world's bipolarity ended.

The link between aid and other forms of capital flows, particularly foreign investments and private loans, makes assessing its impact even more difficult. The availability of foreign private capital and the safety of foreign capital investments already made are typically adversely correlated with access to help. The way that developing nations receive external financing varies greatly. Multilateral institutions have multiplied, the number of bilateral donors has expanded dramatically, and the types of major flows have multiplied. The system does not have a formal broad coordinating mechanism. Bilateral aid programs and the multilateral organizations that are formally affiliated with it, such as the World Bank and the International Monetary Fund, are essentially unaffected by the United Nations.

4. CONCLUSION

Depending on the goal that one wishes to accomplish, economic diplomacy in today's globalized world has access to a wide range of methods. It is estimated that both development aid and sanctions have the same goal when utilized as instruments of economic diplomacy. Both are instruments of power. Economic aid has been one strategy we have used to advance. A ubiquitous aspect of global society is economic aid as a tool for pursuing foreign policy goals. The pragmatic explanation is that since the end of the Cold War, economic aid has increased dramatically without a comparable rise in policy analysis.

Economic aid is a middle ground between diplomacy and using force to accomplish foreign policy goals. Economic aid has a long history and are still a crucial tool for making decisions in the modern world. However, it can also be used as a weapon to punish rival governments that violate internationally recognized norms, show disapproval, and placate the public at home. This also applies to the economic aid that the international community of the West is providing to Ukraine following the assault from the Russian Federation (beginning in 2014 and 2022).

References

Baldwin, D. A. (2010). Economic statecraft. Princeton, NJ: Princeton University Press.
DAC. (1995a). Development partnerships in the new global context. Paris: OECD.
Dollar, D., & Svensson, J. (2000). What explains the success or failure of structural adjustment programmes? The Economic Journal, 110(466), 894–917.
Economides, S., & Wilson, P. (2001). The economic factor in international relations. London & New York: I.B. Tauris Publishers.

The George C. Marshall Foundation. (2024). The Marshall Plan: History of the Marshall Plan. Retrieved July 14, 2024, from https://www.marshallfoundation.org/marshall/the-marshall-plan/history-marshall-plan/

Giles Mohan, E. B., Gilles, M., Brown, E., Milward, B., & Williams, A. Z. (2013). Structural Adjusment.Theory, Practice and Impacts. New York: Routldge.

Kapur, D., Lewis, J. P., & Webb, R. (1997). The World Bank: Its first half-century. Washington, DC: Brookings Institution Press.

Molloy, S. (2004). Truth, power, theory: Hans Morgenthau's formulation of realism. Diplomacy and Statecraft, 15(1), 1–34.

NORAD. (2024). About Norad: Five main tasks. Retrieved February 22, 2024, from https://www.norad.no/en/front/about-norad/five-main-tasks/

Papastamou, A. N. (2018). Economic diplomacy: From theory to practice. Athens: Papazisis.

Peet, R. (2009). Unholy trinity: The IMF, World Bank, and WTO. Athens: A.A Livani.

Raghuram, R. G., & Subramanian, A. (2005). Aid and growth: What does the cross-country evidence really show? IMF Working Paper WP/05/127.

SIDA. (2024). SIDA's international work. Retrieved February 10, 2024, from https://www.sida.se/en/sidas-international-work/

Stern, D. I., & Common, M. S. (1997). The World Bank as intellectual actor. In The World Bank: Its first half-century (pp. 523–609). Washington, DC: Brookings Institution Press.

Strange, S. (1970). International economics and international relations: A case of mutual neglect. International Affairs (Royal Institute of International Affairs 1944-), 46(2), 304–315.

Tsardanidis, H. (2018). Economic diplomacy. Athens: Papazisis.

UN. (2023, June 12). UN Economic and Social Development. Retrieved from www.un.org/esa/ffd/aconf 198-11.pdf.

UN. (2024). Continuation of the World Food Programme (Resolution). Retrieved July 10, 2024, from https://documents.un.org/doc/resolution/gen/nr0/218/58/pdf/nr021858.pdf?token=uilbndPyLeGSsl0NIZ&fe=true

UNICEF. (2011). Humanitarian action for children 2011. New York: UNICEF. Retrieved February 2, 2022, from http://www.unicef.org/publications/files/HAC2011_EN_030911.pdf

USAID. (2023). Celebrating sixty years of progress. Retrieved November 11, 2023, from https://www.marshallfoundation.org/the-marshall-plan/history/.

WHO. (2021). World Health Organization. Retrieved from World Health Organization: https://www.who.int/workforcealliance/members_partners/member_list/cida/en

Wood, R. E. (1986). From Marshall Plan to debt crisis: Foreign aid and development choices in the world economy. Berkeley, Los Angeles, London: University of California Press.

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Golden Age of Hungarian-Turkish Relations – A Question of Power-Political Fraternity?

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Abstract: *Turkish-Hungarian relations have been characterised by unusually good cooperation over the last 10 years in particular. The governments of the two countries cooperate closely in almost every policy area and on every occasion. One can speak of a golden age in Turkish-Hungarian relations. This analysis aims to answer the question of whether the authoritarian leadership style of the presidents of both countries is the reason for this golden age of relations. The qualitative study used the autocracy promotion approach to analyse the interests of Erdoğan and Orbán in their close cooperation. It can be concluded that the authoritarian style of government of both statesmen at least has a positive influence on the very good relations.*

1. INTRODUCTION

"Erdoğan, what's the matter, you want to go all Orbàn on us? This is Turkey, not Hungary," ranted opposition leader Kemal Kılıçdaroğlu after Erdoğan held out the prospect of a referendum on the headscarf debate (INDEPENDENT Türkçe, 2022). Kılıçdaroğlu smelled another attempt by Erdoğan to divide the people on this controversial issue shortly before the presidential and parliamentary elections in May 2023, to consolidate his political camp and tighten the fronts. Cultural and ideological cohesion in the conservative-nationalist spectrum was to take precedence over the country's political and, above all, economic problems and ensure another election victory, which Erdoğan succeeded in doing in the second round of voting. It remains to be seen why Kılıçdaroğlu sought to criticise Orbàn and Hungary for this type of election tactic. However, it is clear that Orbàn is also focussing on dividing Hungarian society and that this is a much-used instrument of autocrats - autocrats like Erdoğan (Holscher, 2018). There are many similarities between Erdoğan's and Orbán's domestic and foreign policies. Above all, deficits in democracy and the rule of law have become increasingly apparent in Hungary and Turkey in recent years. The governments of both countries are attempting to bring the press and judiciary under their direct control and reduce their independence. This threatens the separation of powers in both countries and suppresses opposition forces. But it is not just the autocratic leadership style that unites the two presidents. Erdoğan and Orbàn have a deep friendship and show solidarity, which also has an impact on the bilateral relationship between Hungary and Turkey. Although the representatives of both countries explain the excellent relations between their states with cultural proximity and historical ties - which in turn give rise to strategic alliances - the question arises as to whether the autocracy in which the highest offices in Ankara and Budapest have fallen also plays a special role in the exceptionally positive relations?

The fact that autocrats support each other and this is reflected in the foreign policy behaviour of the states they govern is a phenomenon that has been observed for some time. Whether Putin, Xi Jinping, Orbàn or Erdoğan: autocracies are not only on the rise, but are often close to each other on the international stage. The agreement between Russia and China, which was concluded in

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the shadow of the Ukraine war in March 2023 and is intended to expand the strategic partnership between the two countries, or the negative attitude of both Hungary and Turkey towards Finland and Sweden joining NATO could also have been favoured by the regimes of the respective countries. On the other hand, relations between Hungary and Turkey, for example, have been good not only since the Orbàn-Erdoğan era, but the common leadership style of both countries is likely to be a reinforcing factor at best.

This qualitative case study aims to investigate whether mutual autocracy promotion has a leverage effect on foreign policy cooperation. To this end, selected text material was analysed and evaluated using the autocracy promotion approach.

2. RESEARCH INTEREST AND THEORETICAL BACKGROUND

It can be surmised that the autocratic leadership style of both presidents strengthened international cooperation between Hungary and Turkey. As the power of both politicians has increased, their cooperation has become increasingly positive (Tarrósy & Vorös, 2020, pp. 122-124), so that it is possible to speak of autocracy promotion. Unlike democracy promotion, autocracy promotion defines deliberate actions that are intended to at least maintain the substance of an existing autocracy or possibly even strengthen the autocratic regime. Therefore, primarily autocratically governed countries that benefit from cooperation with other autocratic governments tend to maintain the regime, as democratisation could result in the risk of a change of direction in foreign policy. This in turn would entail economic and strategic disadvantages. In order to support the retention of power in the autocratic partner state and thus secure long-term profit, various measures of influence are used. Burnell (2010) mentions cooperation between authoritarian governments on the international stage as one measure to promote autocracy in order to give the respective autocratic ally greater freedom in political action compared to other international players (Kästner, 2015, pp. 496-497). Another side effect of relations between autocracies is the learning effects that occur. To this end, the political methods and tactics of other autocratic rulers are recorded and emulated. It is sufficient for the learning process if the recipient country alone takes action. A direct initiation of the receiving autocratic regime by the model country is not necessary. A distinction is made between positive and negative learning. In the case of positive learning effects, the political actors orientate themselves towards an external role model that is registered as successful and imitable. Negative learning processes, on the other hand, relate to precautions to avoid the mistakes of other autocracies in their own country. However, it is difficult to prove whether learning effects have actually taken place. This is because they start at the cognitive level and cannot be easily measured. There is also no evidence as to whether learning processes tend to take place between elites or institutions. However, due to the pronounced personalism in autocracies, it can be assumed that individual learning effects play a greater role (Bank & Josua, 2017, p. 5).

3. HUNGARIAN-TURKISH RELATIONS IN THE ORBÁN/ERDOĞAN ERA

The rise to power of the authoritarian heads of state Erdoğan and Orbàn in their own country seems to correlate with the relations between the two states. Since Erdoğan and Orbàn have been in office together, Turkish-Hungarian relations have intensified. Both states are working closely and increasingly together in security policy, economic policy, finance, the defence industry and cultural policy. Although there have been no significant problems in these activities at a political level for a long time that could have affected bilateral relations, both countries have made every effort to limit potential risk areas in relations and improve the current situation. Hungary is still in

favour of Turkey's accession to the EU. During a visit to Ankara, Mr Orbàn stated that Hungary continues to support Turkey's EU membership and will always do so. Because if the EU wants to become a global player, Orbàn said, it must work together with Turkey. It is clear from Orbàn's statements that relations between Turkey and Hungary are based on trust and an affirmative attitude - in contrast to relations between Turkey and the EU, which generally have a rather bumpy character. Another notable confirmation of the special relationship is the opening of the representative office of the internationally unrecognised Turkish Republic of Northern Cyprus in Budapest on 16 October 2014, as well as the two countries' involvement in international organisations, particularly the United Nations (UN) and NATO, in cooperation with each other. The candidacy of the other partner country is to be supported by international organisations, committees and offices. The aim is to transform the relationship into a strategic partnership. The close cooperation bore fruit, for example, when the EU states came together to adopt a resolution to condemn the Turkish military operation in Syria in 2019, which was vetoed by Hungary (Deregözü, 2020, p. 16-17).

4. AUTHORITY TENDENCIES OF BOTH PARTNERS

The core values of Orbàn's Fidesz party, such as family, national identity and religion, are particularly popular with tradition-orientated voters. Populist appearances and resilience in the face of political crises have strengthened the party's power. The support that Fidesz received in its election victory in 2010 was preceded by political, legal and economic reforms. Similar arguments can be used to explain the electoral successes of Erdoğan's AKP since 2002. Both politicians have recognised that a broad social consensus can be achieved by promoting conservative values. Contrary to the majority of Hungarian and Turkish society, there tends to be a negative image of Orbàn and Erdoğan abroad. Both leaders are criticised for silencing the dissident press in their countries and taking control of the judiciary. Orbàn's anti-democratic practices are the subject of controversy, particularly within the EU. Orbàn has been labelled a "dictator" due to his autocratic leadership style. EU Commission President Jean-Claude Junker went one step further and greeted him at an EU summit in 2015 with a contemptuous expression on his face and the words "Hello dictator". Erdoğan faced similar criticism after restricting access to social media platforms on the internet. The Freedom House organisation rates Turkey in the "unfree country" category. Orbàn and Erdoğan are similar in their tendency to ignore any criticism. Orbàn even goes on the offensive and explains the following to representatives of the Hungarian minority in Romania: "Today, the most popular question is how undemocratic, illiberal and non-Western systems manage to make their nations successful. The stars of international analysts today are Singapore, China, India, Russia and Turkey" (DIKEN, 2014). Orbàn's speech, in which he defended an illiberal democratic model, met with strong reactions in the EU. German Chancellor Merkel, who was on an official visit to Hungary, said in Orbàn's presence that she personally could not combine the illiberal worldview with an understanding of democracy. Orbàn's answer that not every democracy has to be liberal was taken up by the pro-government and Islamist newspaper Yeni Akit from Turkey and celebrated with the words: "Orbàn silences Merkel". The opposition press in Turkey emphasised that Orbàn was taking Erdoğan's methods as a model. On the other hand, Erdoğan is often accused of modelling himself on Orbàn's practices. Both politicians are thus equally criticised by their opponents with similar statements (Saral, 2016, pp. 737-742).

It was therefore not surprising that the Hungarian government showed solidarity with the Turkish security forces during the crackdown on the Gezi protests in Istanbul in 2013, while the Western and liberal public sided with the demonstrators. Zsolt Németh, State Secretary of the Hungarian Ministry of Foreign Affairs, said in a statement to the Hungarian news agency that the Hungarian government trusts in the strength of Turkish democracy and supports Ankara in its domestic policy. The domestic

policies of Erdoğan and Orbàn are incalculably similar, as are the criticisms they face and the way they deal with these criticisms (Saral, 2016, pp. 742-743). Opposition members and observers accuse both countries almost equally of no longer holding fair elections and of having democratic institutions that exist formally but are controlled by the government and their ability to function is curtailed. In addition, those in power abuse public resources in order to create politically loyal economic actors or to strengthen them by granting them advantages in the awarding of public contracts. Clientelism, favouritism and nepotism have penetrated to the highest administrative offices (Handelsblatt, 2022).

A series of electoral and judicial reforms took place in both Turkey and Hungary, apparently in order to secure the continued rise to power of both governing parties. In 2007, for example, Ankara decided to allow Turks living abroad to vote in their country of residence. Hungary followed suit in 2011 when the Fidesz government also strengthened voting rights for Hungarians living abroad. At the same time, the number of seats in Parliament was reduced, the second round of voting and the equalising mandates were abolished and the constituencies were redrawn. Erdoğan even went one step further by largely disempowering parliament and replacing it with a presidential system in which the president can rule by decree. Before every election, the electoral system is modified so that it serves the ruling party and increasingly restricts the opposition's room for manoeuvre. For example, before the 2023 elections in Turkey, electoral alliances were granted less power through reform. Electoral alliances were formed in both Turkey and Hungary at the last elections to have any real chance of coming to power. However, the opposition in both countries is deeply divided and any electoral alliances are more likely to be seen as alliances of convenience.

Several reform packages in the judiciary have restricted the independence of the courts in Hungary. For example, the position of President of the National Judiciary was created. This concentrates as much power in one person as was previously exercised by an entire body. This makes the president equivalent to a super-judge who is subject to almost no judicial control (Daum, 2012). Further reforms have also further limited the powers of the Constitutional Court. For example, the court lost the power to scrutinise the content of constitutional amendments. In Turkey, however, following a constitutional amendment, the president can directly appoint six of the 13 members of the Council of Judges and Public Prosecutors - a body that is responsible in particular for appointing judges and public prosecutors. Although parliament appoints seven other members, it should be borne in mind that the president, as the leader of the majority party, can usually exert his influence here too. Before the reform, the judges and public prosecutors themselves determined the majority of the then 22-member council by-election (Tanneberger & Pasch, 2017). A similar constellation emerged with the reform of the Turkish Constitutional Court. Twelve of the 15 members will be appointed by the president from 2017 onwards. The dominance of the president in the composition of the highest courts in Hungary and Turkey is leading to an erosion in the separation of powers.

5. STUMBLING BLOCKS IN TURKISH-HUNGARIAN RELATIONS

The refugee crisis, which erupted primarily after the devastating civil war in Syria, is considered the greatest test of strength in recent Turkish-Hungarian relations. The refugees sought refuge in the wealthier Western and Central European countries via the Turkey-Balkans route. As the first Schengen state on the route, Hungary not only played a role as a transit country, but many refugees also settled in the country. The asylum seekers were not exactly welcome in Hungarian society and politics, not only for economic but also for socio-cultural reasons. In a newspaper article, Orbàn pointed out that it should not be forgotten that the refugees belong to a different religion and culture and that the majority of them are not Christians but, on the contrary, Muslims: "This

is a very big problem. Because Europe has its roots in Christianity. Isn't it worrying that Europe is not able to protect its own Christian values? If we don't take this into account, then European ideas can become a minority view on our own continent" (TRT Haber, 2015).

Orbàn's views have met with sharp reactions in the right-wing and conservative Turkish media. The images at the Hungarian border, in which a camerawoman deliberately kicked a refugee and his daughter to the ground, went around the Turkish press landscape. This gave rise to perhaps unprecedented anti-Hungarian sentiment among the Turkish public. Orbán's merciless comment "Stay in Turkey, it's safer there" about the photo of the lifeless body of the refugee boy Aylan on the banks of the Aegean, which went around the world and caused worldwide consternation, was described in the high-circulation Turkish newspaper Hürriyet as an "unbelievable view". These words led to even greater reactions in the conservative media, which describe themselves as Muslim-orientated, have a readership made up of a majority of AKP voters and are naturally known for their closeness to the government. Headlines describing the Hungarian government's treatment of refugees as Nazi methods marked the high point of reproachful reporting on Hungary's refugee policy. However, not only the media but also politicians strongly criticised Hungary's approach to the refugee crisis. İbrahim Kalın, Erdoğan's chief adviser, posted a tweet in which Erdoğan accused Hungary and the other EU states of inaction in the refugee tragedy, saying that this was "a lesson in humanity for Hungary's right-wing Prime Minister Viktor Orbàn" (Saral, 2016, pp. 753-758).

Another issue that could damage relations between Turkey and Hungary is the rise of far-right parties and their continued rise in Islamophobic attitudes across the EU. Over the past decade, nationalist, populist and far-right movements have increased their influence in Europe. Far-right political parties have gained support in many countries. Negative statements regarding immigration, globalisation and terrorism have led to election results that show that the vote for far-right parties has gradually increased in local elections, national elections or elections to the European Parliament. As a result, anti-Muslim discourses against immigrants are persistent in EU countries and also influence the policies of centre-right parties. Thus, Islamophobia is shaping both domestic and foreign policy, from which Hungary, Fidesz and Orbàn cannot completely escape (Deregözü, 2020, p. 39).

Looking at the activities of FETÖ in Hungary, it is clear that it does not have any well-established structures compared to many other European countries. FETÖ's activities are limited to two schools and two NGOs, which are categorised as "harmless" by the Hungarian authorities. Even if Budapest were to consider closing the schools because of their good relations, this is not an easy undertaking, as the schools function as commercial enterprises and cannot be liquidated without further ado. Nevertheless, the Turkish public has the impression that the Hungarian government is doing nothing about the schools and is caving into the FETÖ. Sooner or later, this could cause resentment in Ankara and disrupt the good relationship between the two countries (Deregözü, 2020, p. 38).

6. CONCLUSION

The authoritarian leadership style of current presidents Erdoğan and Orbàn also strongly favours international relations. Without the favours that both statesmen grant each other, there would probably be no significant cooperation on armaments and other security policy issues. It is also evident that Hungary deals differently with members of the PKK and FETÖ than the rest of the EU. Both partners keep their backs free in difficult international situations and try to speak with one voice, so to speak. For example, both Hungary and Turkey blocked NATO's northern enlargement for a long time and later gave the green light for Finland and Sweden to join at almost the same time.

Despite these anomalies, however, it is difficult to prove that the governments have always pursued a common foreign policy. Blocking Sweden and Finland from joining NATO could be based on different motives for the two governments. It is also difficult to measure whether there is mutual learning in the suppression of opposing forces and the establishment of questionable electoral tactics, as the autocracy promotion approach suggests. Although both autocrats have consolidated their power through electoral and judicial reforms, the reforms rarely have anything in common in terms of content and timing. However, it should be taken into account that there are significant differences in the political system and therefore one country cannot serve as a one-to-one blueprint for the other. A subsequent comparative study could investigate which parallels can be observed in both states on the path to autocracy and whether this could be due to learning effects. It would be interesting to see whether the opposition in both countries learns from each other - keyword: electoral alliances.

Even though Turkish-Hungarian relations recently hit a short-term low when anti-Hungarian sentiment emerged in the Turkish press in connection with the refugee crisis, this did not last long, meaning that bilateral relations between Turkey and Hungary remain at an above-average level. Incidentally, Viktor Orbán was the only European statesman to attend Erdoğan's swearing-in ceremony in Ankara in June 2023. Together with the autocrats Ilham Aliyev from Azerbaijan and Nicolás Moduro from Venezuela, he congratulated him on his recent election victory.

References

Bank, A., & Josua, M. (2017). Gemeinsam stabiler: wie autoritäre Regime Zusammenarbeiten. *GIGA Focus Global*, Vol 2.

Burnell, P. (2010). Promoting democracy and promoting autocracy: Towards a comparative evaluation. J. Pol. & L., 3, 3.

Daum, O. (2012). Orbáns ferngesteuerte Richter. Retrieved February 28, 2023, from https://www.lto.de/recht/hintergruende/h/Orbàns-ferngesteuerte-richter-kritik-an-der-justizreform-in-ungarn/

Deregözü, M. (2020). Türkiye-Macaristan İlişkileri, Istanbul, Turkey: SETA Yayınları.

DIKEN. (2014). Macar lider kafasındaki 'gayri liberal' devlet için Türkiye'yi örnek gösterdi.

Handelsblatt. (2022). „Wahlautokratie": EU-Parlament sieht Ungarn als keine vollwertige Demokratie mehr. https://www.handelsblatt.com/politik/international/rechtsstaatsmechanismus-wahlautokratie-eu-parlament-sieht-ungarn-als-keine-vollwertige-demokratie-mehr/28683318.html

Holscher, M. (2018). 3,3 Milliarden Menschen werden autokratisch regiert. Retrieved March 1,2023, from
https://www.spiegel.de/politik/ausland/bertelsmann-studie-58-laender-werden-autokratisch-regiert-a-1199167.html

INDEPENDENT Türkçe. (2022). Kılıçdaroğlu'ndan Erdoğan'ın referandum çağrısına yanıt: Çakma Orban'lık mı yapacaksın Erdoğan? Burası Türkiye, Macaristan değil.

Kästner, A. (2015). Autokratieförderung. In: Kollmorgen, R., Merkel, W. & Wagener, H. J. (eds.), Handbuch Transformationsforschung, Wiesbaden, Germany: Springer.

Saral, E. (2016). Yakın Dönem Türkiye-Macaristan İlişkileri. In: Örmeci, O. & Işıksal, H. (Eds.), Mavi Elma: Türkiye Avrupa İlişkileri, Ankara, Turkey: Gazi Kitabevi.

Tanneberger, C., & Pasch, N. (2017). Auf dem Weg in die Autokratie? Retrieved March 3.2023, from https://www.tagesschau.de/faktenfinder/tuerkei-referendum-117.html

Tarrósy, I., & Vorös, Z. (2020). Hungary's Pragmatic Foreign Policy in a Post-American World. In: Politics in Central Europe, 16/1S, pp. 113-134.

TRT Haber. (2015). Orban: Ülkemizde fazla Müslüman istemiyoruz.

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Enhancing Corporate Governance with AI: Smarter Decisions and Financial Performance Forecasting

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Abstract: *This paper explores the integration of artificial intelligence (AI) in corporate governance, focusing on how AI-driven corporate finance can enhance decision-making ethics and transparency. It delves into the potential of machine learning and process automation to streamline financial reporting, improving accuracy and efficiency. The use of AI in developing predictive models for financial performance is also examined, showcasing its role in informed strategic planning. By leveraging AI technologies, corporations can achieve better governance practices, promoting ethical standards and transparency in their operations. This study highlights the critical role of AI in transforming corporate governance through improved financial oversight and decision-making processes.*

1. INTRODUCTION

The subject of "digital transformation" has taken center stage in business and study in recent years. The "Internet of Things" and blockchain technologies, for example, are revolutionizing business operations and creating the "fourth industrial revolution," as it has been dubbed Schwab (2017, p. 192). Artificial intelligence (AI) is the field of digital technology that is receiving the greatest funding. "A technology that applies systems to machines so that machines can think like humans" is the definition of artificial intelligence Go et al. (2020).

Three categories of AI are covered in the literature now in publication, ranging from basic to advanced: 1) Machine learning - the automation of decision-making, frequently without human intervention; 2) Robotic process automation - the automation of routine human operations like creating reports, etc.; 3) AI that approximates human behavior; this type of AI is referred to as "strong" or artificial general intelligence Goertzel (2016, p. 612). It is important to remember that the third category of AI is presently limited to the stage of theory. Businesses have traditionally used robotic process automation, but recent technological advancements in deep learning, image recognition, and more affordable computers have only made machine learning possible and reasonably widespread Jarrahi (2018).

According to research, artificial intelligence (AI) has the power to drastically alter corporate governance. We distinguish two literature streams on the subject in this article. The first examines how AI has improved governance structures like boards of directors (BoD). The second stream looks at the broad governance adjustments and organizational modifications required to adjust to AI and other advancements in digital technology.

The first stream of literature investigates the rationale behind and use of work automation. Although it is not currently anticipated that robots will replace humans in offices, process automation offers

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prospects and several possible advantages that could help various corporate governance stakeholders (shareholders, the Board of Directors, auditors, etc.) Manita et al. (2020). It is important to remember that big data analysis, the cornerstone of all forms of AI, already has advantages for corporate governance. However, machine learning is expected to have the most impact on corporate governance instruments.

Several authors have shown that it might enable the BoD, auditors, and shareholders to switch from systems of routinely evaluating data samples to systems of ongoing study of all current information on a company that is available. AI has more potential advantages outside information processing. For instance, Cunningham and Stein (2018) contend that machine learning aids in anomaly identification, while Erel et al. (2018) show that it performs better than humans when choosing members of the BoD. According to Wang et al. (2020), machine learning aids in identifying risk variables and deters corporate misconduct.

Algorithmic governance, a related body of scholarship, delves toward the complete automation of decision-making. Of course, some people doubt AI. Dignam (2020) for instance, contends that AI needs to be used carefully and that it might make issues like culpability attribution and discrimination worse. Williams et al. (2018) even go so far as to claim that algorithms might discriminate based on "the data they lack," i.e., discrimination brought about by leaving out specific model parameters, which makes it even more difficult to detect.

Certain researchers delving into the subject of organizational transformation contend that digital technologies alter a company's essence, rendering it less dependent on conventional business authority sources. It is noted by Parker et al. (2016) that platform-based businesses like Uber are important, and by Fenwick and Vermeulen (2018) that digital technologies alter "who, what, when, and how people 'trust'." These academics concur that in order to reflect the evolving nature of business, corporate governance needs to be fundamentally reevaluated and made much more decentralized.

2. AI'S EFFECTS ON CONVENTIONAL CORPORATE GOVERNANCE

Corporate governance processes have undergone significant modifications as a result of the incorporation of Artificial Intelligence (AI) technologies into corporate finance. The framework of policies, procedures, and guidelines that direct and oversee the operations of a business, including its shareholders, management, board of directors, and other stakeholders, is known as corporate governance. Using AI in corporate governance has brought potential and problems for decision-making, risk management, compliance, accountability, and transparency, among other areas. The integration of AI has significantly improved corporate governance decision-making procedures. Businesses can quickly and reliably analyze large amounts of financial data by using AI-powered algorithms, which allows boards and management teams to make better informed decisions Tang (2021). The optimal allocation of resources and strategic planning is facilitated by AI's capacity to identify patterns, trends, and anomalies in financial data.

Furthermore, by providing scenario modeling and predictive analytics, AI technologies support risk management. These technologies enable businesses to foresee and reduce financial risks, including credit risk, operational risk, market volatility, and risks related to regulatory compliance. Companies can proactively address risks to their financial stability and reputation by integrating AI-driven risk management systems into governance frameworks. This increases shareholder value and trust.

Artificial intelligence (AI) solutions facilitate regulatory reporting and guarantee compliance with intricate financial rules. Real-time transaction monitoring is facilitated by AI-powered compliance software, which also produces correct reports for regulatory bodies and identifies questionable activity Bruner (2020). Automating compliance procedures strengthens the company's commitment to moral business conduct and corporate responsibility while reducing the risk of fines, regulatory infractions, and reputational harm.

Although AI on a board of directors is still a relatively new and uncommon phenomenon and robots are not yet patrolling office hallways, there are many actual and prospective applications of AI for corporate governance examined in the literature by Willcocks et al. (2015). The majority of these use cases make sense in terms of job automation, suggesting that a sizable percentage of jobs may soon be automated. According to Frey and Osborne's (2017) predictions, automation might supplant 47% of current jobs. Generally speaking, this research stream concludes that AI reduces agency costs and enhances corporate governance by automating decision-making through real-time big data analysis.

The literature that is currently available on the subject of corporate governance falls into two categories: first, there is a discussion of how AI can be used to give shareholders accurate information and BoD, principally through an enhanced audit, a crucial governance mechanism; second, the automation of some BoD and management tasks, such as choosing BoD members. "Algorithmic governance" is a related body of research that examines the advantages and drawbacks of fully automating decision-making with sophisticated algorithms.

2.1. Using AI to Give Shareholders and the BoD Trustworthy Information

The knowledge imbalance that exists between a company's management and shareholders is the fundamental cause of principal-agent conflict (Jensen & Meckling, 1976). The management may falsify the information presented to the shareholders in order to further its own personal objectives. Hiring external audit firms, who confirm the correctness of the financial accounts, is one method used to create the necessary level of trust in the financial data.

This situation is suboptimal from several points of view. First, it makes BoD and shareholders wait for a quarterly report to appear to get a glimpse of their firm's operations Manita et al. (2020). Second, it focuses audit firms on a relatively routine process of manual raw data verification instead of focusing on more relevant services, such as assurance of information systems, etc. To begin with, it forces the board of directors and shareholders to wait for a quarterly report to be released before learning about their company's activities.

Big data, as previously said, is the cornerstone of all forms of artificial intelligence, and utilizing data from the several sources mentioned above is advantageous from a corporate governance standpoint. These extra data sources ought to be treated as complementary evidence, at the very least. Manita et al. (2020) contend that data is becoming more automatically created and maintained in secure systems that provide very little room for manipulation, even within a company.

By making this information available to shareholders, information asymmetry would be significantly reduced, improving the firm's governance. Big data growth, albeit typically advantageous, creates a situation where knowledge asymmetry transforms into something else entirely.

Currently, regulatory organizations like the BoD face additional challenges in addition to gathering as much data as they can and verifying the accuracy of management-provided data: they also

need to traverse the increasingly complex data landscape. Numerous studies demonstrate that audit businesses that automate a significant portion of their operations can benefit from robotic process automation (RPA), which also improves output accuracy and frees up staff time for more valuable work. The aforementioned modifications would necessitate a substantial modification of audit firms' business structures and areas of concentration.

3. AI TECHNOLOGY INTEGRATION IN CORPORATE FINANCE

In order to provide significant benefits, the procedure begins by selecting corporate finance industries that are prime candidates for AI integration. This first stage entails a thorough assessment of company financial operations to identify areas where artificial intelligence (AI) technology could improve productivity, accuracy, or decision-making procedures. Data collection is the next stage after possible integration areas have been identified. The data, if available, is put through a number of preparation steps to make sure it is accurate and useful.

These processes include data transformation into an appropriate format, data cleansing to correct mistakes or inconsistencies, and feature extraction to extract pertinent attributes for analysis. When data is not easily accessible, one can employ manual data collection techniques to obtain the necessary information from relevant sources, including databases or financial reports.

The next stage after preprocessing and data gathering is choosing the right AI techniques based on the goals of the analysis and the properties of the data. Choosing between descriptive analytics and predictive analytics techniques is part of this selection process. When descriptive analytics is the favored method, the focus is on analyzing historical data to extract insights about past performance and current patterns. To find patterns or links in the dataset, usually means using exploratory data analysis and data visualization approaches. A variety of machine learning approaches are used in settings that lend themselves to predictive analytics in order to project future patterns or outcomes from historical data. These methods include time series analysis, anomaly detection, clustering algorithms, regression analysis, and classification algorithms.

The next step is to use processed data to create AI models after choosing appropriate AI approaches. This includes using the models to produce predictions or insights on fresh data after training them on historical data to identify patterns and linkages. After the model is implemented, its accuracy and efficacy are assessed by comparing its performance to predetermined standards. This evaluation helps determine whether the models can be integrated into corporate financial procedures or if more improvement is required. The AI models are implemented in pertinent corporate finance processes to automate jobs, enhance decision-making, or support operational efficiency if they satisfy the predetermined performance criteria. On the other hand, if performance is insufficient, the models are improved, and the assessment procedure is repeated until a satisfactory level of performance is achieved.

The handling, analysis, and optimization of financial processes have undergone a substantial change as a result of the introduction of Artificial Intelligence (AI) technology into corporate finance (Bruner, 2020). The ability of AI to enhance decision-making, automate tedious operations, and extract insightful information from massive data sets is what is driving this change.

The fields of financial analysis and forecasting are among the main ones where AI is having a revolutionary effect. Traditional techniques sometimes rely on manual analysis and historical data,

which can be time-consuming and inaccurate. Large dataset analysis can be done more accurately and efficiently with the use of AI-driven techniques, particularly machine learning models.

By identifying patterns, correlations, and trends in financial data, these algorithms enable businesses to make better choices about investments, pricing policies, and risk management. Forecasting financial indicators like revenue, expenses, and cash flow is a specialty of machine learning techniques like regression analysis, time series analysis, and neural networks. These models are able to produce accurate forecasts of future financial performance by combining past data with outside variables such as economic indicators and market movements. Companies are able to anticipate obstacles, hone plans, and maximize results because of this foresight.

Risk management is a crucial area where AI is changing corporate finance Goodell et al. (2021). It takes skill and effort to manage financial risks—market, credit, or operational—effectively. Artificial Intelligence (AI) technologies provide predictive modeling and enhanced analytics, which improve risk management. AI systems, for example, are able to evaluate real-time market data to identify possible dangers and possibilities, enabling businesses to quickly modify their investment strategy. In a similar vein, AI can assess transaction histories and customer credit profiles to determine creditworthiness and spot fraud or default threats. AI helps businesses reduce financial risk and make smarter decisions by automating these operations and providing timely information. AI technologies automate routine tasks and processes in corporate finance, thereby streamlining and optimizing them beyond financial analysis and risk management. Repetitive and resource-intensive financial tasks include data entry, reconciliation, and reporting. Automation tools driven by AI reduce this load by taking care of repetitive operations like data extraction, reconciliation, and report preparation.

Additionally, the use of AI in corporate finance promotes accountability and transparency within businesses. AI-powered financial reporting systems provide accurate and timely information to stakeholders about the financial performance, risks, and governance policies of the organization. Increased openness lowers expenses and inspires confidence in investors.

Additionally, by monitoring and evaluating the performance of board members and corporate executives, AI technologies foster responsible governance and decision-making processes and increase accountability. For example, without requiring human intervention, AI-driven robotic process automation (RPA) gathers data from financial documents such as invoices and receipts and enters it into accounting systems. Finance professionals may now focus on strategic tasks like financial analysis and decision-making, while also saving time and reducing errors.

AI technology also uncovers inefficiencies and suggests improvements to financial processes, optimizing them. AI systems, for example, can examine transaction data to identify fraud or waste patterns and suggest actions to improve compliance and save expenses. Similar to this, AI improves cash flow management by examining payment trends and spotting chances to accelerate receivables or postpone payables. Another area where AI is having a big impact on corporate finance is investment management.

Making complex judgments depending on variables like market conditions, asset performance, and investor preferences is part of managing investment portfolios. Algorithms driven by artificial intelligence (AI) comb through enormous volumes of financial and market data to find investment opportunities and improve portfolio performance. AI-powered portfolio management

solutions, for instance, use machine learning to examine past market data and identify trends that may point to dangers or investment possibilities. These tools improve portfolio allocations and customize investment recommendations based on variables including investor preferences and risk tolerance.

Furthermore, by continuously tracking performance and modifying allocations in reaction to market fluctuations, AI systems support portfolio risk management Wyrobek (2020). AI algorithms help investors understand and effectively manage portfolio risks by analyzing real-time market data and simulating numerous scenarios Bruner (2020).

AI is having a significant impact on corporate finance in the field of financial compliance and regulation. Financial regulations must be followed to the letter because breaking them can result in serious penalties and damage to one's reputation. Navigating the complex world of financial regulations may be difficult, though, particularly when they change and get stricter. By automating monitoring and reporting procedures, artificial intelligence (AI) technology helps businesses ensure compliance with financial requirements.

Financial transactions can be analysed by AI systems, which can then highlight possible compliance problems including questionable activity or legal infractions. Additionally, by automating report generation, these systems demonstrate compliance with regulatory standards and make audits easier.

Furthermore, by analyzing regulatory updates and providing prompt insights and recommendations, AI helps businesses remain on top of changes in the law. Artificial intelligence (AI) systems that use natural language processing (NLP) comb through large regulatory texts and extract relevant information to assist businesses in understanding the consequences of regulatory changes and modifying their compliance strategy.

4. FUTURE RESEARCH DIRECTIONS

The integration of Artificial Intelligence (AI) technology is causing a dramatic upheaval in the corporate finance landscape. Looking ahead, many significant developments and trends will have an impact on how artificial intelligence is used in corporate finance, radically changing how companies manage their finances, plan, and mitigate risk.

In corporate finance, data is everything, and artificial intelligence (AI)-driven analytics are getting better at concluding large financial information. Future advancements in AI will concentrate on improving data processing capacities, allowing for the real-time monitoring of market patterns, customer behavior, and financial transactions. The ability of machine learning algorithms to uncover hidden correlations, trends, and anomalies in financial data will be crucial in enabling finance professionals to make knowledgeable judgments.

Predictive analytics is where AI's major contribution to corporate finance resides. Through the use of machine learning models and historical data, AI systems are able to predict future financial outcomes with high accuracy. Finance teams will be able to foresee market trends, spot investment possibilities, and allocate resources as efficiently as possible because to these predictive capabilities. AI-driven forecasting technologies will also make scenario planning and risk assessment easier, helping companies successfully navigate unpredictable economic environments.

5. CONCLUSION

Even if businesses are clearly interested in artificial intelligence (AI) and technological advancements are inevitable, social discourse will ultimately be crucial. In this regard, in order to gain society's trust, businesses will need to demonstrate that they understand their duty while using AI. AI will also have a significant impact on corporate governance since it will make it possible to implement a wide variety of new systems and procedures for governance. A more sophisticated understanding of limited liability companies, the capital market, and ultimately capitalism could emerge from this. If they are prepared and able to assume the lead, today's boards of directors can be crucial to this process.

The growth of reinforcement and unsupervised learning will be the primary means by which artificial intelligence's influence on corporate governance will escalate. This will allow artificial intelligence to further support augmented, amplified, and autonomous intelligence. The idea of a self-sustaining organization is now more than just science fiction. As mentioned above, systems will be able to learn faster than humans in both specific domains and in larger, connected decision-making.

In this kind of situation, the algorithm becomes the center of attention for AI governance. The companies that can create and implement an algorithm that facilitates both reinforcement learning and, more significantly, unsupervised learning will stand to gain the most from it.

The use cases of AI for decision-making in corporate governance are not the only ones being researched. As was previously said, one of the most significant characteristics of huge data is that human analysis of it is not possible. As a result, humanity will need to rely on algorithms to handle ever-bigger data sets. What matters is that people's comprehension of the underlying workings of the algorithms that affect their lives is not always complete. As demonstrated in many works, this could be advantageous or troublesome for society as a whole. The goal of algorithmic governance researchers is to make sure society takes advantage of these new prospects.

According to Katzenbach and Ulbricht (2019), "algorithmic governance is a type of social ordering that depends on actors' coordination, is rule-based and includes extremely intricate computer-based epistemic processes. To the best of our knowledge, corporate governance has not yet been specifically covered in this sector. But moving forward, this seems like a crucial subject.

In AI-driven corporate finance, governance entails setting up rules for data privacy, oversight procedures, and ethical AI deployment frameworks. Algorithmic accountability is critical; it calls on businesses to disclose their AI decision-making procedures and guarantee that they adhere to moral guidelines. To create and modify regulations in response to the changing AI environment, cooperation with regulators is required.

References

Bruner, C. M. (2020). Distributed ledgers, artificial intelligence and the purpose of the corporation. The Cambridge Law Journal, 79(3), 431-458; DOI: https://doi.org/10.1017/S0008197320000756

Cunningham, L. M., & Stein, S. E. (2018). Using Visualization Software in the Audit of Revenue Transactions to Identify Anomalies. Issues in Accounting *Education, 33*(4), 33-46. https://doi.org/10.2308/iace-52146

Dignam, A. (2020). Artificial intelligence, tech corporate governance and the public interest regulatory response. *Cambridge Journal of Regions, Economy and Society, 13*(1), 37-54. https://doi.org/10.1093/cjres/rsaa002

Erel, I., Stern, L. H., Tan, C., & Weisbach, M. S. (2018). Selecting directors using machine learning (NBER Working Paper No. 24435). National Bureau of Economic Research. https://www.nber.org/papers/w24435.pdf

Fenwick, M., & Vermeulen, E. P. (2018). Technology and corporate governance: Blockchain, crypto, and artificial intelligence. *Texas Journal of Business Law, 48*(1), 1–15.

Frey, C. B., & Osborne, M. A. (2017). The future of employment: How susceptible are jobs to computerisation? *Technological Forecasting and Social Change, 114*, 254–280. https://doi.org/10.1016/j.techfore.2016.08.019

Go, E. J., Moon, J., & Kim, J. (2020). Analysis of the current and future of the artificial intelligence in financial industry with big data techniques. Global Business and Finance Review, 25(1), 102–117. https://doi.org/10.17549/gbfr.2020.25.1.102

Goertzel, B. (2016). The AGI revolution: An inside view of the rise of artificial general intelligence. Humanity+ Press.

Goodell, J. W., Kumar, S., Lim, W. M., & Pattnaik, D. (2021). Artificial intelligence and machine learning in finance: Identifying foundations, themes, and research clusters from bibliometric analysis. Journal of Behavioral and Experimental Finance. https://doi.org/10.1016/j.jbef.2021.100577

Jarrahi, M. H. (2018). Artificial intelligence and the future of work: Human-AI symbiosis in organizational decision making. Business Horizons, 61(4), 577–586. https://doi.org/10.1016/j.bushor.2018.03.007

Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*. https://doi.org/10.1016/0304-405X(76)90026-X

Katzenbach, C., & Ulbricht, L. (2019). Algorithmic governance. Internet Policy Review, 8(4), 1–8. https://doi.org/10.14763/2019.4.1424

Manita, R., Elommal, N., Baudier, P., & Hikkerova, L. (2020). The digital transformation of external audit and its impact on corporate governance. Technological Forecasting and Social Change. https://doi.org/10.1016/j.techfore.2019.119751

Parker, G. G., Van Alstyne, M. W., & Choudary, S. P. (2016). Platform revolution: How networked markets are transforming the economy and how to make them work for you. W. W. Norton & Co.

Schwab, K. (2017). The fourth industrial revolution. Currency Books.

Tang, Y. (2021). Corporate finance management in the age of artificial intelligence. International *Journal of Frontiers in Sociology*. https://doi.org/10.25236/IJFS.2021.031218

Wang, R., Asghari, V., Hsu, S.-C., Lee, C.-J., & Chen, J.-H. (2020). Detecting corporate misconduct through random forest in China's construction industry. *Journal of Cleaner Production, 268*, 122266. https://doi.org/10.1016/j.jclepro.2020.122266

Willcocks, L. P., Lacity, M., & Craig, A. (2015). The IT function and robotic process automation. The Outsourcing Unit Working Research Paper, (15/05). https://eprints.lse.ac.uk/64519/1/OUWRPS_15_05_published.pdf

Williams, B. A., Brooks, C. F., & Shmargad, Y. (2018). How algorithms discriminate based on data they lack: Challenges, solutions, and policy implications. *Journal of Information Policy, 8*, 78–115. https://doi.org/10.5325/jinfopoli.8.2018.0078

Wyrobek, J. (2020). Application of machine learning models and artificial intelligence to analyze annual financial statements to identify companies with unfair corporate culture. *Procedia Computer Science, 176*, 3037–3046. https://doi.org/10.1016/j.procs.2020.09.335

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Evaluating Corporate Governance in Albania: A Comparative Study of Board of Directors, Mechanisms and Managerial Practices

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Accountability

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Abstract: *Corporate governance has become a critical issue globally, facing increasing scrutiny from regulators, investors, and the public, particularly in rapidly developing nations. This study examines corporate governance in Albania, focusing on board practices, challenges, and areas for improvement. Using a mixed-methods approach, it analyzes corporate governance through secondary data from annual reports and financial statements of the top 29 companies by income, alongside exploratory qualitative insights from interviews with key corporate stakeholders.*

Findings reveal a varied landscape, while some firms demonstrate effective governance, others face challenges like conflicts of interest, lack of board independence, and inadequate disclosure. Key improvement areas include stronger regulatory frameworks, more diverse boards, and increased shareholder engagement.

This research contributes to the limited literature on the corporate governance domain in Albania, offering insights into the local context as well as serving as a foundation for future studies and initiatives to enhance governance standards, fostering a corporate culture of transparency, accountability, and stakeholder protection.

1. INTRODUCTION

The foundation of corporate governance (CG) is a system of transparent interactions between an institution's management, board, shareholders, and other stakeholders, which also serves as a framework for determining internal dynamics. It serves as a structure or system of rules, policies, norms, practices, and processes that serve the purpose of directing and controlling a firm transparently. It is also considered a set of strategies that help align the interests of investors and management of the firm while ensuring that the firm runs for the benefit of investors. Corporate governance as a continuously evolving discipline, is to be highlighted for addressing critical questions about how organizations operate and their ability to protect themselves against a variety of threats.

Following corporate scandals like that of Enron, WorldCom, and HIH Insurance, etc. because of poor governance and as the likelihood of a possible next financial crisis is often present, the CG structure has since been brought into the spotlight, with recently increased development of the corporate governance practices in businesses. The OECD Principles of Corporate Governance, originally issued in 1999 and revised in 2003, have turned into the international benchmark standard for good corporate governance practices, and form now the basis for effective initiatives in this domain. The OECD Principles are divided into five major categories: shareholder rights, equitable treatment of shareholders, the role of stakeholders in corporate governance, disclosure and transparency, and board responsibility (OECD, 2004).

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Despite the fact that the regulatory environment for CG is evolving in Albania, corporate governance compliance is not largely implemented. In terms of research too, there are very few studies on the topic, with existing studies being limited to the banking sector. Furthermore, although the effects of CG mechanisms such as the board of directors and ownership structure have been extensively researched in various countries, yet no study has been conducted in Albania. Such existing gaps called for further research into CG practices in Albania, where literature is very limited regarding various CG aspects like board composition and ownership concentration.

Focusing on a comparative analysis of board size and composition, board activity, and ownership concentration among others, this study gives an overview of corporate governance principles in Albania and related implications which comprises also the main objective of this study. In this context, by examining how the board of directors in Albania is established as a mechanism of corporate governance, paying particular attention to the board composition, diversity, and ownership concentration, this study will help determine whether there are any shortcomings in firms operating in Albania concerning board size and composition, ownership structure, and other corporate governance standards.

2. LITERATURE REVIEW

Corporate governance (CG) has a rich history rooted in the evolution of corporations and trade. It addresses fundamental issues arising from the separation of ownership and control within organizations, which has long been recognized as a potential source of conflict and inefficiency. Although principles of CG have been 'around' for centuries, the term "corporate governance" was coined in the 1970s as governments, international organizations, and stock exchanges began formalizing standards to address these challenges. Major corporate scandals and financial crisis highlighted the severe consequences of poor corporate governance, especially when bad actors and self-interested groups were mixed into the board of directors, emphasizing the need for effective frameworks.

Depending on the disciplinary interest or context, there are numerous ways to define, describe or outline Corporate Governance, broadly defined as the system by which companies are managed and controlled, or as the set of rules and practices that an organization establishes to oversee all its business activities. It should be emphasized that by 'control' it is referred to the degree firm stakeholders exert influence or control over people in charge of planning and running the company's operations. CG largely involves a 'set of relationships between a company's management, its board, shareholders, and other stakeholders' (OECD, 2004, p.11). This framework provides the basis for setting organizational goals, the means of achieving them, and the criteria for measuring performance. Charreaux (1997) defines it as the organizational controls that govern the behavior of managers and define their discretionary powers. According to Shleifer and Vishny (1997), corporate governance is concerned with ensuring that suppliers of finance for firms receive a return on their investment. Goergen and Renneboog (2006) define it as a set of mechanisms that ensures management manages the company for the gain of one or more stakeholders. According to Shailer (2018), it describes the processes, structures, and mechanisms that influence firm control and direction. Meanwhile, Wolfensohn (1998), Malla (2010) and Tricker (2022) emphasize the importance of fairness, transparency, accountability, and socially responsible governance practices in safeguarding stakeholder interests and societal trust. The evolution of corporate governance as a domain reflects ongoing efforts to adapt to new challenges and ensure that businesses operate in a fair, transparent, and accountable manner. Increasingly, firms are realizing that good governance

and higher standards of corporate governance are not only necessary to ensure accountability but also to positively improve corporate performance (Clarke, 2022).

What is known today as Corporate Governance can be explained by both the convergences and divergences of several theoretical approaches, each grounded in distinct economic, social, legal, and historical contexts. Among these, the most prominent and debated theories are the Agency Theory, Shareholder Theory, and Stakeholder Theory. Agency Theory, rooted in the "principal-agent" problem which can be traced back to the work of Adam Smith (1776) and Berle and Means (1932), is a central framework in corporate governance. This theory addresses the relationship between shareholders (principals) who own the company and managers (agents) who run it. The core idea lies in the separation of ownership and control of the firm as a fundamental issue in modern corporations, leading to conflict or what is known as the agency problem. Shareholder Theory instead posits that the primary responsibility of a firm is to maximize shareholder value and that a firm's only obligation is to its shareholders, who are the rightful recipients of the company's profits. It can be traced back to the work of Milton Friedman (1962) who notably argued that a firm's sole social responsibility is to stockholders, of course within the constraints of free-market capitalism. The Shareholder Theory has faced criticism for encouraging short-term thinking and neglecting the interests of other stakeholders. Meanwhile, Stakeholder Theory prioritizes all parties who can affect or are affected by the achievement of the firm's objectives including shareholders, managers, employees, suppliers, customers, other businesses, etc. Unlike agency theory where managers are expected to serve the shareholders' interests, stakeholder theory suggests that managers serve a network of relationships both internally and outside of firm borders (Freeman, 1999). This latter approach is argued to converge more with the principles of corporate governance.

OECD (2004, 2015) has set a global standard and reference for best practices that can be adapted to different national contexts in this area with the OECD's Principles of Corporate Governance, established initially in 1999 and revised since then, that provide a fundamental framework based on four key principles: accountability, transparency, fairness, and responsibility. These principles are essential for guiding corporate strategy and decision-making. Accountability ensures that business decisions are justified and that risks are managed, which is crucial for building trust with shareholders and other stakeholders. Transparency involves the accurate and timely disclosure of important company information enabling informed decisions. Fairness emphasizes ethical practices and fair treatment of all stakeholders. Lastly, Responsibility requires a clear strategic direction, with the board of directors capable of effective oversight of the firm's management, and proactively considering the interests of all parties, including non-shareholder stakeholders.

The board of directors is considered as the main mechanism of corporate governance, and the activity of boards heavily shapes and influences corporate governance. Legal and regulatory obligations of a relevant geography can shape the foundations of a board, which can range from a highly regulated environment that mandates board membership and responsibilities to no applicable rules at all, depending on the country in which the firm is headquartered. The board, which is generally made up of insiders and independent members, is responsible for making critical decisions. An independent director has no relationships with the company, its affiliated firms, or its officers that could interfere with, or be reasonably believed to interfere with, the director's independent business judgment in the best interests of the company (OECD, 2004). Another critical issue is the number of independent directors on the board. It is largely agreed upon that the duality of the CEO and Chairman may either boost the CEO's decision-making speed or diminish the Chairman's monitoring responsibilities, thus affecting business value (Ma & Tian, 2014).

According to Carter et al. (2003), many corporate executives believe that there is a beneficial relationship between board diversity and shareholder value. Board diversity has long sought to promote a diverse range of demographic qualities and characteristics in the boardroom, including age, gender, race, educational background, and professional skills. Overseeing the management team, making critical decisions on key issues such as mergers and acquisitions, determining executive compensation, and ensuring that the company complies with regulatory requirements are all part of effective board activities. Board activity reflects the board's level of involvement in monitoring, as the board has the authority to make critical decisions and supervise the board of management. Ownership concentration refers to the allocation of the company's shares among its shareholders. Structures of control and ownership are critical components of corporate governance. These structures aid in determining how power and decision-making authority is distributed within an organization. When ownership is concentrated among a few shareholders, it can have an impact on corporate governance since these shareholders may have undue influence over the company's decision-making. Ownership and control may be closely related in some circumstances, such as in family-owned enterprises, where the founder and their successors retain ownership and influence over the company's future.

Corporate governance is increasingly important in developing countries too, due to globalization and rising capital mobility. It's particularly crucial for countries that have transited from centralized to market economies, where past government monopolies left little room for private ownership like in the case of Albania. The necessity for corporate governance practices in Albania is a result of the liberalization and privatization processes of formerly state-owned enterprises which have lasted for many years. The establishment, organization and exercise of commercial activity are well-regulated with a decent legal basis. The government and business sectors have been active in developing and attempting to implement corrective policies, such as policies that aim to significantly reduce corruption and increase transparency, accountability, fairness, and responsibility. Despite this, the implementation of corporate governance principles has been limited. This is partly because Albania has a voluntary corporate governance code, which is rarely followed. In 2011, the Ministry of Economy, Trade, and Energy (METE) of Albania adopted the Corporate Governance Code for unlisted companies in Albania, closely related to the OECD Principles (Dibra & Bezo, 2021). The Code's application is entirely voluntary, and it is meant to serve as a good practice reference for unlisted companies to build solid governance frameworks, however, there is little evidence of the implementation and monitoring of the code. Another important reason is the lack of a Stock Exchange with real operational activity, given that generally stock exchanges have played the role of disclosure and compliance monitoring for standards, and are considered as strong promoters of corporate governance recommendations for listed companies.

In light of the gap in research for the case of Albania, the researchers seek to conduct a comparative analysis of Board of Directors practices in Albania, with a particular emphasis on the role of the board of directors, board size, board independence, board composition, diversity, and ownership concentration.

3. METHODOLOGY

The primary objective is to study the concept of corporate governance, and its mechanisms particularly board composition, ownership concentration, and board activity, thus one could consider this as qualitative empirical research. Due to the lack of previous studies, notably in the case of Albania, an exploratory study through content analysis of company reports and other documents is conducted. The structure of the Albanian economy is dependent on several sectors, including

energy, mining, agriculture, technology, and information technology, thus including companies from various industries was considered important.

The sample of companies used for this study was selected through purposive sampling from the list of 200 most profitable companies operating in Albania for the year 2022 (*Monitor 200*) as listed by Monitor Magazine (Monitor Magazine, 2023). This list is compiled based on the data retrieved from the General Directorate of Taxation and the financial statements deposited in the National Business Center (NCB). The sample composed of the top 29 companies of the list, included companies covering most of the significant industries. The selected sample provided wider access to their reports, financial statements, etc. The initial intention was to focus on the top 30 companies, but the last ranked company lacked the necessary data to be included in this study.

The proposed study is focused on the use of secondary data in order to produce more solid and triangulated conclusions. The data has been accessed from secondary data sources. Information about the board of directors and ownership concentration data are secondary data and obtained from annual reports and financial statements at Trade Register (NCB) and on multiple occasions are available on companies' websites. The National Business Center (NCB) database and official business websites were used to get all financial data, company profile, ownership structure and board structure for the companies included in the study.

4. EMPIRICAL FINDINGS

The companies covered in the study make a significant contribution to Albania's GDP and cover the most important sectors in the economy. Table 1 below gives an overview of their commercial activity.

Table 1. Distribution of the sample by commercial activity

Commercial Activity	*No. of firms*
Financial Services - Banking	7
Telecommunication	2
Retail	4
Oil and Gas retailing	2
Construction & Engineering	7
Production of construction materials	2
Food and drinks processing	2
Other	3

Source: Own research

62% of the firms included in the study have more than 20 years of economic activity and are still operating in the market, followed by 24% of firms with an activity of 11-20 years, and 14% of the firms with a maximum of 10 years of activity. In terms of the legal form, they are almost equally divided into limited liability companies (Shoqëritë me Përgjegjësi të Kufizuar, SHPK) and joint stock companies (Shoqëritë Aksionere, SHA), and very few of them as PPP (Public Private Partnership) or branches of MNCs. While limited liability corporations are more frequent in Albania, joint stock companies are commonly utilized by larger enterprises, particularly those seeking external investment or a higher level of transparency.

According to the observations, companies in Albania generally have a board of directors in charge of overall management and strategic decision-making. There is no explicit rule that specifies a minimum

or maximum number of board members for corporations in terms of board size, though boards appear to be small. A smaller board may be more agile and efficient, yet a larger board may bring in more knowledge. Nevertheless, this does not appear to be the case in Albania. It is difficult to determine whether boards have a diversified mix of skills as companies do not disclose the board members' qualifications. Overall, boards of directors in Albanian firms appear to perform a wide range of tasks, including oversight of the company's operations, strategic direction, financial performance, and sustaining good corporate governance principles. Despite this, it was impossible to find any board evaluation practice used to assess the activities of boards as this information was not disclosed.

As a means of analysing *Board Composition* of firms, the researchers of this study observed the repetition of the same surname among board members. Such a case basically would mean filling board seats with family members, clearly a sign of a lack of board independence. The board composition, consequently, ownership structure, personal relationships, and power dynamics within the Albanian companies might generate issues about meritocracy and nepotism, thereby undermining the organization's fairness values (Demaj, 2012).

Table 2. Repetition of the same surname in the company

Repetition of the same last name in the company	Frequency	Percentage
No repetition of the same surname twice or more	20	69
Repetition of the same last name twice or more	9	31
Total	29	100.0

Source: Own research

According to observations as seen in Table 2 above, 31% of the firms have a repetition of the same last name twice or more, while in 69% of them, there is no repetition. This can be a result of the fact that in Albania, family businesses prevail, and this pattern of concentrated ownership coexists with a strong understanding of shareholder rights and the significance of transparency. 31% of the firms in this study have at least two or more individuals with the same last name; this condition is more prominent in the firms with Albanian ownership. Among the firms where the same last name is repeated twice or more, 70% of them have entire Albanian ownership, which proves once more the family relationships domination among Albanian firms. These links can be seen in leadership structures regardless of ability level. This phenomenon is said to be impeding management and non-managerial workforce selection methods, and it raises serious concerns about whether Albanian employment practices foster professionalization or partiality. Family-owned enterprises are distinguished by the fact that ownership and control are held by one or more family members. In all cases mentioned above, the founding family typically retains a large ownership share, and decision-making authority is delegated to family members who serve as executives or on the board of directors. Family-owned enterprises may confront governance difficulties as a result of blending family dynamics and professional management.

Board Diversity expressed in terms of gender diversity is limited though improvement is seen. Legislative measures have pushed to improve the number of women on boards. These rules demand a particular percentage of women to serve on boards of directors in certain types of businesses. While there has been a growing emphasis on encouraging gender diversity and inclusivity in corporate governance, the overall presence of women on boards in Albania remains relatively low, and more efforts to promote gender equality are required. Women appear to be underrepresented on boards with only 38% of firms from the sample having at least one female member in the board of directors, and 62% of the firms with all-male boards. In terms of *Board Nationalities*, the selected firms appear to score better. Foreign direct investments and the banking sector are

seen to have more international board members. It results that 55% of the firms have at least one international board member, instead 45% have all-Albanian boards. While not all firms provide enough information about their boards, it can be emphasized that in enterprises having Albanian ownership, the boards are composed of entirely Albanian members.

In terms of *Board Structure*, while there is no legal obligation for all firms to have a certain number of independent members on their boards, the law does necessitate the nomination of 'independent directors' in some instances. According to the law on Commercial Companies, in joint-stock corporations, the majority of the board members need to be independent directors. Individuals who are not employed by the company and have no material links with the company or its management are considered independent directors. They are supposed to contribute objectivity, impartiality, and expertise to the decision-making processes of the board. However, even the definition of 'independence' is provided differently in various instances, which creates confusion, making this threshold seem to be 'too much' as it is not successfully executed in practice in any of the firms. Nevertheless, the level of board independence varies from one company to another, in most instances with firms not having defined independent board members. As seen in Table 3 below, it results that a majority of 62% of firms have not defined any independent member in their boards of directors. It is worth mentioning, however, that the presence of independent board members is most visible in the banking sector, where all firms in the study have independent board members.

Table 3. Independent Board Members

Independent Board Members	Frequency	Percentage
Firms with independent board members	11	38
Firms without independent members	18	62
Total	29	100.0

Source: Own research

Ownership Concentration is another important element of corporate governance worth observing. Since the country transitioned to a market economy, there has been a shift toward a more diverse ownership structure, with a mix of state-owned, privately-owned, and foreign-owned businesses. Various variables influence ownership concentration in corporate governance in Albania, including regulatory frameworks, historical background, and market dynamics. Privatization measures have aided the expansion of private sector firms, attracting both international and domestic investment, which is reflected in the ownership structure of firms. 48% of the firms have full private capital, 41% of them are FDI and the rest is state-owned or mixed ownership. Foreign direct investment (FDI) has also increased in Albania in recent years, resulting in a bigger representation of foreign-owned enterprises, which offers new viewpoints and practices to corporate governance, frequently pressing for greater transparency and accountability. Firms with entirely Albanian private capital appear to have distributed their shares among family members. The significant presence of family-owned firms is a notable characteristic of the Albanian corporate governance landscape. Family-owned businesses frequently have concentrated ownership, with a few family members holding control retaining ownership and administration control ever since their establishment. This level of concentration is critical because firms owned by a small group of people or a family can lead to a lack of transparency, accountability, and conflicts of interest. For this reason, additional reforms strengthened enforcement mechanisms, and a firm commitment to transparency and accountability are required to successfully address ownership concentration issues.

Transparency and Disclosure are essential for good corporate governance, but they seem to be often lacking in Albania. Firms typically upload their simple/historical extracts in the Trade Register,

but complete data and histories of business actions were not fully accessible by the researchers of this study. Firms have disclosure obligations, but they are not consistently applied, making the dependability on publicly available information, such as annual reports, questionable. The law "On Accounting and Financial Statements" mandates that financial statements must accurately represent a company's financial status and performance, and firms are required to provide substantial nonfinancial information on their websites too, but in reality, compliance to the above is poor, with minimal information available online. Even the largest companies offer limited details, including director credentials, board meetings and activities, and even ownership structure. Furthermore, in terms of transparency and disclosure, legal provisions mandate firms to hire an independent external auditor and to publicly publish their identity, nonetheless, despite the legal requirements about 42% of firms have not defined and published their external audit firm.

5. CONCLUSION

Corporate governance (CG) has become a crucial component of organizational success in recent years. Effective CG ensures that resources are allocated efficiently, risks are managed appropriately, and strategic goals are achieved responsibly. These principles are essential for building trust with investors and other stakeholders, ultimately leading to better financial performance and sustainability. The board of directors plays a critical role in CG by overseeing management and ensuring that decisions align with the best interests of stakeholders.

This study explored the current practices of corporate governance in the context of Albania, focusing especially on the board composition and activity, identifying key practices, strengths, and shortcomings. Despite legal reforms, Albania faces challenges in fully adopting CG principles, with a general lack of awareness and recognition of the benefits of good governance practices. The institutional and legal framework in Albania seeks to align with international standards, but implementation remains relative. Generally speaking, observations reveal that in Albania corporate governance is influenced by agency theory, which prioritizes maximizing investor profits rather than all stakeholder interests. This study's findings once again highlight the critical role of CG in promoting ethical decision-making and responsible behavior within organizations. Additionally, the research identifies several factors that can undermine CG effectiveness, such as inadequate enforcement of governance policies and poor risk management practices. The study also points out that Albania's financial and banking sectors have relatively well-developed CG frameworks, which could serve as models for other industries. However, challenges persist, including limited awareness, sporadic empirical research, and a lack of comprehensive data on CG practices in the country. Nevertheless, the findings of this study should further encourage decision-makers to understand that effective CG frameworks contribute to better resource allocation, risk management, and innovation, all of which are crucial for long-term success. In a country level too, the adoption of CG principles can foster a more favorable economic environment, attracting investment and enhancing competitiveness.

In terms of theoretical implications, this study contributes to the theoretical understanding of CG by exploring its application in a unique context—Albania. It identifies gaps in existing literature and provides a foundation for further research on the nuances of CG practices in different economic and institutional environments. By comparing CG practices across different sectors within Albania, the study offers insights into the variations in governance outcomes. Some practical implications can be induced for stakeholders too as findings emphasize the importance of robust CG frameworks in enhancing organizational performance and stakeholder trust. A diverse and competent board

of directors is crucial for effective CG, as is the timely and accurate dissemination of information to stakeholders. Implementing strong CG practices can lead to improved corporate performance, increased investment, and long-term value creation.

This study offers some recommendations to improve CG in Albania, among others,

- Enhancing CG Compliance with International Standards, where Albania should strive to align its CG principles with OECD norms, which would help attract foreign investment and promote sustainable economic growth.
- Strengthening the Legal Framework, where there is a need for stricter regulations regarding board composition, independence, and accountability. This includes further promoting the recruitment of non-executive independent board members.
- Encouraging Board Diversity, where firms should further diversify their boards in terms of gender, expertise, and background. Diverse boards are more likely to bring a wider range of perspectives and are better equipped to address complex challenges.
- Improving Governance in all Sectors, because findings show uneven implementation of CG principles across sectors, and it is essential for all sectors adhere to CG standards.
- Reducing Informality and Enhancing Transparency, where efforts should be made to eliminate informal market practices and strengthen auditing processes to ensure greater transparency in business operations.
- Collaborative Efforts, actors like regulators, industry stakeholders, and professional organizations collaborate to strengthen the implementation of CG practices in Albania.

Researchers of this study acknowledge some limitations too, like the limited sample size which may not capture the full diversity of CG practices in Albania, and the short time horizon because the study's findings are based on data from a single year. The researchers faced seriously limited access to comprehensive data and thus had to rely on the sometimes limited publicly available data. This study focused only on the board composition, size, and ownership structure, and it did not explore other important aspects of corporate governance that would give a broader and more complete overview of the subject matter.

Despite these limitations, this study offers valuable insights into the state of CG in Albania and provides a foundation for future research and policy development. It highlights the importance of ongoing efforts to improve CG practices, which are essential for fostering a sustainable and competitive business environment in Albania.

References

Berle, A. A., & Means, G. C. (1932). *The Modern Corporation and Private Property.* London: Transaction Books.

Carter, D. A., Simkins, B. J., & Simpson, W. G. (2003). Corporate Governance, Board Diversity, and Firm Value. *The Financial Review*, 38(1), 33–53. https://doi.org/10.1111/1540-6288.00034

Charreaux, G. (Ed.). (1997). *Le gouvernement des entreprises: Corporate Governance: théories et faits.*

Clarke, T. (2022). *Comparative Corporate Governance: A Research Overview* (1st ed.). Routledge. https://doi.org/10.4324/9780429294648

Demaj, E. (2012). Nepotism, Favouritism and Cronyism and Their Impact on Organizational Trust and Commitment; The Service Sector Case in Albania. [Unpublished Master Thesis], Faculty of Economics and Administrative Science, Epoka University.

Dibra, R., & Bezo, Y. (2021). Corporate Governance in Various Albanian Companies. *Calitatea*, *22*(183), 37-41.

Freeman, R. E. (1999). Response: Divergent Stakeholder Theory. *Academy of Management Review*, Vol. 24, No. 2, pp. 233-236

Friedman, M. (1962). *Capitalism and Freedom*. Chicago: University of Chicago Press.

Goergen, M., & Renneboog, L. (2006). Corporate Governance and Shareholder Value. *Commercial Management of Projects: Defining the Discipline*, 1(1), 100–131. https://doi.org/10.1002/9780470759509.ch5

Ma, S., & Tian, G. (2014). Board Composition, Board Activity and Ownership Concentration, the Impact on Firm Performance. *Problems and Perspectives in Management*. 7. 31-50. https://doi.org/10.2139/ssrn.2496168

Malla, P. B. (2010). *Corporate Governance: Concept, Evolution and India Story* (1st ed.). Routledge India. https://doi.org/10.4324/9781315816265

Monitor Magazine. (2023, November 24). 200 kompanitë me fitime më të larta. Monitor. Retrieved from https://www.monitor.al/200-kompanite-me-fitime-me-te-larta-modeli-i-deformuar-ekonomik-qe-po-zhduk-industrine/

OECD. (2004). G20/OECD Principles of Corporate Governance, OECD Publishing, Paris.

OECD. (2015). G20/OECD Principles of Corporate Governance, OECD Publishing, Paris. http://dx.doi.org/10.1787/9789264236882-en

Shailer, G. (2018). Corporate Governance. *Encyclopedia of Business and Professional Ethics*, 1–6. https://doi.org/10.1007/978-3-319-23514-1_155-1

Shleifer, A., & Vishny, R. W. (1997). A Survey of Corporate Governance. *The Journal of Finance*, 52(2), 737–783. https://doi.org/10.1111/j.1540-6261.1997.tb04820.x

Smith, A. (1776). *An Inquiry into the Nature and Causes of the Wealth of Nations*: Volume One. London

Tricker, B. (2022). *Future of Corporate Governance: A Personal Odyssey*. Lulu.com

Wolfensohn, J. D. (1998). 'A Battle for Corporate Honesty', The Economist: The World in 1999, p.38.

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Analysis of the Human Resources and Personnel of Organisation

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Keywords:
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Abstract: *Human resources ensure the unification of the means and products of labor. Human resources are what the labor force is made up of and reflect the work directly put into the activity of an economic entity. This work has the character of a theoretical study, the subject of which is the analysis of economic categories such as «human resources», «labor force», «personnel» of an organization, including their nature, characteristics, professional, functional and qualification structure, etc. The subject of analysis are also the processes of planning and optimizing the personnel of an organization, identifying the labour conditions, and determining the methods, sources and techniques for personnel assessment and selection. This analysis also includes the baseline parameters personnel planning within an organization is based on, including the level of labour productivity and trends in changes therein, the production quantities and/or services that have been contracted for production/provision, the qualities a worker should possess such as level of education, qualification, profession, etc., corresponding to the activity carried out by an organisation as well as its financial capacity.*

1. INTRODUCTION

In order to carry out its production and economic activity the organisation needs means of production, as well as human resources. It is namely human resources that ensure the unification of the means and product of labour.

In a broad sense the concept "human resources" is used to signify the set of people who at a certain moment or for some time are employed in various economic sectors related to the production of goods and services, i.e. the people that possess and exercise the ability to perform a certain type of work. In a narrow sense the concept "human resources" corresponds to the concept "economically active" population (Obuch, n.d.).

In quantitative terms human resources are determined by the population growth and migration processes of the population of a given country. In terms of quality human resources are characterized by educational level and qualification of each individual, their professional experience and skills, labour activity, personal and professional qualities, etc.

From economic standpoint human resources are one of the most valuable assets; they, as well as the other resources ought to be managed in a way that provides long-term economic benefits, while at the same time it leads to increased employee satisfaction and engagement. In this sense, human resource management is a system of organizational practices for managing people, aimed at increasing the engagement, motivation and satisfaction of employees, which contributes to increasing the sustainability and improvement of the long-term economic development of the economic organisations (Dimitrova, 2023, p. 30).

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Human resources are the carriers of the labour force and as such they reflect the living labour directly invested in the activity of the organisation. *The labour force* is a quality inherent to the human as a subject of labour. It can be considered in a broad and narrow sense of the word. In a *narrow sense* labour force is a set of physical and mental (intellectual) capacities and skills for labour. In *broad sense* the labour force is the economically active population – persons above 15 and more years, who put in or offer their labour for production of goods and services. The labour force also includes employed and unemployed persons looking for work and is subject to statistical monitoring (Obuch, n.d.).

The specific manifestation of the labour force has its characteristic features. Above all their individuality stands out – each individual has a set of physical and intellectual abilities that is very different and specific. Secondly, this set is a dynamic category, because it changes over time – the physical and mental strength may increase or decline. Thirdly – it is a characteristic of the labour force that it has a certain professional focus (Donchev et al., 2003, pp. 122-123).

2. CLASSIFICATION AND STRUCTURE OF THE PERSONNEL OF THE ORGANISATION

The personnel is "a personification of the labour resources within the primary structural unit of production; it encompasses all the persons that work in it" (Iliev et al., 2008, p. 11). The composition and structure of the employed personnel are established as a result of the division of labour, which at the level of the economic unit is realized mainly in the form division of labour based on profession, function and qualification.

1. ***Professional division of personnel*** is carried out according to the functions performed and is expressed in the differentiation of separate professions, specialties, positions, occupations, etc. The National classification of occupations and jobs in the Republic of Bulgaria defines the meaning of the categories profession, specialty, occupation, professional qualification, etc. (National Statistical Institute of Bulgaria, 2017):
   - ***Profession*** is an independent labour activity, that requires special knowledge and practical habits, acquired through professional training and production experience, *for example profession: financier, accountant, pedagogist, philologist, statistician, lathe operator, setting controller, etc.*
   - ***Specialty*** is the concretization of the labour activity formed within a given profession and characterised by a narrower range of labour activities, the execution of which requires a more in-depth preparation including deeper knowledge and skills for performing the specific activity related to the profession practiced, *for example, specialty – Bulgarian Philology, financial analyst, expert accountant*, etc.
   - ***Position*** is defined as a set of functions, tasks, rights, obligations, etc., related to the requirements of the place of work and is reflected in the job description.

2. ***Functional division of personnel*** signifies the differentiation of human resources in groups, by the specifics of the functions performed: line, development, management and control. As a result of the functional division of labour, five categories of personnel are differentiated in the production organization (Zagorova, 2017, p. 114a):
   - ***Line personnel***, namely main and auxiliary *workers* – this category consists of the people who perform line functions, related to the production and realization of material goods, as well as the provision of production and non-production services;
   - ***Development personnel***, namely *specialists* – this category consists of the people who perform development and control functions, for which a respective qualification is

required. The category includes general function specialists, engineering and technical personnel, economists, lawyers, production organisers, the personnel carrying out the research activities of the organization, etc.;

- ***Management personnel*** – this category consists of the part of the personnel that performs management and control functions, related to the strategic and operational management of the organisation. It consists of the heads (executive managers) of the organization and its subdivisions, heads of branches, of separate functional departments, offices and production units, including line heads, exempt from direct line functions.
- ***Support personnel*** – consists of the people who perform auxiliary and service functions in the sphere of administration management, including: technical and office assistants, clerks, hygienists, etc.

3. ***The division of the personnel by qualification*** is carried out within a specific profession or specialty and characterizes the complexity and quality of labour, as well as the level of expertise of a given profession and specialty. *The professional qualification* is defined as a combination of general and special training, professional knowledge and skills, practical habits and experience, necessary for the performance of a concrete type of labour activity with a certain degree of complexity under concrete organisational and production conditions.

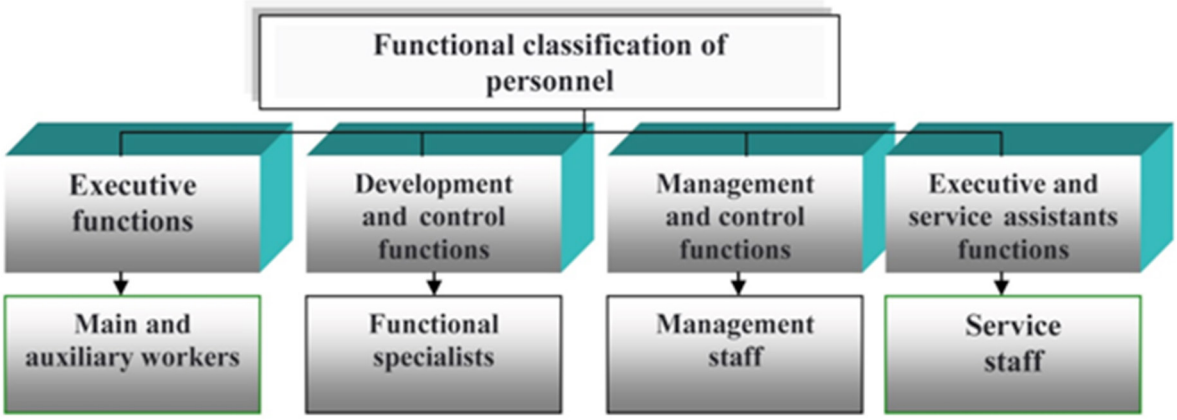


Figure 1. Classification of the personnel, with regard to functions performed

Source: Own illustration

In compliance with the International standard classification of professions, the National classification of occupations and jobs in the Republic of Bulgaria has determined ten primary occupational categories (see Table 1).

Table 1. Classification of professions and positions in the Republic of Bulgaria

Occupational class/category	Positions and professions
CLASS 0	Occupations in the armed forces
CLASS 1	Managerial staff
CLASS 2	Analytical specialists
CLASS 3	Applied specialists
CLASS 4	Auxiliary personnel
CLASS 5	Personnel engaged in population services, security, and trade
CLASS 6	Agricultural and forestry workers
CLASS 7	Qualified production workers
CLASS 8	Plant and machine operators
CLASS 9	Low-skilled workers

Source: National Statistical Institute of Bulgaria (2017)

Structure of the personnel signifies the ratio between the individual categories and types of personnel, in terms of functions performed, practiced professions, specialties, qualification characteristics, etc. Depending on the determining feature, the structure of the personnel is defined as functional, professional, qualification, age, social. The structure of the personnel is not a constant and is subject to continuous update, with regards to the dynamics of the external macro-environment and strategic goals of the organisation.

Main factors influencing the structure of the personnel in the production organisation are its industry affiliation and specifics of the manufactured production (services provided); level of applied technologies; manner of organization and management of production and labour; production range; the rate of technological, organizational and product innovations, etc.

3. PLANNING AND SELECTION OF THE PERSONNEL OF THE ORGANIZATION

3.1. Planning of the Personnel of the Organisations

The management of human resources is directly related to the processes of *planning and optimization of the existing personnel, identification of the labour conditions, determining of the methods and sources of personnel selection.*

Generally, planning the number of personnel in the organization is based on the following parameters:

- growth of labour productivity of and trends for its change;
- planned/ contracted quantities of production for the respective period;
- qualification of the personnel employed, namely: education, professional orientation, practical experience, according to the requirements of the activity performed;
- financial status of the organisation.

The number of planned production personnel or planned workers in the organization for a specific period is determined through the following ratios (Blagoev et al., 2010, p. 174a).

$$W_{p1} = \frac{P_{p1}}{P_{s1w}} \quad (1)$$

$$P_{s1w} = \frac{P_s}{W_r} \quad (2)$$

where:

W_{pl} planned number of workers
P_{pl} planned production volume
P_{s1w} volume of realized production on average per worker
P_s volume of realized production
W_r number of workers per report

The number of the remaining groups of personnel is determined through a specific ratio with the number of planned production labourers.

The correct personnel selection requires planning their number and type, as well as analysing the specificities of the work, for which there are job positions available, which requires: preparing written workflow of the activity and specification of the conditions of the work environment; drawing up of a person specification and job description of the activity, for which job positions are vacant.

The specification of the work conditions has the following structure (Zagorova, 2017, p. 118b):

- description of the status of the factors of the immediate work environment, namely: noise, vibrations, presence of toxic substances, etc.;
- specification of the social work environment, namely: socio-psychological environment, traditions, views, norms of behaviour, etc.

The organisation – employer draws up the job description and person specification for the announced job positions, which are submitted to the recruitment agencies, as well as potential job candidates.

The first part of the person specification describes the obligatory requirements and necessary conditions, which the job applicants must meet, namely: minimal educational degree, qualification, knowledge and skills of the candidate; professional experience; additional professional qualification; personal and professional qualities; age, etc.

The second part of the person specification describes main parameters of the organisation, which inform the candidate regarding: Initial base salary, range spread of the salary, duration of the work day, work/rest cycle, taking paid annual leave, conditions for social and health insurance of the candidate, type and duration of the employment relationship, additional benefits for the candidate, etc.

3.2. Selection of the Personnel in the Organisations

After the personnel needed is specified, the process of filling the vacant job positions can start. *The resources for recruitment of candidates for a specific position can be internal, i.e. from the organisation itself, or external – outside of it.*

The filling of the job positions by candidates internal to the organization has the following advantages: it creates a beneficial socio-psychological climate, as a result of the opportunities for career development created; develops an attitude of loyalty towards the organisation; increases the economic motivation and labour activity of the personnel; the expenses for selection of potential candidates are relatively low. This approach is appropriate mainly for the selection of personnel for managerial positions.

Major disadvantage of the use of internal human resources is that there are no new people coming in the organisation bringing creative and innovative ideas with them, which could result in stagnation of its development. *Recruitment of personnel from external resources is carried out mainly through* posting vacancies in the mass media, namely in specialized print media and online; through recruitment agencies; through establishing contractual relations with students in higher education institutions; through attracting specialists from competing organisations, etc.

The selection of candidates for the announced vacancy goes through the following stages: recruitment, selection and assessment of the candidates for a job position, choosing a candidate, making a decision on the appointment of the selected candidate and their introduction into the concrete micro-environment.

Different methods are used for the assessment and selection of personnel for work, namely: conducting tests to assess the candidate's professional knowledge, conducting psychological tests, launching computer programs for "dialogue" and professional evaluation of candidates, conducting

business games and simulations, using a method for self-assessment of the candidate, conducting a conversation - interview, etc (Zagorova, 2017, p. 119c).

Dedicated centres for evaluation and selection of management personnel for the different levels of the hierarchy also have practical applications. The selection performed by the specialized centres is usually carried out in several stages, namely by conducting group discussions, business games, professional analyses, interviews, solving simulation cases, etc.

The various techniques for assessment and selection of the job applicants have in practice a combined application; an obligatory element in personnel selection is the conducting of a psychological evaluation - interview.

According to the specifics and the way they are conducted, different types of interviews are used in practice - structured, situational, attestation, serial, group interview, etc. (Blagoev et al., 2010, p. 174b):

- *The structured interview* is conducted based on a pre-prepared questionnaire. Each candidate is asked the same questions, which facilitates the assessment and selection.
- *The situational interview* is conducted based on pre-prepared questions, covering a specific situation, as well as the potential answers to them. This does not limit the interviewer from deviating for clarification of certain areas and topics.
- *The serial interview* is conducted successively by several experts, each of whom asks a certain set of questions. The interviewers independently assess the candidates and their ranking is determined by an average grade. The major problem after the selection and employment of the candidate is their introduction and adaptation to the immediate work environment.

4. CONCLUSION

Overall, it can be summarized that the personnel and structure of the employees of the organizations are dynamic values, determined by modern reality and emerging new public needs and new professions. Information technologies, as well as mass digitalization in all spheres of the professional and social life of people, restructure and make people reassess the need for several professions, which have existed for decades and give rise to the need to develop new professions, previously unknown.

The dynamics in professional development dictate that the qualification and professional competence management of the personnel must become one of the main priorities in resource management in modern organizations.

As a result, managers must expand the responsibilities and competences of the human resources specialists, by delegating new powers to them, requiring facilitation of the professional development and re-qualification of the personnel, offering training opportunities to employees, including opportunities to use artificial intelligence technologies in the performance of their official duties, etc.

References

Blagoev, V., Dimitrova, V., & others. (2010). *Economy of the Enterprise.* Varna. Bulgaria. Publisher: University of Economics of Varna.

Dimitrova, D. (2023). The Concept of "Labour Force" as a Term in Legislation and Legal Doctrine. Sofia. Bulgaria. Publisher: STUDIA IURIS. Number 1.

Donchev, D., Velev, M., & others. (2003). *Business economics*. Sofia. Bulgaria. Publisher: Softrade.
Iliev, I., Donchev, D., & Velev, M. (2008). *Economics and Management*. Sofia. Bulgaria. Publisher: Martilen.
National Statistical Institute of Bulgaria. (2017). *National classification of occupations and jobs in the Republic of Bulgaria*. Sofia. Bulgaria. Retrieved May 10, 2024, from https://www.mlsp.government.bg/natsionalna-klasifikatsiya-na-profesiite-i-dlzhnostite-v-republika-blgariya-2011.
Obuch. (n.d.). Tema prva: Vŭvedenie v ikonomikata na truda [First topic: Introduction to labor economics]. https://obuch.info/tema-prva-vvedenie-v-ikonomikata-na-truda.html
Zagorova, K. (2017). *Economy. Theory, questions, assignments*. Varna. Bulgaria. Publisher: Color Print.

Additional reading

Kalchev, R., & Valkanova, A. (2001). *Labour Economics.* Varna. Bulgaria. Publisher: University of Economics of Varna.
Online Learning Bulgaria. (n.d.). Introduction to Labour Economics. Retrieved May 14, 2024, from https://www.online-learning.bg/upravlenie-choveshki-resursi
Nikolova, N., Ivanova, D., & Pavlova, D. (2013). *Business Economics.* Varna. Bulgaria. Publisher: Technical University of Varna.

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Business Process Re-Design Based on Human Resources Cost Analysis

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Effort based costing

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Abstract: *Performance measurement and optimization in companies and organizations relies on techniques like process mining, focusing on the analysis of processes using event data. Process re-engineering is the process mining type that aims at improving existing processes. Here we conduct a case study in the medical management domain to discover process optimization and resource reallocation opportunities. We focus on human resource-related costs in different activity decomposition levels. Our findings reveal discrepancies between the actual activity costs and their equivalents. Our study underscores the critical role of process mining and performance analysis in improving operational performance. This paper highlights process mining's potential techniques in driving organizational excellence by creating insights from event log analysis.*

1. INTRODUCTION

Over the last two decades, process mining emerged as a new research field that focuses on the analysis of processes using event data (Aalst, 2012). Process mining combines elements of both process science and data science. Process science focuses on understanding, modeling, and optimizing business processes (Laguna & Marklund, 2018). Data science involves the extraction of meaningful insights and knowledge from large sets of data.

The idea of process mining is to discover, monitor and improve real processes by extracting knowledge from event logs readily available in today's information systems (Aalst, 2011). Process mining establishes links between actual processes (and their data) and process models. Today's information systems log enormous amounts of events in what we call event logs.

The starting point for process mining is an event log (Aalst, 2011). The minimum requirements for an event log to be eligible for applying process mining algorithms are the following three elements: case id, activity and timestamp. Organizations can use event logs to discover, monitor, and improve processes based on facts rather than fiction.

Process mining may be used for different objectives (Ghasemi & Amyot, 2020) and can be grouped into three types (Aalst & Dustdar, 2012). The first type is process discovery, which extracts the blueprint of a business process. In other words, process discovery uses an event log and produces a model, referred to as de facto model (Aalst, 2014), without using any other a priori information. Dozens of techniques

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exist for extracting a process model from raw event data (Aalst et al., 2004). The second type of process mining is process conformance, which assesses the extent to which the de facto model conforms to a reference process, referred to as the de jure model (Munoz-Gama, 2016). The reference process describes how the business process should be carried out. This comparison shows where the real process deviates from the reference. Moreover, process mining techniques can quantify the level of conformance and diagnose differences. The third type of process mining is process re-engineering (or process enhancement, or process redesign) which aims at improving existing processes (Leoni, 2022). This means that, based on additional information, the de facto model is extended, altered or improved to match the de jure model. This is done by dealing with process bottlenecks, deadlocks, or frequencies of specific activities.

It is evident that process mining has emerged as a pivotal field bridging process science and data science, offering a comprehensive approach to analyzing business processes using event data. By establishing a connection between actual processes and process models, process mining extracts valuable insights from event logs, enabling organizations to discover, monitor, and enhance their processes based on empirical evidence. Furthermore, process mining's domain-specific, functional, and managerial perspectives provide a tailored approach to different industry sectors and organizational priorities. As organizations increasingly embrace data-driven decision-making, the integration of process mining methodologies offers a powerful tool for optimizing efficiency, identifying bottlenecks, and enhancing overall performance across various domains and managerial levels.

This paper aims to create insights based on metrics that improve the operational performance of organizations. In order to do that, and based on the literature review we formed four research questions (RQ), summarized in Table 1.

Table 1. Research Questions

#	Research Question
RQ1	What human resources meta-data can we derive based on event-log data?
RQ2	Which metrics are critical in an business process re-design challenge?
RQ3	How can we obtain employees' interrelationships depending on their subdivision level?
RQ1	What human resources meta-data can we derive based on event-log data?

Source: Own research

After the introduction in section 1, section 2 presents a literature review, highlighting existing methodologies, challenges, and research gaps. In section 3 we perform a case study focusing on the healthcare domain. Then, section 4 offers a discussion of the findings from the literature review and the case study and their implications, while section 5 concludes the paper by summarizing key insights and providing recommendations for future research and implementation in process mining endeavors.

2. LITERATURE REVIEW

In this section we dive into the literature surrounding event log data and business process re-engineering, exploring existing methodologies, challenges, and areas for further investigation. By synthesizing insights from prior research, we identify gaps in current approaches and formulate research questions that drive the development of innovative solutions. Business process re-engineering is, today, the least used process mining type. There is a lack of scientific contributions exploring business process re-engineering and, thus, a need to further investigate this type.

Process mining has been used to notify future events. In their paper, Pravilovic et al. (2014) use predictive clustering to equip an execution scenario with a prediction model. This way, a forecasting

ability can provide insights and support decision-making. In their work, Senderovich et al. (2016) target the analysis of resource-driven, scheduled processes based on event logs. Other authors like Park et al. (2015), investigated the characteristics of event logs in make-to-order production and proposed a method to analyze and improve manufacturing processes in construction, shipbuilding and aviation. To validate the proposed method, a case study with real data was conducted.

Existing business process performance mining tools are not designed to help analysts understand how bottlenecks form and dissolve over time. In their paper, Nguyen et al. (2016) present an approach to analyze the evolution of process performance via a notion of staged process flow and demonstrate the advantages of this approach over state-of-the-art process performance mining tools using a real-life event log of a bank. Using time series of petri net models, Solti et al. (2017) aim to explicitly capture seasonality in business processes. Their evaluation showed the merits of this model in terms of better accuracy in the presence of time series effects.

Since existing process mining techniques assume processes to be static, Hompes et al. (2017) present a novel comparative case clustering approach that is able to expose changes in behavior. Claiming that the existing process mining approaches for enriching process models cannot discover rules like separation of duties, Cabanillas et al. (2018) present an approach for mining resource-aware imperative process models that use an expressive resource assignment language.

To demonstrate that the discovered process models can be extended with information to predict the completion time of running instances, van der Aalst et al. (2011) provide a configurable approach to construct a process model, augment this model with time information learned from earlier instances, and used this to predict the completion time. In their work, Caldeira and Abreu (2016) aim to bring forward new insights into the software development process by analyzing how developers use their development platforms. A life-cycle model is presented by Aalst (2011), consisting of five phases and describing how to apply process mining techniques to analyze challenging spaghetti processes.

A case study using process enhancement in manufacturing is shown by Rinderle-Ma et al. (2023). They present that conformance checking during run-time can help detect deviations and errors in manufacturing processes when they happen. Process mining algorithms use event logs to learn and reason about processes by technically coupling event history data and process models. Aalst (2013) focuses on applying process mining techniques to services and highlights the challenges that specifically appear in service-orientated systems.

It is noticeable, based on our literature review, that business process re-engineering has not yet been explored to its full potential. More specifically, we could not retrieve studies that, based on event log data, are calculating human resources-related activity costs nor are computing critical performance indices (e.g., equivalent salary, concentration index, etc.) and can suggest process changes (based on subdivision levels) and reorganization scenarios. This paper answers these research questions, using a case study in the healthcare sector.

3. A CASE STUDY IN THE MEDICAL MANAGEMENT DOMAIN

For demonstrating our proposition we performed a case study. The clinic occupies 10 employees with 4 different roles; 2 consultants (monthly salary 8000€), 3 nurses (monthly salary 3000€), 3 residents (monthly salary 5000€), and 2 anesthesiologists (monthly salary 4000€). Employees are working

from 08:00 to 16:00 (including breaks), Monday to Sunday. Data have been recorded for January 2024, containing around 2000 events. The dataset contains 5 columns; case id, resource, activity, start time, and end time. The activities that each employee can write their working hours on are: surgery preparations, laboratory examinations, other examinations, anesthesia, operation, post-operation checks, in-patients diagnostics, in-patients therapy, out-patients diagnostics, out-patients therapy, in-patients emergencies, out-patients registration, out-patients treatment, discharge notes, patient file.

Using the synthetic data from the gynecological clinic of a hospital, we calculate two performance indices; the equivalent salary per activity and the concentration index of each activity. Then, we use the process tree of the hospital clinic to perform a cost analysis based on activity decomposition level. Before computing the equivalent salary and the concentration index, we calculate the total cost of each activity and the full time equivalent (FTE) of each activity.

The ActCost refers to the total cost of each activity and is calculated as

$$\text{ActCost} = \sum(\text{EmpSal} \times \text{EffperAct}) \ [€] \tag{1}$$

where EmpSal is the employee salary and EffperAct is the employee effort for a specific activity.

The FTEs per Activity are the FTEs devoted to each activity and are calculated as

$$\text{FTEs per Activity} = \frac{\sum(\text{EffperAct})}{100} \ [-] \tag{2}$$

where EffperAct is the employee effort for a specific activity.

These two variables (ActCost and FTEs per Activity) are used to compute the critical indices.

3.1. Equivalent Salary

The purpose of calculating the equivalent salary is to determine if work can be performed at a lower cost to the organization, either through internal re-allocation to less expensive employees or through outsourcing. The EqSal is the equivalent salary for each activity. It is calculated as

$$\text{EqSal} = \sum \frac{\text{ActCost}}{\text{FTEs per Activity}} \ [€] \tag{3}$$

where ActCost is the cost of each activity and FTEs per Activity are the FTEs devoted to each activity. This kind of analysis can be used to identify trivial activities that are performed by highly qualified employees.

We show the results of the equivalent salary analysis together with the activity cost in Figure 1. There are several very useful insights that can be drawn from this plot. First of all, we can spot two activities (surgery preparations and out-patients treatment) that have a higher cost than the equivalent salary. This, most likely, happens because a lot of different resources are involved in their execution. Therefore, it needs to be checked that having multiple employees from different sections of the clinic is needed and valuable to perform these activities, otherwise, a redesign shall be proposed.

Secondly, focusing only on the activity cost, we can identify a few activities like discharge notes and out-patients registration, having equal if not even greater costs with activities like out-patients

diagnostics, laboratory examinations and in-patients therapy. This is interesting to know because some activities are not as important as others. Therefore, after deciding which are the most critical activities, we should ensure that they are performed by highly qualified employees, so the rest of the activities can be executed by other employees at a lower cost.

What is more, this analysis can be useful for calculating how expensive the idle time of our resources is. In our example, this costs around 4000€ per month. Compared with the salary distribution data, we can see which employees are having a lot of idle time and come up with a different working model to accommodate that.

Also, we can use the equivalent salary analysis to decide whether or not outsourcing some activities might be cost-effective. In this clinic, we can think of ways to outsource, for instance, all the trivial activities related to documentation (i.e., discharge notes and patient files). Such a choice could potentially reduce the monthly costs of the clinic by a great amount and at the same time, have the employees focusing on more vital activities.

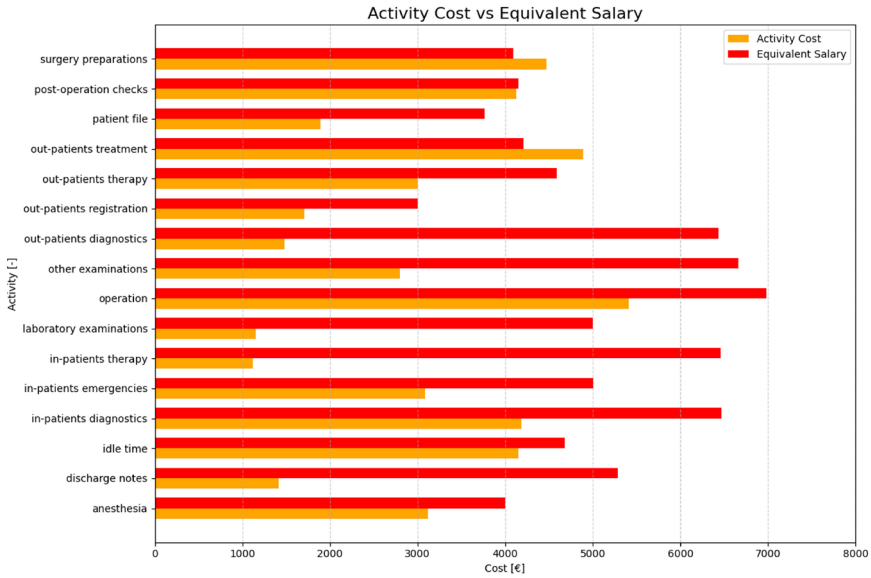


Figure 1. The equivalent salary compared to the activity cost

Source: Own research

Finally, it is important to note that the insights coming from this type of analysis cannot be our only source of judgment, for making robust decisions. Decision-making regarding the business process redesign of such an entity shall always be performed together with discussions with experts in the field.

3.2. Concentration Index

Concentration shows the average amount of time employees spend on a particular activity. It is calculated as

$$\text{Concentration} = \frac{\text{FTEs per Activity}}{\text{Number of Employees that declared effort to the Activity}}[-] \quad (4)$$

where the FTEs per Activity are the FTEs devoted to each activity. The lower this index, the lower the concentration.

This analysis calculates the concentration values of all activities and is useful to understand how fragmented an entity is. The concentration values for all the activities of the gynecology clinic are shown in Figure 2.

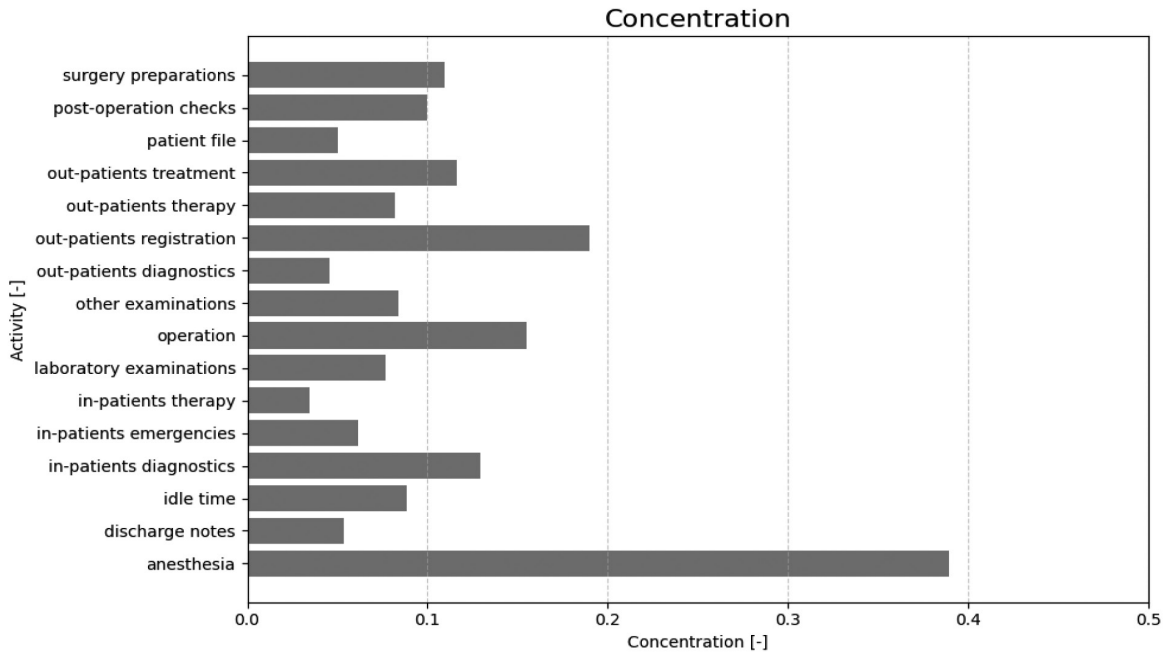


Figure 2. Concentration index in the gynecology clinic for all activities
Source: Own research

By using these results, we can outline multiple valuable insights. To begin with, we can observe that for most of the activities of this clinic, the concentration index is relatively low. This is, most likely, because a lot of employees are occupied with a very large number of different activities on a daily basis. Anesthesia is the only exemption, having a high score (around 0.39) on the concentration index. The explanation for this lies in the fact that only anesthesiologists are responsible for this activity. What is more, anesthesiologists are rarely busy with more than 6 activities in total daily.

Having a relatively low score for most of the activities on the concentration index does not necessarily imply that one shall intervene and redesign the entire organization. For making such a decision it is important to combine this analysis with information regarding the criticality of the activities performed. For instance, having a low score (around 0.05) on the concentration index for writing discharge notes, will probably not require any organization chance, since it might be a low risk activity. On the other hand, having a low score (around 0.16) on the concentration index for performing surgical operations is presumably a red flag, because this activity can be labeled as high risk, requiring to be performed by employees whose daily work is not as fragmented.

3.3. Activity Decomposition Levels

Activity based costing for calculating process costs has been used extensively to attribute costs to all cost drivers related to process resource consumption. We concentrate only on the human resource related costs. For this reason, we focus on employee effort devoted to activities. Based on the effort of each employee per activity we calculate the full-time equivalents per activity. In this way, and based on the process tree of the organization, we can compute the costs related to each decomposition level. The process tree for the gynecology clinic is shown in Figure 3.

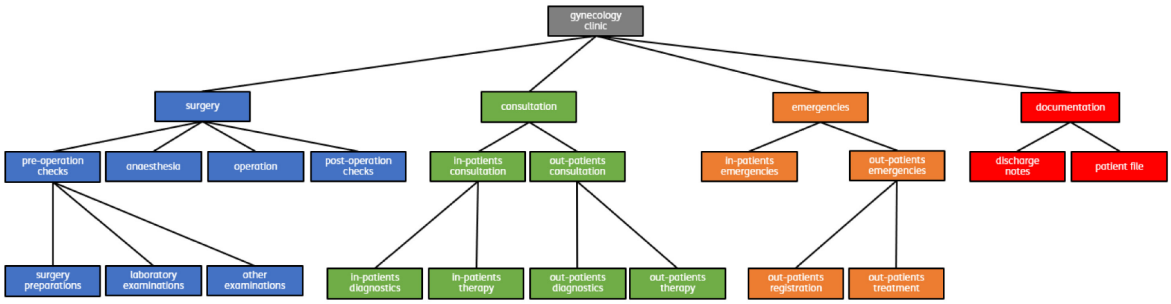


Figure 3. The organizational process tree of the gynecology clinic

Source: Own research

We can see that there are four activities in the first decomposition level, namely, surgery, consultation, emergencies and documentation. In the second decomposition level, we find pre-operation checks, anesthesia, operation, post-operation checks, in- patients consultation, out-patients consultation, in-patients emergencies, out-patients emergencies, discharge notes and patient files. In the third and final decomposition level, we find surgery preparations, laboratory examinations, other examinations, in-patients diagnostics, in-patients therapy, out-patients diagnostics, out-patients therapy, out- patients registration and out-patients treatment.

In our example, employees are writing hours on every activity that is either on the third (and last) decomposition level or is at the second decomposition level, but it does not include any activities on the third level. For example, an employee can write hours on in-patients emergencies (second decomposition level but without any activities on the third level) but not on out-patient emergencies (because this activity has two other activities on the third level).

For the activities that are in higher decomposition levels than the ones that an employee can write hours on, we compute the total costs steaming from the sum of the effort of the respective activities. In Figure 4 we can see the sum of the activities on the first decomposition level. It can be clearly depicted that documentation is the cheapest activity (around 3000€ per month) and surgery the most expensive one (around 22000€ per month). Emergencies and consultations are lying in the middle of this range costing around 10000€ per month each.

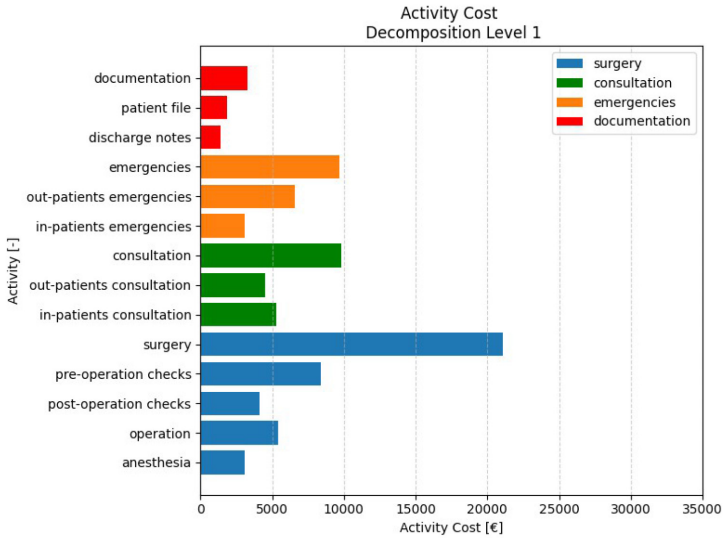


Figure 4. Activity cost for activities in the first decomposition level

Source: Own research

This type of analysis, instead of focusing on process performance, focuses on the organizational structure of entities and organizations. The aim is the evaluation of structural efficiency. This way, by having clear metrics and insights about the cost of each sub-group or department of an organization, we can leverage our human resources in a way to creates maximum performance.

4. DISCUSSION

Our study dives into the multifaceted domain of process mining, with a specific focus on business process re-engineering. Through a literature review coupled with a practical case study, we unravel the complexities of event log analysis and its impact on organizational processes.

In our literature review, we surveyed the utilization of process mining techniques in the realm of business process re-engineering. We discovered that while event logs serve as the bedrock for process mining endeavors, their inherent quality variations present significant obstacles, hindering accurate analysis and decision-making. This is where we answered RQ1, depicting that important human resources meta-data such as the specific activities per working day for all employees can be derived in a straightforward way from event logs.

Moreover, our exploration revealed a notable gap in the use of metrics, regarding business process re-design challenges. Computing the equivalent salary and the concentration index responded to RQ2.

In order to obtain employees' interrelationships depending on their subdivision level, we used the organization process tree. This is how we answered RQ3, by computing the human resources-related costs based on different activity decomposition levels.

In tandem with our literature review, our case study provided reorganization ideas in the operational dynamics of a healthcare setting. By using event logs and computing critical performance indices, our study uncovered opportunities for process optimization and resource reallocation, answering RQ4. The analysis brought to light discrepancies between activity costs and perceived value. Additionally, the examination of the concentration index revealed the organizational structure shedding light on areas that might need optimization.

Finally, our work shows the important role of process mining and performance analysis in driving organizational excellence. Through the utilization of event log data, organizations can unlock hidden insights, improve operational efficiency and create a competitive advantage.

5. CONCLUSION

This paper focuses on business process re-engineering and organizational performance analysis through a literature review and a practical case study. The literature review provided valuable insights into existing methodologies, challenges and gaps. The case study demonstrated the practical application in organizational settings. The integration of data-driven insights with domain knowledge facilitated evidence-based decision-making and informed process improvement initiatives.

We reached our aim to create insights based on metrics that improve the operational performance of organizations by answering the four identified research questions. We showed that human resources meta-data for all employees can be derived in a straightforward way from event logs. In our effort to use metrics, we used the equivalent salary and the concentration index. Also, we used the organization

process tree to compute the human resources-related costs based on different activity decomposition levels. Finally, we uncovered opportunities for process optimization and resource reallocation.

Before going forward, there are certain limitations to be addressed. First of all, most research works do not validate their findings using real-world data. Without leveraging datasets spanning various domains, researchers cannot ensure the generalizability and robustness of performance analysis across a spectrum of organizational settings.

Moreover, current studies are not prioritizing user-centric design principles and are not incorporating feedback from stakeholders to streamline tool interfaces and workflows. By not optimizing usability and user experience, researchers cannot empower organizations to leverage performance analysis tools effectively, driving informed decision-making and process improvement initiatives.

In trying to complement this work, some future steps can be defined. Firstly, future research should explore the incorporation of additional performance metrics to offer a more comprehensive analysis of organizational processes. Metrics such as process efficiency, cycle time, and resource utilization play a pivotal role in understanding process dynamics and identifying areas for improvement. By enriching performance analysis tools with a broader array of metrics, researchers can provide deeper insights into process performance and empower organizations to make data-driven decisions that drive operational excellence. Furthermore, seamless integration with existing organizational workflows is essential for maximizing the impact of performance analysis tools within organizations. Future research should focus on developing interoperability features and compatibility with common software platforms used in business process management. In conclusion, continued research and development efforts in the field of performance analysis tools are crucial for empowering organizations to unlock hidden insights, optimize processes, and achieve sustainable competitive advantage in today's dynamic business environment. By addressing current limitations and embracing emerging technologies and methodologies, researchers can pave the way for the next generation of performance analysis tools that drive organizational excellence and innovation.

References

Aalst, W. (2012). Process mining: Overview and opportunities. *ACM Transactions on Management Information Systems, 3*, 7–1717. https://doi.org/10.1145/2229156.2229157

Aalst, W., Weijters, T., & Maruster, L. (2004). Workflow mining: Discovering process models from event logs. *IEEE Transactions on Knowledge and Data Engineering, 16*(9), 1128–1142. https://doi.org/10.1109/TKDE.2004.47

Aalst, W. M. P. (2011). *Process mining: Discovery, conformance and enhancement of business processes.* Springer. https://doi.org/10.1007/978-3-642-19345-3

Aalst, W. M. P. (2014). Process mining in the large: A tutorial. In E. Zimányi (Ed.), *Process mining in the large: A tutorial* (pp. 33–76). Springer. https://doi.org/10.1007/978-3-319-05461-2_2

Aalst, W. M. P., & Dustdar, S. (2012). Process mining put into context. *IEEE Internet Computing, 16*(1), 82–86. https://doi.org/10.1109/MIC.2012.12

Aalst, W. v. d. (2011). Process mining: Discovering and improving spaghetti and lasagna processes. In *2011 IEEE Symposium on Computational Intelligence and Data Mining (CIDM)* (pp. 1–7). https://doi.org/10.1109/CIDM.2011.6129461

Aalst, W. v. d. (2013). Service mining: Using process mining to discover, check, and improve service behavior. *IEEE Transactions on Services Computing, 6*(4), 525–535. https://doi.org/10.1109/TSC.2012.25

Cabanillas, C., Schönig, S., Sturm, C., & Mendling, J. (2018). Mining expressive and executable resource-aware imperative process models. In J. Gulden, I. Reinhartz-Berger, R. Schmidt, S. Guerreiro, W. Guédria, & P. Bera (Eds.), *Enterprise, business-process and information systems modeling* (pp. 3–18). Springer. https://doi.org/10.1007/978-3-319-91704-7_1

Caldeira, J., & Abreu, F. B. (2016). Software development process mining: Discovery, conformance checking, and enhancement. In *2016 10th International Conference on the Quality of Information and Communications Technology (QUATIC)* (pp. 254–259). https://doi.org/10.1109/QUATIC.2016.061

Ghasemi, M., & Amyot, D. (2020). From event logs to goals: A systematic literature review of goal-oriented process mining. *Requirements Engineering, 25*(1), 67–93. https://doi.org/10.1007/s00766-018-00308-3

Hompes, B. F. A., Buijs, J. C. A. M., Aalst, W. M. P., Dixit, P. M., & Buurman, J. (2017). Detecting changes in process behavior using comparative case clustering. In P. Ceravolo & S. Rinderle-Ma (Eds.), *Data-driven process discovery and analysis* (pp. 54–75). Springer. https://doi.org/10.1007/978-3-319-53435-0_3

Laguna, M., & Marklund, J. (2018). *Business process modeling, simulation, and design* (3rd ed.). Chapman and Hall/CRC. https://doi.org/10.1201/9781315162119

Leoni, M. (2022). Foundations of process enhancement. In W. M. P. Aalst & J. Carmona (Eds.), *Foundations of process enhancement* (pp. 243–273). Springer. https://doi.org/10.1007/978-3-031-08848-3_8

Munoz-Gama, J. (2016). *Conformance checking and diagnosis in process mining* (1st ed.). Springer. https://doi.org/10.1007/978-3-319-49451-7

Nguyen, H., Dumas, M., Hofstede, A. H. M., La Rosa, M., & Maggi, F. M. (2016). Business process performance mining with staged process flows. In S. Nurcan, P. Soffer, M. Bajec, & J. Eder (Eds.), *Advanced information systems engineering* (pp. 167–185). Springer. https://doi.org/10.1007/978-3-319-39696-5_11

Park, M., Song, M., Baek, T. H., Son, S., Ha, S. J., & Cho, S. W. (2015). Workload and delay analysis in manufacturing process using process mining. In J. Bae, S. Suriadi, & L. Wen (Eds.), *Asia Pacific business process management* (pp. 138–151). Springer. https://doi.org/10.1007/978-3-319-19509-4_11

Pravilovic, S., Appice, A., & Malerba, D. (2014). Process mining to forecast the future of running cases. In A. Appice, M. Ceci, C. Loglisci, G. Manco, E. Masciari, & Z. W. Ras (Eds.), *New frontiers in mining complex patterns* (pp. 67–81). Springer. https://doi.org/10.1007/978-3-319-08407-7_5

Rinderle-Ma, S., Stertz, F., Mangler, J., & Pauker, F. (2023). Process mining – Discovery, conformance, and enhancement of manufacturing processes. In B. Vogel-Heuser & M. Wimmer (Eds.), *Process mining—Discovery, conformance, and enhancement of manufacturing processes* (pp. 363–383). Springer. https://doi.org/10.1007/978-3-662-65004-2_15

Senderovich, A., Weidlich, M., Yedidsion, L., Gal, A., Mandelbaum, A., Kadish, S., & Bunnell, C. A. (2016). Conformance checking and performance improvement in scheduled processes: A queueing-network perspective. *Information Systems, 62*, 185–206. https://doi.org/10.1016/j.is.2016.01.002

Solti, A., Vana, L., & Mendling, J. (2017). Time series Petri net models. In P. Ceravolo & S. Rinderle-Ma (Eds.), *Data-driven process discovery and analysis* (pp. 124–141). Springer. https://doi.org/10.1007/978-3-319-53435-0_6

van der Aalst, W. M. P., Schonenberg, M. H., & Song, M. (2011). Time prediction based on process mining. *Information Systems, 36*(2), 450–475. https://doi.org/10.1016/j.is.2010.09.001

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Motivation and Managerial Role in the Hybrid Work Environment

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Abstract: *Hybrid work environment was discussed even before the COVID-19 pandemic and the arrival of Generation Z en masse, and it was implemented in some areas, but the pandemic period marked a clear disruption event, changing the work environment forever. Instead of teleworking, which was prevalent during the pandemic times, or switching back to full office work, hybrid work environment has become the obvious solution that could preserve "the best of both worlds": instead of "toleration occasional teleworking" it has become widely seen as an "inseparable part of competitive advantages" for both the organisation and employees. Work/life balance and work/life flexibility are increased in the hybrid model, the autonomy, competence, and connectedness can reach the optimal balance, and the productivity has risen, thus enabling the competitive advantage. A hybrid model seems to be an optimal solution for the future job market, where employees with task-based jobs can feel motivated, especially in so-called creative industries. The managerial role in this future job market is crucial, since it has changed drastically in the last 4 years, and the more flexible managers, who are less control-obsessed and possess tacit knowledge and motivational skills will progress more in the new work environment, which include territorially dispersed workers, like digital nomad, the full-time office workers and the "hybrid workers" all at once. The managers who observe which factors can yield the best results and what model suits which workers may lead their organisations to better results as a consequence of this new flexibility.*

1. INTRODUCTION

The hybrid work environment has been a hotly debated topic for quite a while – it was discussed even before the COVID-19 pandemic and the arrival of Generation Z en masse, but these two events were decisive in kicking in the teleworking and normalizing it (Ng et al., 2022), although it was already implemented in some areas of business since the prerequisites were already there before the lockdowns (Allen et al., 2015). In the pre-pandemic days, only 35% of companies offered hybrid work or planned on implementing it (Shao et al., 2024), but in 2021 this number was up to 77% (Berger et al., 2021). However, it was not how it continued after the pandemic ended in early 2022. Although the pandemic period marked a clear disruption event, changing the work environment forever, teleworking ceased to be prevalent after the regular working conditions were reinstated (in April 2020, a staggering 81% of the workers were working remotely (ILO, 2020).

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Teleworking is sometimes a preferred working setting for employees, but employers, tending to assert more control over their employees, are willing to impose Return-to-Office (RTO) policies, considering teleworking a temporary setting (Krajčik et al,, 2023). This paper argues that *the hybrid work environment could preserve "the best of both worlds" and the managerial role in this historical transformation is crucial*.

The task of HR and project managers has changed rapidly in the teleworking environment, and then again it has changed in the hybrid work environment, and so has the motivation of workers. The managers were afraid that the remote workers worked less than in the office, while it was the other way around – employees tended to work longer hours than in the office which negatively affected their well-being and long-term productivity (Nemțeanu & Dabija, 2023). Also, the working hours frequently intersected with household duties (Xue & McMunn, 2021). Instead of teleworking, which was prevalent during the pandemic times, or switching back to full office work, hybrid work environment has become the obvious solution.

Namely, instead of "tolerating occasional teleworking", teleworking has become widely seen as an "inseparable part of competitive advantages". Hybrid work environments offer workers a greater level of control, over where (location) and when (timing) their work tasks are performed (Hopkins & Bardoel, 2022). It was accepted by both the organizations and employees, but the workers are dispersed and managers are sometimes "itchy" about control - they sometimes struggle to motivate them, acting aggressively instead. However, Shao et al. (2024) claim that the hybrid work environment is a new "high-flying" policy. In the meantime, Generation Z appeared as a new workforce with completely different worldviews, thus clashing once again with the stiff managerial policies, further complicating the equation.

The paper also aims to explore the psychological, social, and economic consequences of hybrid work environment with a special emphasis on motivational techniques used by managers i.e. the managerial role in organizing an efficient hybrid work environment, maximizing both profit and the employees' well-being and their motivation. The paper claims their motivational and organizational roles are crucial for maintaining the balance between the delicate and conflicting desires of different stakeholders. Conversely, they are to blame if the outcomes are proven to be worse than expected.

2. LITERATURE OVERVIEW

The hybrid work environment consists of creating a mix of "in-office" work with "out-of-office" work, be it home, cafe, or coworking space (Cook et al., 2020), and aims not to lose any element of "old" productivity, and get new elements, and thus, for the same time spent at the computer, get more output and consequentially, more profit. Hybrid work completely changes and revolutionizes the very nature of work as well as management concepts, and in all possible levels, including the domestic space of the employee, the organizational space of the company, as well as the virtual space, as noticed 19 years ago by Halford (2005) in his research and many managers are not very good at it. As David Bowie described the future of the Internet in 1999, describing the Internet as an "alien life form" – it changed many things in society and finally, surprisingly late, it changed the work environment for good.

Employees with university degrees tend to work in hybrid work environments, since it has become a new standard – in 2023 it is estimated that over 100 million people in Europe and North America only worked permanently in a combination of „company office" and „home office" during different

days of the week (Aksoy et al., 2023). It is a radically different work practice from the classical on-spot work for all workers. We can freely say that the pandemic and COVID-19 have cemented three different work environments and practices (Stasiła-Sieradzka et al., 2023), which are both diverging and converging at the same time: office work, remote work and hybrid work environment.

It has certain advantages, among which include the reduction of commuting time needed to travel to work and back (which can be used for free time or vacation) (Elldér, 2020), as well as choosing one's own work environment. The disappearance of distraction from colleagues (no disturbances, no noise (Yang et al., 2021), adjusting physical parameters at will (Milošević, 2023), increasing visual privacy (Gratton, 2011), etc. can be crucial for some employees, especially since they can stop work to rest, lie down, exercise, and they can also prepare their own food and thus eat healthier, achieve greater job satisfaction, as well as a sacrifice at work (Charalampous et al., 2022; Golden & Gajendran, 2019).

Some researchers or managers tend to conclude that the effect is purely negative, diminishing productivity, innovation and career advancements (Goldman Sachs requested RTO policy to be implemented as early as July 2021 (Kelly, 2021), while Elon Musk even claimed that „working from home is morally wrong" (Goswami, 2023). Other research like those from the architectural companies in Poland (Orzeł & Wolniak, 2022) or IT companies in India (Raj et al., 2023) have shown the improvement in both work-life balance and productivity. It is, however, up to the dispersed hybrid regime workers themselves to find the right balance, so it is more likely for employees to lead themselves to burnout (Vayre, 2019; Smoder, 2021) than to underperform or dodge their tasks when working in hybrid work or telework environments.

Managers see disadvantages in hybrid work, such as less employee flexibility, inability to press the employees when deadlines must be met (Babapour et al., 2022), and the most important thing, which is psychologically disastrous for managers - their uncertainty that they can determine with certainty the effectiveness of each employee, that is, his work contribution. This is precisely where the problem lies, because the role of managers with hybrid work, in their subjective opinion, is called into question, although this is not the case.

They feel "superfluous" if the employees can organize themselves, but this is a question that psychologists need to deal with - the bottom line is that the managerial role has now only changed, and has gained importance, because now it is necessary to coordinate all the employees who they are also in the office, in digital nomads, and those who work from home, and those who work hybridly, and who sometimes appear in offices, and this is a crucial change that many managers find difficult to adapt. Research in Denmark, for example, showed that working from home and hybrid work for managers was extremely stressful, much higher than for employees (Ipsen et al., 2021). They face the challenge of becoming "distance managers" and getting used to it (Ipsen et al., 2022).

There is another factor that appears here, changing the equation, and that is that between the onset of the pandemic and the present moment, almost 5 years have passed, that is, 5 new generations have entered the labor market, and they all belong to the generational cohort known as Generation Z. Generation Z is known as a generation that has a low tolerance for pressure in the workplace, at least in the sense that they imagine it - they insist on being motivated for work (Gandhi, 2018). They tend to leave their jobs faster than any other generation (Csiszárik-Kocsír & Garia-Fodor, 2018) and are very financially aware (Sladek & Grabinger, 2014). In case they don't like the management practices in the company they work for, they tend to indulge in what is called "consciously underperforming" or "quiet quitting" while looking for another job. They are known for constantly learning, they don't

consider a career to be ever over or to have ever reached its zenith, they apply a "no nonsense" policy towards CEOs and middle managers, and they highly value work-life balance (Chillakuri, 2020), and are very autonomous in their work (Sharma & Pandit, 2020). They are increasingly the "weakest link" in managerial efforts to introduce control and "order" and tend to leave the company without remorse. Therefore, it is increasingly difficult for managers to deal with more votes "against" their control practices and RTO-orders every year.

When talking about another phenomenon that seriously disrupts managerial practices, it is "quiet quitting", i.e. a deliberate reduction of performance at work, often to the very minimum (Scheyett, 2022), before finally giving up (Galanis et al., 2023). That something is wrong with managerial practices is also said by the Wall Street Journal article, which claims that 50% of today's workforce in the USA is in the "quiet quitting" stage (Mahand & Caldwell, 2023; Smith, 2022) - and it is quite clear how much financial the repercussions of this behavior. This is not a phenomenon that originated only with Generation Z – on the contrary, it is very old and present (Formica & Sfodera, 2022), but only recently came under the spotlight, mainly due to the viral TikTok video from 2022 (Scheyett, 2022), when academic interest also skyrocketed. Managers do not do their job properly and directly reduce the company's profit by actively forcing employees to quietly quit, and this can also be largely solved by a hybrid work environment (Wooll et al., 2023; Cooper, 2020; Mahand & Caldwell, 2023).

Because of all this, managers have found themselves in the position of becoming "distance managers", that is, they have to perform their roles of work organization and motivation remotely, without the possibility of prior strict control (Ipsen et al., 2022). Interestingly, this caused many of them serious psychological problems - they failed, regardless of their age and knowledge, to adapt. They mostly wanted to go back to the old ways, which is impossible.

3. RESULTS AND DISCUSSION

In the aviation industry, Lufthansa Systems FlightNav AG in Zurich (LSY ZRH) introduced a hybrid work policy starting in May 2022, ordering a 50-50% hybrid work environment. The results have shown that the employees are not fully satisfied either with full office work or with full remote work and that the hybrid work environment fulfills the need of a heterogenous and dislocated workforce most (Shao et al., 2024). The managers have recognized the new times and new managerial practices, thus enhancing profits.

Bloom et al. (2024) performed a six-month randomized control trial investigating the effects of hybrid working from home on 1,612 employees in a Chinese technology company in 2021–2022. The results show that the hybrid work environment reduced quit rates by 33% and improved job satisfaction – it was especially interesting to see that the quit rates fell significantly among non-managers, female employees and those with long commutes. It goes to show that the average managers do not really feel the grieves of a common employee and that they do not possess enough empathy. However, the general managerial practice seems to be good, since the results were positive. The Chinese managers used their expertise to adapt to the new working environment and yield more profit.

Krajčik et al. (2024) tried their luck researching employees in vastly different parts of the world and diametrically opposite cultures, like as Slovakia and Kuwait. They surveyed 354 employees, 71% from Slovakia (mostly female) and 29% from Kuwait (mostly male). The results have proven that the employees emphasized time flexibility most, while the growing factor of appreciation is locational flexibility, which comes second, and that they preferred hybrid model to any other. It is important

that the conclusion was that the work environment preferences were almost universal – meaning that almost identical results were obtained from drastically different work cultures, climates, etc. Both the work/life balance and work/life flexibility were increased in the hybrid model and Krajčik et al. (2024) suggested managers accept the hybrid work environment as the most suitable and profitable solution for the companies, as voted by employees.

At the same time, the analysis in Fortune magazine has shown that despite the fuss and noise made by managers and their RTO orders, and dismissal of hybrid and remote work practices, the hybrid work environment brought the most revenue (Royle, 2024). Also, the number of companies recognizing it and switching to hybrid work has risen by 19% in the first half of 2024. The CEOs are recognizing the trends faster than middle management, since 50% of the CEOs in 2024 believe in the hybrid work environment as their companies' future, up from 34% in 2023 (Royle, 2024). A staggering 99% of the companies ordering RTO have experienced a drop in engagement (Confino, 2024). The problems were experienced by Deutsche Bahn (90,000 disgruntled employees posted protest content online), Grindr (the dating app lost the majority of the engineers and 50% of the workforce in the first week of RTO only), and Amazon received a threatening petition that 1,800 workers will quit immediately if the RTO is implemented, while their managers complain that even the 3-days' office work is dodged by majority of employees, not to mention the 5-days' office work order. 29% of the companies enforcing RTO have severe difficulties in recruiting a workforce to replace lost employees (Royle, 2024).

Many pieces of research have shown a strong correlation between motivation and productivity. But at the same time, when the employees became highly motivated working from home (WFH) or in hybrid work environment, the managers' mental health deteriorated with a high percentage of anxiety and depression (Graf-Vlachy et al., 2020) and the loss of trust (Parker et al., 2020). A Danish study found that managers experienced WFH as more challenging than the employees (Ipsen et al., 2021). The majority of managers (67%) prefer to manage from the office, which may be a consequence of the "work expansion" that managers experience when working hybrid (Ipsen et al., 2022) and appreciate the increased efficiency and control of the workday (Ipsen et al., 2021). Also, they do not feel that they have enough support from the organization in new conditions, which makes them nervous, and they express an increased desire for control (Ipsen et al., 2022).

4. CONCLUSION

Although the last several years have brought disruptions and the pendulum was swinging from full office work to full remote work, the many lockdowns (not only the first one in Spring 2020) have changed the perception of only work-from-home models from very positive to slightly negative. Therefore the hybrid model arose as the best solution since the full RTO was not seen as a proper solution by the majority. However, the least prepared seemed to be the middle managers, since CEOs seem to jump the wagon faster than the middle management, excluding some stubborn bosses like Elon Musk. But the hybrid work environment, according to Fortune, seems to be winning. And it will require a new type of manager.

The new type of manager is not defined by age or education but by tacit knowledge and skills: those who adapt first, will get the head start and the company will turn to a "desirable one". In the social media environment, the good news spreads fast; on the contrary, the bad news spreads even faster - this usually increases the revenue or losses (like in the case of Grindr or Amazon or these 29% of companies struggling to recruit). The managerial role in a hybrid environment becomes a pillar of

business since it is intricately connected with motivational skills, or, better said, „demotivational skills“ in many cases, where managers cannot understand the employees' needs.

The managerial practices in both project management and HR management have to be adjusted in the light of hybrid work, i.e. The managerial role in the hybrid work environment has to pace up with changes to increase productivity. Managerial practices are increasingly more complex in the hybrid work environment, organizing on-spot workers, remote workers, digital nomads and hybrid workers, especially in the increasing presence of Generation Z among the workforce, but the managers are not redundant – they need to adapt and evolve new and less stiff managerial techniques.

Therefore, we can conclude that the work/life balance and work/life flexibility are increased in the hybrid model. The autonomy, competence, and connectedness can reach the optimal balance in this model, while the productivity has risen, thus enabling the competitive advantage for the companies applying the model. The hybrid model seems to be an optimal solution for the future job market, where employees with task-based jobs can feel motivated - this is especially the case in so-called creative industries. On the other hand, the managerial role in this future job market is crucial - it has changed drastically in the last 4 years. The more flexible managers, who are less control-obsessed and possess the tacit knowledge and motivational skills will progress more in the new work environment. It is, however, not an easy task for them.

The managers who observe which factors can yield the best results and what model suits which workers may lead their organizations to better results as a consequence of this new flexibility. It is witnessed all around the globe that these examples are plentiful, as shown in this paper. Empathy is crucial in this case since these new and different classes of workers have different perceptions, as Generation Z enters the work market with their own ethics and business practices it gets more complicated for managers to manage and motivate all these different subsegments (the Generation Z is unwilling to tolerate psychological oppression for "better future"). It is shown by the fact that as much as 50% of the American workers consciously underperform and the managers do not notice or rectify this. Thus, flexibility is the key, and managers with little motivational skills and with little empathy, like those requesting RTO, can underperform. It can result in so-called "quiet quitting" (conscious underperformance of workers), or it can lead to an increased rate of leaving the company. This all creates losses in revenue.

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References

Aksoy, C. G. et al. (2023). Working from Home Around the Globe: 2023 Report. *EconPol Policy Brief No. 53* (EconPol, 2023).

Allen, T. D., Golden, T. D., & Shockley, K. M. (2015). How effective is telecommuting? Assessing the status of our scientific findings. *Psychological Science in the Public Interest*, *16*(2), 40–68. https://doi.org/10.1177/1529100615593273

Babapour, C. M., Hultberg, A., & Bozic Yams, N. (2022). Post-Pandemic Office Work: Perceived Challenges and Opportunities for a Sustainable Work Environment. *Sustainability 14*: 294.

Berger, S., Weber, F., & Buser, A. (2021). Hybrid Work Compass – Die Zukunft der Arbeit gestalten (S. 1–20). https://novuoffice.com/hybrid-work-compass/

Bloom, N., Han, R., & Liang, J. (2024). Hybrid working from home improves retention without damaging performance. *Nature, 630*(8018), 920-925. https://doi.org/10.1038/s41586-024-07500-2

Charalampous, M., Grant, C. A., & Tramontano, C. (2022). "It needs to be the right blend": a qualitative exploration of remote e-workers' experience and well-being at work. Employee Relations: The International Journal, 44(2), 335-355. https://doi.org/10.1108/er-02-2021-0058

Chillakuri, B. (2020). Understanding Generation Z expectations for effective onboarding. *Journal of Organizational Change Management*. https://doi.org/10.1108/JOCM-02-2020-0058

Confino, P. (2024). How unpopular are return-to-office mandates? 99% of companies who had one saw a drop in employee satisfaction, study finds, Fortune Magazine.

Cook, J., Mor, Y., & Santos, P. (2020). Three cases of hybridity in learning spaces: Towards a design for a Zone of Possibility. *British Journal of Educational Technology, 51*: 1155–67.

Cooper, C. (2020). Stop Micromanaging: How to Release the Reins and Improve Your Culture. Independently Published.

Csiszárik-Kocsír, Á., & Garia-Fodor, M. (2018). Motivation analysis and preference system of choosing a workplace as segmentation criteria based on a country wide research result focus on generation of Z. *J. Model New Eur. 27*, 67–85. 10.24193/OJMNE.2018.27.03

Elldér, E. (2020). Telework and daily travel: new evidence from Sweden. *J. Transp. Geogr. 86*, 102777, doi.org/10.1016/j.jtrangeo.2020.102777

Formica, S., & Sfodera, F. (2022). The Great Resignation and Quiet Quitting paradigm shifts: An overview of current situation and future research directions. *Journal of Hospitality Marketing & Management, 31*(8), 899-907. https://doi.org/10.1080/19368623.2022.2136601

Galanis, P., Katsiroumpa, A., Vraka, I., Konstantakopoulou, O., Moisoglou, I., Gallos, P., & Kaitelidou, D. (2023). Quiet quitting among employees: A proposed cut-off score for the "Quiet Quitting" Scale.

Gandhi, R. (2018). Workplace expectations of Gen Z students pursuing post-graduation in management study at Ahmadabad, Gujarat. *Indira Management Review*, 12(1), 31–41.

Golden, T. D., & Gajendran, R. S. (2019). Unpacking the role of a telecommuter's job in their performance: Examining job complexity, problem solving, interdependence, and social support. *Journal of Business and Psychology*, 34(1), 55–69. doi.org/10.1007/s10869-018-9530-4

Goswami, R. (2023). Elon Musk: Working from home is 'morally wrong' when service workers still have to show up. *CNBC* (16 May).

Graf-Vlachy, L., Sun, S., & Zhang, S. X. (2020). Predictors of managers. mental health during the COVID-19 pandemic. *Eur. J. Psychotraumatol.* 11:1834195. 10.1080/20008198.2020.1834195

Gratton, L. (2011). Workplace 2025: What will it look like? *Organizational Dynamics*, 40(4), 246–254.

Halford, S. (2005). Hybrid workspace: Re-spatialisations of work, organisation and management. New Technol. Work. Employ. 20, 19–33.

Hopkins, J., & Bardoel, A. (2022). Flexibility Makes Us Happier, with 3 Clear Trends Emerging in Post-Pandemic Hybrid Work, The Conversation. https://theconversation.com/flexibility-makes-us-happier-with-3-clear-trends-emerging-in-post-pandemic-hybrid-work-180310

ILO. (2020). An Employers' Guide on Working from Home in Response to the Outbreak of COVID-19. https://www.ilo.org/wcmsp5/groups/public/---ed_dialogue/---act_emp/documents/publication/wcms_745024.pdf

Ipsen, C., Kirchner, K., Andersone, N., & Karanika-Murray, M. (2022). Becoming a Distance Manager: Managerial Experiences, Perceived Organizational Support, and Job Satisfaction

During the COVID-19 Pandemic. *Frontiers in Psychology, 13*. https://doi.org/10.3389/fpsyg.2022.916234

Ipsen, C., van Veldhoven, M., Kirchner, K., & Hansen, J. P. (2021). Six Key Advantages and Disadvantages of Working from Home in Europe during COVID-19. *International Journal of Environmental Research and Public Health, 18*(4), 1826. https://doi.org/10.3390/ijerph18041826

Kelly, J. (2021). Goldman Sachs tells employees to return to the office by July 14, as Wall Street pushes back on the work-from-home trend. *Forbes*.

Krajčík, M., Schmidt, D. A., & Baráth, M. (2023). Hybrid Work Model: An Approach to Work-Life Flexibility in a Changing Environment. *Administrative Sciences, 13*(6), 150. https://doi.org/10.3390/admsci13060150

Mahand, T., & Caldwell, C. (2023). Quiet Quitting – Causes and Opportunities. *Business and Management Research, 12*(1), 9. https://doi.org/10.5430/bmr.v12n1p9

Milošević, Ž. (2023). Effective Computer Supported Cooperative Work / Designing An Effective Digital Workspace For Remote Work After the COVID-19 Pandemic, 22nd *International Symposium INFOTEH-JAHORINA, 15-17 March 2023,* Proceedings.

Nemțeanu, M.-S., & Dabija, D.-C. (2023). Negative Impact of Telework, Job Insecurity, and Work-Life Conflict on Employee Behaviour. *International Journal of Environmental Research and Public Health, 20*(5), 4182. https://doi.org/10.3390/ijerph20054182

Ng, P. M. L., Lit, K. K., & Cheung, C. T. Y. (2022). Remote work as a new normal? The technology-organization-environment (TOE) context. *Technology in Society, 70*, 102022. https://doi.org/10.1016/j.techsoc.2022.102022

Orzeł, B., & Wolniak, R. (2022). Digitization in the Design and Construction Industry—Remote Work in the Context of Sustainability: A Study from Poland. *Sustainability* 2022, 14, 1332, doi.org/10.3390/su14031332

Parker, S., Knight, C., & Keller, A. (2020). *Remote Managers are Having Trust Issues.* Boston, MA: Harvard Business Review.

Raj, R., Kumar, V., Sharma, N. K., Singh, S., Mahlawat, S., & Verma, P. (2023). The study of remote working outcome and its influence on firm performance. *Social Sciences & Humanities Open, 8*(1), 100528. https://doi.org/10.1016/j.ssaho.2023.100528

Royle, O. R. (2024). *Bosses are losing the 'return-to-office' war as the WFH pajama army forces them to go hybrid*, Fortune Magazine.

Scheyett, A. (2022). *Quiet quitting.* Soc Work.68:5–7. doi: 10.1093/sw/swac051

Shao, S., Martensen, M., Martensen, H., & Reindl, C. (2024). Is 'hybrid work' the new high-flying policy? insights from the aviation industry. Gruppe. Interaktion. *Organisation. Zeitschrift für Angewandte Organisationspsychologie (GIO), 55*(1), 103-111. https://doi.org/10.1007/s11612-024-00725-9

Sharma, P., & Pandit, R. (2020). Workplace expectations of Gen Z towards factors of motivation. *Studies in Indian Place Names*, *40*(08), 76–88.

Sladek, S., & Grabinger, A. (2014). *Gen Z: The First Generation of the 21st Century Has Arrived.* Richmond: XYZ University.

Smith, R. A. (2022). *Quiet Quitters Make up Half the U.S. Workforce, Gallup Says.* Wall Street Journal.

Smoder, A. (2021). *Remote work in pandemic conditions—Selected issues*. Polityka Społeczna 48: 26–35.

Stasiła-Sieradzka, M., Sanecka, E., & Turska, E. (2023). Not so good hybrid work model? Resource losses and gains since the outbreak of the COVID-19 pandemic and job burnout among non-remote, hybrid, and remote employees. *International Journal of Occupational Medicine and Environmental Health, 36*(2), 229-249. https://doi.org/10.13075/ijomeh.1896.02026

Vayre, É. (2019). Les incidences du télétravail sur le travailleur dans les domaines professionnel, familial et social. *Le travail humain*, 82, 1-39. https://doi.org/10.3917/th.821.0001

Wooll, S. et al. (2023). Satisfaction with one's job and working at home in the COVID-19 pandemic: a two-wave study. *Appl. Psychol.* 72, 1409–1429

Xue, B., & McMunn, A. (2021). Gender differences in unpaid care work and psychological distress in the UK COVID-19 lock-down. PLoS ONE 16: 0247959.

Yang, E., Kim, Y., & Hong, S. (2021). Does working from home work? Experience of working from home and the value of hybrid workplace post-COVID-19. *Journal of Corporate Real Estate 25*: 50–76.

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Servant Leadership Through the Eyes of Followers – the Case of Bulgaria

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Abstract: *The current paper focuses on presenting the essence of servant leadership and its characteristics. What is more, it aims also to discuss and analyse how employees perceive the characteristics of servant leadership. For this purpose, the perception that Bulgarian employees have of servant leadership has been presented as well as discussed in the paper. The authors used a quantitative approach and created a questionnaire using Qualtrics which was distributed to Bulgarian employees from both international and Bulgarian companies working in different sectors such as construction, call centers, IT, education, health care and others. The study had 94 participants, whose answers were analysed using Excel and SPSS. The result of the study shows that servant leadership attributes of community development, empathy, humility, moral integrity, employee development, and egalitarianism were perceived by Bulgarian employees as being important for leadership success.*

1. INTRODUCTION

Servant leadership is defined as a leadership that is oriented towards the service to others with main concept of placing employees first and developing them to be the best version of themselves both in the organization and society. Such types of leaders are fully devoted to the followers, which begins as a natural feeling of purpose that the servant leaders feel to serve (Kangoma, 2023).

Ingram (2016) considers that the servant leadership dates from 600 B.C. For example, at that time a Chinese Philosopher Lao Tzu discussed servant leadership by writing that the greatest leader forgets himself and serves the development of others.

The concept of "Servant Leadership" was first used in the study of Robert K. Greenleaf, in 1970. According to Greenleaf, the leader should not only be an example for followers but also teach them how to be good followers. Followership is essential for successful leadership. Only good followers can become effective leaders. In his studies, Greenleaf mentioned these archetypes constitute 2 extreme values and that there can be many intermediate stages and combinations, due to the infinite diversity of human nature (Dimitrakaki, 2023).

Servant leadership is a leadership style that has been gaining a lot of attention in the literature, as this leadership style is seen as a solution to the challenge that leaders have to have a style of leading that is more caring towards employees (Kangoma, 2023).

Servant leadership affects positively employees as the working environment is positive, the leader seeks contribution from the employees, they have the opportunity to express an opinion and thus creating a creative and innovative environment (Kangoma, 2023).

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It is the opposite of the style of the authoritarian or toxic leader who does not tolerate other's opinions and makes the whole working environment negative and toxic by nature.

Servant leaders build trust as they focus on positive and real relationship-building with followers. The positive orientation of the servant leader towards the needs and interests of staff builds a motivating culture and affects them positively.

Unlike authoritarian leaders who provoke fear and mistrust, servant leaders are persuasive by a strong focus on persuasion, rather than positional authority, by creating influence and driving decision-making, seeking to convince others (not coerce them), and working to build consensus on their teams so that everyone is a part of the decision-making process (Business Leadership Today, n.d.).

2. LITERATURE REVIEW

Different authors present various attributes of servant leaders. According to Greenleaf, the most important characteristic of being a servant leader is to make it your priority to serve rather than to lead. Servant leaders are more interested in serving the needs of employees and helping them grow in the organization and are less interested in focusing on profits and simply leading people along by telling them what to do (Patterson, 2003).

According to Spears, the servant leader is empathic, listening, healing, awareness, persuasive, conceptualizing, foresight, stewardship, and is committed to the growth of people and building community.

In their study, Barbuto and Wheeler (2006) have transformed Spears's 10 characteristics to: altruistic calling, emotional healing, wisdom, persuasive mapping, and organizational stewardship.

On the other hand, Farling et al. (1999) presented a hierarchical model of servant leadership as a process, including behavior (vision, service) as well as relational (influence, credibility, trust) components as cited by Barbuto and Wheeler (2006).

Leaders nowadays are facing the challenge of working with people from different cultures and nationalities. To be successful, they should place the needs of their subordinates in the first place as servant leaders do. In addition, leaders are supposed to be ethical concerning avoiding possible conflicts arising from intercultural differences (Kangoma, 2023). These challenges mean that leaders are going to have to embrace a different leadership style, one that has high ethical standards, sensitive to current issues, and puts employees first. Servant leadership is a leadership style that has been proposed as a leadership process that answers these challenges that are presented to leaders (Kangoma, 2023):

- Person of character: As the leader serves as a role model, the behavior displayed should be based on the ethical rules of a humble person.
- Places people first: A servant leader unlike the narcissist leader is interested in employees' needs and demonstrates real care for its staff.
- Excellent communicator: Being not only able to speak well but most of all able to effectively listen to and speak with employees, while also inviting feedback.
- Compassionate collaborator: Consistency while working with others and working to strengthen relationships by demonstrating strong support for their well-being and successful problem-solving skills.
- Visionary: Future-oriented with a strong vision for the organization and the type of person who can take decisive action when needed.

- Systems thinker: Good adaptability to fit different situations and circumstances to effectively lead change in the organization.
- Leads with moral authority: trustworthy by establishing quality standards, accepting, and delegating responsibility and fostering a culture that allows for accountability (Society for Human Resource Management, n.d.).
- Egalitarianism. Servant leadership has the notion that the leader is one of the group he/she leads and all group members can help and depend on each other to accomplish the mission of the organization (Tanno & Banner, 2018).
- Empathic. Servant leadership shows attention to the specific needs as well as expectations of the followers thus being ready to show help if needed. In this regard, the servant leader to be able to be approached by the employees for them to share their concerns and struggles (Spears, 2004, as cited in Kangoma, 2023). In this process, the servant leader actively listens to employees, understands their concerns and worries, and places himself in other's shoes which enables the servant leader to guide instruct, and support followers in any problematic situation (Kangoma, 2023).
- Stewardship. Stewardship involves preparing the organization and its members for great contributions to society (Barbuto & Wheeler, 2006). Leaders seek to meet the needs of society more than those of the organization.
- Empowerment is the most typical characteristic of the servant leader. Unlike toxic leaders who demonstrate superiority over subordinates, the servant leader delegates authority to them as Yordanova and Dineva (2022) discuss. The servant leader is mainly involved in active communication, places followers first, and makes them feel important by focusing on teamwork and valuing love and equality (Kangoma, 2023).
- Altruism demonstrated by SL is measured not only in good intentions or being well-meaning but presented more in concern for the welfare of another (Patterson, 2003).
- Servant leadership is strengthened when a leader performs the role of a servant when dealing with followers (Dimitrakaki, 2023).

The benefits of using SL as a leadership style on behalf of the employees are the following:

- A positive relationship between a leader and a subordinate with a priority for the welfare and development of subordinates rather than acting self-interested or focusing exclusively on the outcome, while sharing power as well (Patterson, 2003);
- Servant leadership creates a positive working environment of trust for both sides (Kangoma, 2023).
- Positive job satisfaction of employees and commitment towards the organization, as employees feel valued by the organization (Kangoma, 2023).
- Improves the mental health of employees, due to them having a safe space to share their struggles (Kangoma, 2023).
- The servant leader helps others by delegating authority to followers so that they can grow and develop themselves in the organization (Kangoma, 2023);
- Servant leadership is focused on improving employees' skills to do their jobs with high quality and reach their potential (Tanno & Banner, 2018);
- Trust is a very typical trait for SL due to the inspiration of others as well the empathy they show towards employees and support to help their growth (Patterson, 2003).

The bene0fits of SL for the organization are listed below such as:

- A possible and expected increase in its competitiveness and job engagement on behalf of the employees who are also satisfied with the job performed and committed to the organization due

to the servant leadership taking care of the future development of employees, this helps in the organization retaining their talents which reduces cost that may come due to turnover rate (Kangoma, 2023). The development of employees leads to a culture of learning within the organization, which helps the organization to be a step ahead in the market (Kantharia, 2011).

- Servant leadership engages the organization in Corporate social responsibility initiatives with a concern for the well-being of the planet, this behavior that servant leadership displays enables the organization to be able to answer to the demand that has been placed in today's market, which helps the organization increase its attractiveness to customers (Kantharia, 2011).
- Employees are also engaged in organizational environmental citizenship behavior (OECB), further benefiting the organization (Kangoma, 2023).
- Servant leadership can strongly influence individual-level and group-level results, suggesting that the servant leadership style is effective at all organizational levels. In addition, the findings highlight the crucial role of servant leaders in fostering a positive work environment and creating a high level of group and individual performance (Kangoma, 2023).

An interesting comparison of the models has been performed by Ingram (2016). According to him, the concepts of servant leadership are closely linked to leadership traits, characteristics, and behaviors. In this regard, Ingram (2016) has discussed six models. For example, Laub's six scales for servant leadership are focused on the leader who values people, develops people, builds community, displays authenticity, provides leadership, and shares leadership—can be viewed as they relate to the characteristics forming the conceptualizations of servant leadership in the models described by Greenleaf, Spears, Farling, Stone, Winston, and Ingram (2016).

Another notable approach to servant leadership is presented in Patterson's model, which identifies seven key constructs of this leadership style.

- *Agapao love*; means to act in love, to carry out caring things, or to act caringly. Patterson (2003) originated the idea of Agapao love for her model of servant leadership. As stated by Patterson (2003) "This love is shown by leaders who consider each person as a total person with needs, wants and desires" (Earnhardt, 2008).
- *Acts with humility;*
- *Is altruistic;*
- *Is visionary for the followers*; The leader has a vision for the future of the organization he/she leads;
- *Is trusting*; It is very important to have followers ready to accept the leadership,
- *Is serving*; The leader is ready to serve the followers by placing their needs in the first place;
- *Empowers followers*. The leader being transformational is democratic as allows followers to express ideas and make decisions.

Modified Wong & Page's expanding ring model with its core, including the love for humanity which expands through character building for the self and developing others.

Spear's Model presented ten characteristics of servant leaders, including listening, empathy, healing, awareness, persuasion, conceptualization, foresight, stewardship, commitment to the growth of others, and building community (Kantharia, 2011).

Winston's Extension of Patterson Model by adding the followers' Agapao with a strong focus on the relationship between the Leader & Follower's Agapao.

Farling, Stone, and Winston present leadership with the leadership building trust, providing service to followers, and affecting the vision and influence on them (Ingram, 2016).

For Ingram\s model the servant leader is the one who provides credibility, focuses on building relationships with followers, affects them with his vision and encourages them (Ingram, 2016).

Leader-Exemplary Follower Exchanges (LEFX). Based on the model, SL has various dimensions that demand systems thinking and a holistic approach. In this regard, Pitron believes that leaders are responsible for only 20% of the work done whereas the rest of the work is performed by the followers and greater contribution is by exemplary followers (Kantharia, 2011).

As Kantharia mentioned SL is focused on two main areas: Servanthood and Leadership. Regarding the servanthood aspects, the leader is oriented to help followers grow within the organization. Unlike the toxic leader, SL is driven by humanity and empathy and is mainly concerned with the willingness to help and serve others to excel at their best. As for the leadership part, the leader builds the organization by effectively using people as resources; the emphasis here is on leadership skills, such as vision-casting and team-building (Kantharia, 2011).

To sum up, the whole models presented above place a strong impact on the positive influence that the servant leader has on followers through his commitment to others's growth, ability to communicate effectively by listening to the followers' needs and placing the interests of followers in the first place. Thus the servant leader is the one who pays careful consideration to each staff member, allows staff to express ideas and most of all is ready to serve them with his strong vision and empathy.

3. RESEARCH METHODOLOGY, RESULTS AND DISCUSSION

The research aimed to study the perceptions of Bulgarian employees of servant leadership. For these purposes, a quantitative approach has been chosen to meet the researcher's goal. The target population was Bulgarian employees who had work experience. The reason for this is that those with working experience are exposed to the leadership process and are more likely to provide answers that are valuable to this research. The data collection process began in February and it lasted 9 weeks, and 200 links were sent to participants, who work both in international companies and Bulgarian companies from various businesses such as call center sectors, education sector, IT sectors, health care sectors, and others. As a result, from 200 links sent only 94 were retrieved.

The sampling technique that was employed in this research was purposeful sampling as the authors tried to gather data from participants who were Bulgarian and had work experience rather than a random Bulgarian. Also, the snowballing sampling technique was used because the authors asked the participants to share the link that they sent to other colleagues (Kangoma, 2023).

This research aimed to provide an understanding of the perception of Bulgarian employees when it comes to servant leadership behavior. To help with this research the authors have formulated two research questions:

1. Are all the attributes of servant leadership perceived by Bulgarian employees positively?
2. Does the higher power distance culture in Bulgaria influence the perception of employees when it comes to the attribute of empowerment of servant leadership?

The respondents have to answer 13 questions about servant leadership attributes that link to the characteristics of servant leadership such as humility, empowerment, empathy, community development, moral integrity, and egalitarianism.

The participants were given two questions to answer related to the empowerment attribute of servant leadership. The first question that links to this attribute asked:

Allowing employees to make decisions on the job and providing guidance without being angry if employees make mistakes. It became clear that 40 % of the participants strongly agree that this is an important attribute for leaders to have, 29 % agree, 4 % are neutral, 3% disagree and 2 % disagree that this is important for leaders to possess it.

Then respondents were invited to answer if encouraging employees to give new ideas would help the success of the group. It became clear from the replies that 60% of the respondents strongly agree that this is an important attribute to have, 29 % agree, 7 are neutral, 3 % disagree and 1 % strongly disagree. The mean score for this question is 1.57 which shows a positive result.

Regarding egalitarianism, the respondents have to answer about how they feel about treating employees with respect and equality regardless of the position that the employees have in the organization. Based on the replies, 48 % of the participants say that they strongly agree that this is important for leaders to have, 29 % agree, 6 % are neutral, 4 % disagree and 0 % strongly disagree.

Regarding the attribute of humility, the respondents have to answer if displaying humility by not bragging about achievements and the awards that the leader has achieved in front of employees is an important aspect. The results show that 33 % of the participants strongly agree that this is an important attribute, 39 % agree, 14 % are neutral whereas only 10 % disagree and 2% strongly disagree.

The results of the study show that respondents view this attribute of servant leadership as being an important attribute for leadership success. The Bulgarian respondents with a non-managerial position when asked the question: Allowing employees to decide on the job and guide without being angry if employees make mistakes, these participants strongly supported this attribute). It seems logical as supported by the view of Alexandrova (2015) that employees who come from a culture that is high in power view the opportunity to take responsibility negatively and this study showed that employees see this attribute of servant leadership positively.

The authors suggest that one reason for this finding is the wording of the question, which asks respondents to evaluate whether they agree or disagree that this attribute allows employees to make decisions and provide guidance without fear of anger if they make mistakes. The question focuses on the leader's willingness to grant employees autonomy rather than on employees actively taking the initiative. The authors argue that in high power distance cultures, employees typically do not challenge authority and tend to follow instructions without question. As a result, they may be less inclined to take ownership, as leadership and decision-making are generally perceived as the responsibility of those in authority (Hofstede, 2001).

Regarding community development, the respondents were asked if engagement in activities that promote the well-being of the planet and the community is important and it became obvious that 40 % of the participants strongly agree, 34 % agree, 19 % are neutral, 3% disagree, and 3 % strongly disagree.

Egalitarianism as an attribute of servant leadership was perceived positively by the Bulgarian participants, this can be seen by the mean score of the two questions that linked to this attribute being 1.54 and 1.82. This is an interesting finding in cultures with a high dimension of power distance, leaders are perceived as superior, inaccessible and expected to be authoritarian (Hofstede & Hofstede, 2005), and the employees accept this since they will not challenge the leaders. The study shows the opposite result as the Bulgarian participants value leaders who are respectful of their employees regardless of their position in the organization, and they value leaders who are accessible to their employees (Kangoma, 2023).

Regarding the attribute of moral integrity, the current study shows that leaders must have high ethical values to lead effectively, and it shows that this attribute of servant leadership is viewed as an important attribute by Bulgarian employees. In addition, this study also contributes and supports the study that was conducted by Dorfman et al. (2004) who found that integrity was an important component of leadership that was perceived globally as being important for leadership success as cited by Kangoma (2023).

Regarding the attribute of employee development , the current study focuses on the importance of employees and their development not only for the growth of the organization but also for employee satisfaction and commitment to the organization. This study shows how important it is for leaders to focus on developing their followers and providing the resources that are needed for them to reach their potential. The study suggests that the Bulgarian participants view the attribute of servant leadership of development employees as an important attribute for effective leadership (Kangoma, 2023).

- The community development attribute of servant leadership was also positively perceived by respondents in the survey. What is more, this statement is supported by the literature review saying that societies with a collectivist culture prefer to have leaders who create group harmony within the organization (Kangoma, 2023).
- Empathy as a typical characteristic of servant leadership has been confirmed as an important attribute for leaders to have to lead effectively. This result is supported by the theory that leaders should be emotionally intelligent when working with people (Kangoma, 2023).
- Humility is also perceived as an important attribute for leaders to have to lead effectively, this highlights the importance of leaders having the humility to lead effectively in Bulgaria, which is also important for leaders who want to build a learning culture within the organization (Pavlov, 2020).
- The attribute of servant leadership of moral integrity was also rated by employees as being an important attribute for leaders to have in order to lead effectively. This result added to the view of today where leaders are being asked to be more ethical and this study also is supported by the literature that says moral integrity is an attribute that is rated universally as being important for effective leadership (Kangoma, 2023).

4. CONCLUSION

Servant leader is the new leader nowadays, oriented to the needs of peers, and ready to support their development and career planning. It became clear from the results of the study, that servant leader is needed and well-perceived today due to their moral and ethical integrity, combined with a strong desire to help and show empathy to their followers.

Our contribution is adding more aspects of servant leadership. The study conducted is very useful for managers in all spheres and can help them to increase the loyalty and well-being of the staff

they manage. Our contribution is to the study of servant leadership especially when it comes to exploring the perception of this leadership style in Bulgaria. The positive in our case is the lack of such study at the moment. What is more, our study can provide insight to managers in international and local companies in Bulgaria to adopt the servant leadership style as one of the most effective by creating a positive working climate in the workplace. This study shows how Bulgarian employees view the characteristics of servant leadership, which can be useful for leaders who want to practice servant leadership to know what are the characteristics valued by employees in Bulgaria so that they can adapt their servant leadership behavior to the cultural context.

References

Alexandrova, M. (2015). Dimensions of the national cultural environment: Bulgarian evidence. *KSI Transactions on Knowledge Society, 8*(1), 41–48.

Barbuto, J. E., & Wheeler, D. W. (2006). Scale development and construct clarification of servant leadership. *Faculty Publications: Agricultural Leadership, Education & Communication Department*, 51.

Business Leadership Today. (n.d.). https://businessleadershiptoday.com

Dimitrakaki, I. (2023). The servant leadership case of Starbucks. *International Journal of Management and Humanities (IJMH), 9*(6), 12–17.

Earnhardt, M. P. (2008). Testing a servant leadership theory among United States military members. *Emerging Leadership Journeys*. Embry-Riddle Aeronautical University. https://commons.erau.edu

Hofstede, G. (2001). *Culture's consequences: Comparing values, behaviors, institutions, and organizations across nations*. SAGE.

Hofstede, G., & Hofstede, G. J. (2005). *Cultures and organizations: Software of the mind* (2nd ed.). McGraw-Hill.

Ingram, O. (2016). Servant leadership as a leadership model. *Journal of Management, Spirituality & Business Innovation, 1*(October), 21–26. https://doi.org/10.5281/zenodo.376752

Kangoma, M. (2023). Employee's perception of servant leadership: Exploring the case of employees from Bulgaria (MBA dissertation). Varna University of Management.

Kantharia, B. (2011). Servant leadership: An imperative leadership style for leader-managers. *NICOM-2011: Managing in Turbulent Times: Creativity, Innovation, Entrepreneurship, Leadership & Learning.*

Patterson, K. A. (2003). *Servant leadership: A theoretical model* (Doctoral dissertation, Regent University). ProQuest Dissertations Publishing. (AAT 3082719)

Pavlov, V. (2020). Effects of organization management conflicts. *Rodopi Journal, 1–2*, 12–19. ISSN: 1312-4552.

Society for Human Resource Management. (n.d.). https://www.shrm.org

Tanno, J. P., & Banner, D. K. (2018). Servant leaders as change agents. *Journal of Sustainable Social Change, 10*(1), 1.

Yordanova, S., & Dineva, S. (2022). Emotion regulation at work: Employees' and leaders' perspectives. In D. S. Harper (Ed.), *Advancing interpersonal emotion regulation and social regulation* (Chapter 6, pp. 113–149). IGI Global. ISBN: 9781668424780.

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Learning Challenges in the Increasingly Complex Working Environment of Store Retailing – Case Study: Implementation of an Electronic Performance Support System (EPSS)

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Electronic Performance Support System;
EPSS

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Abstract: *Many companies are still in the midst of the digital transformation. Their departments and employees are equally affected by the far-reaching changes. This is particularly true for stationary retailers, who are faced with the major challenge of having to adapt and implement work processes in day-to-day business within a tight timeframe. The planned use of new software solutions raises the question of how store employees can best be prepared for the upcoming innovations. One specific solution being considered is the use of an Electronic Performance Support System (EPSS). For this purpose, a qualitative survey was conducted to provide information on whether the system-supported provision of context-related assistance adequately covers the support needs. The results provide current and important insights into the learning challenges facing stationary retail and related sectors in times of digital transformation and how these can be overcome.*

1. INTRODUCTION

Business models are changing at an ever-increasing pace and are becoming more and more complex, despite which the efficient implementation of work processes is a precondition for success in highly competitive markets. The increased use of process-oriented software is intended to relieve operational employees of manual tasks and help them to become more productive. In this context, there is also an increasing need for training in the use of IT tools. Preparing employees for these changes in face-to-face training sessions only meets the increased requirements to a limited extent, as the transfer of knowledge does not result in the practical use of the system to be operated, but is largely theoretical. Employees are faced with problems in their tightly scheduled day-to-day work because they have not been trained in detail for every application that may arise or they can no longer remember exactly how to proceed in individual cases. According to the Ebbinghaus (1885) forgetting curve, only 60% of the content can be recalled just 20 minutes after training and the information stored in the memory continues to decline sharply over time if the training content is not applied promptly. Accordingly, the support effort is greatest in the so-called hypercare phase shortly after the implementation of a new system or process and must be urgently supported with adequate learning content.

The acquisition of skills is the focus of interest here and, in this context, the trend is towards informal learning in the workplace and learning in social communities (Niemeier, 2016, pp. 8-9). *Informal learning happens as a result of interactions between people and quite often, it is not even recognized as learning, because a lot of it is an exchange of tacit knowledge - The sharing of knowledge gained through experience with another who hasn't yet had those experiences* (Matthews, 2013, p. 43). Informal learning is firmly integrated into life and work contexts, although it is

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usually not perceived as learning (Reglin, 2000). Learning processes can be set in motion through conversations with colleagues, attending seminars, reading a book or watching a YouTube video. This form of learning is therefore often referred to as incidental learning (Dehnbostel, 2007, p. 50). *The majority of employees' learning happens informally back in the office or on the store floor* (Matthews, 2013, p. 43). Informal learning during work is learning about experiences made in and through work activities and is based on dealing with situations or solving problems (Dehnbostel, 2007, p. 49). In companies with conducive framework conditions for informal learning, technical support options and a corresponding learning culture, the percentage of informal learning will be higher than in companies that continue to adhere to formal forms of learning. Despite all the uncertainties regarding the exact definition and organization of informal learning, there is a largely political, economic and scientific consensus that informal learning must be accorded an important position in the context of lifelong learning (Rohs, 2013).

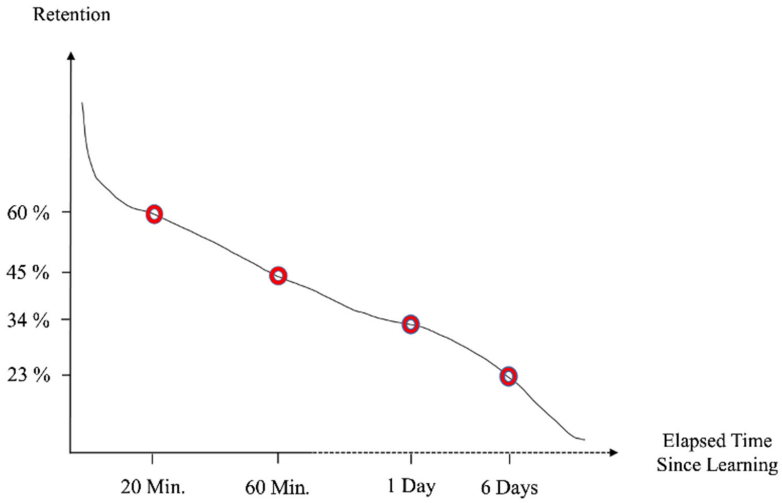


Figure 1. Forgetting curve according to Ebbinghaus
Source: Ebbinghaus (1885)

In recent years, it has become increasingly clear that the learning landscape in companies has changed permanently in the course of digital transformation and will continue to change extensively in the course of further artificial intelligence (AI) development. Educational technologies are therefore having an ever-increasing influence on the education sector (Nieswandt et al., 2019, p. 13). In addition to virtual reality and the use of artificial intelligence, performance support is also becoming increasingly important in this context. If possible, learners should receive the learning content they need at the moment of need in order to apply what they have learned, recall it or be able to react to unforeseen situations (Gottfredson & Mosher, 2011, p. 37), Performance support is therefore often associated with the term workplace learning, as it is transfer-oriented learning support in the workplace and the knowledge is available in the work process (Gottfredson & Mosher, 2011, p. 37). Kerres (2018) highlights the fact that learning in performance support and training systems does not take place in a classroom, but in interaction with a technical system. *The problem of how to transfer what has been learned from a training room to the application context becomes obsolete* (Kerres, 2018, p. 15). In times of increasing digitalization and the constantly growing use of process-supporting software solutions, Electronic Performance Support Systems (EPSS) have established themselves in practice. They recognize contextual relationships (software used → function used → appropriate learning content) and actively provide immediate digital assistance. The aim is always to provide the user with the content they need to solve problems in the software they are using.

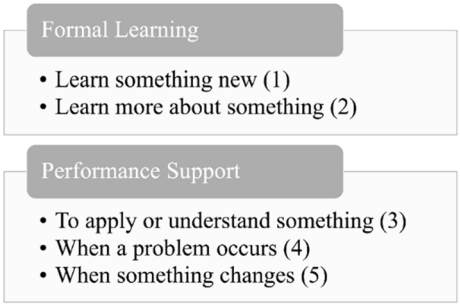


Figure 2. 5 Moments of Need Model
Source: Gottfredson and Mosher (2011, p. 37)

2. RESEARCH METHODOLOGY

A qualitative survey was conducted using an interview guideline, the structure of which also formed the thematic structure for the subsequent data processing and analysis. A semi-structured interview form was chosen so that the interviewer could focus on the questions. However, the interviewees should also be able to describe facts in a self-directed manner and highlight their relevance (Liebold & Trinczek, 2009). Two survey groups were identified: 1. learning & development experts (target group 1: HR L&D experts) from the relevant HR department who are the source of professional development measures and 2. operational employees in stationary retail (target group 2: store employees) who benefit from the professional development measures. As it can be assumed that the theoretical knowledge of HR L&D experts differs from the practical experience of store employees, individual interviews were conducted with 6 people from each target group. According to Helfferich (2011), expert status is dependent on both the research question and the field of activity of the person in question, an orientation towards subject responsibility appeared to be the most sensible solution. Since corporate learning is traditionally the responsibility of the Human Resources department and is specifically located in the Learning & Development department, it was a good option to contact the executives and executive employees of the L&D organizational units. The questions for the store employees differed in that they related more specifically to the professional context, whereas the HR L&D experts were also asked to comment on abstract terms and approaches.

A total of 12 interviewees were asked 14 questions each. The resulting amount of data was reduced to the essential statements using the Mayring (2015) summarizing analysis technique. This approach made it possible to better compare the statements of both groups. Important aspects that went beyond the answers to the questions were also recorded and evaluated. By summarizing the originally large amount of data, it was possible to compress it to a manageable level that still adequately reflects the original material. In accordance with the procedure described by Mayring (2015, pp. 70-72), the transcribed texts were first paraphrased and then assigned to content categories based on the interview guideline structure.

The statistics show that ⅔ of HR L&D experts are executives. 84% of them have been with the company for no longer than 5 years and are also male. ⅔ of them are no older than 45 and ⅓ are between 51 and 60 years old.

According to the participant statistics, ⅔ of the store employees interviewed are operational managers, 50% have been with the company for no longer than 5 years and around 33% for no longer than 10 years. The gender ratio is balanced at 50% each and none of the interviewees is older than 40 years.

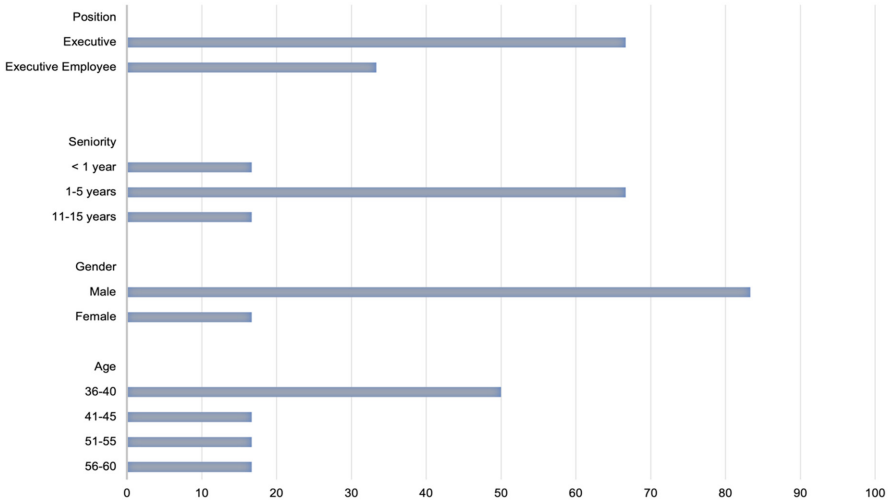


Figure 3. Participation Statistics HR L&D Experts

Source: Own calculations

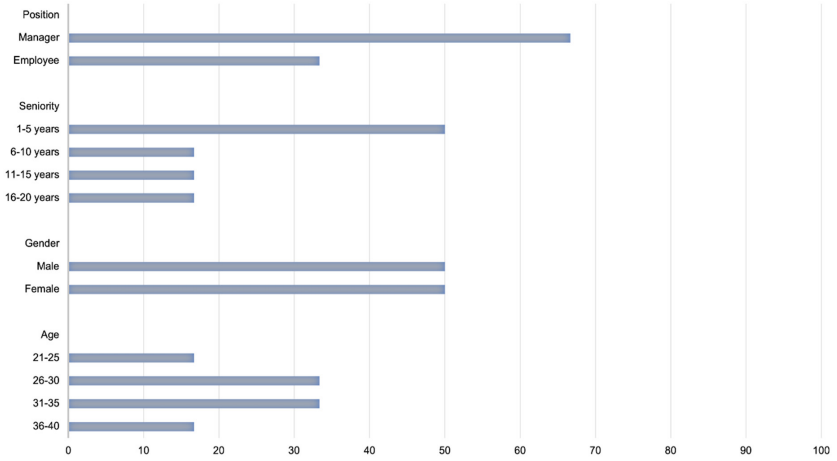


Figure 4. Participation Statistics Store Employees

Source: Own calculations

In addition to the Main Question (MQ): Could Electronic Performance Support Systems (EPSS) help employees in retail stores find appropriate solutions to suddenly occurring problems?

The following Sub-Questions (SQ) and Hypothesis (H) can also be derived:
SQ1: What impact does the changing world of work have on store employees?
SQ2: What learning challenges does the company face now and in the future?
SQ3: What technical, regulatory and organizational framework conditions need to be created in order to be able to use EPSS in the stores in a targeted manner?
H: The HR L&D experts assess the learning needs of store employees differently than they do.

Answering the subsidiary questions and confirming or refuting the hypothesis leads to a comprehensive picture of the learning situation in the company and describes the particular effects for the store employees in detail. These findings are important in order to define the conditions for the success of an EPSS solution and to provide a conclusive answer to the main question. In the following chapters, the analysis of the results and the discussion section, the statements are assigned to the subsidiary questions, hypothesis and the main question in order to provide a better overview.

3. RESULTS OF THE ANALYSIS

Table 1. What impact does the changing world of work have on store employees? (SQ1)

HR L&D Experts	Store Employees
The constant growth of the product range, the addition of new product categories and the expansion of the non-food area are also increasing the demands on store employees IT tools are changing and automating processes. The proportion of technology in their work is increasing and store employees will soon have to operate IT systems that support them in carrying out their work processes alongside their manual work. If customers are able to use a self-service checkout in the future, this will also have far-reaching consequences for work processes. In future, store employees will have to react flexibly to spontaneous situations. The company is trying to be the last big player in the industry to switch from the analog to the digital age and catch up on things that have been neglected for years within a very short space of time. The change processes that arise in this context have a serious impact on the employees in the stores. Employees urgently need to be involved in the change processes, as their willingness to go along with the new paths is very low.	The work is more demanding and time-consuming, as more specifications have been added and the range is constantly growing. The required information is very scattered and you have to search for it when necessary. In addition, the work has become very complex due to the constant changes and the tasks to be completed are often disjointed. Expectations on the part of the employer are very high, as employees are expected to follow the path of change without any problems. The company wants to meet the customer's requirements, but it is not always easy for employees to adapt to the new or frequently changing work processes, e.g. as part of promotional sales. The changes should be communicated to employees in advance so that they know what to expect. Change is a sometimes gradual but constant process.

Source: Own processing

Table 2. What learning challenges does the company face now and in the future? (SQ2)

HR L&D Experts	Store Employees
The stores will be faced with an enormous wave of topics that will involve a high learning effort. In this context, providing sufficient learning content is a major challenge. The complexity of future tasks and the limited time available to employees can also pose problems when it comes to learning. Some employees, particularly those over the age of 50, are already overwhelmed by the effects of the digital transformation. Lifelong learning is not currently a high priority in the company, but this would be important if the company wants to remain competitive in the long term. Learning always takes place when new processes need to be implemented. Employees currently receive instructions on how to carry out specific tasks.	Communication according to the top-down principle is problematic, as the information content decreases or varies from level to level. The amount of general information disseminated by circular is constantly increasing and the number of small process changes is also growing rapidly. In addition, more and more evaluations and control tasks have to be carried out. The work is perceived as more difficult, as the sales figures to be achieved are increased annually or the personnel costs are reduced and there is no time left for learning. Many tasks have to be completed in a very short time, which can quickly overwhelm employees. Acquiring in-depth knowledge or attending training courses is out of the question. The employees consider continuous learning to be absolutely necessary in order to develop further.

Source: Own processing

Table 3. What technical, regulatory and organizational framework conditions need to be created in order to be able to use EPSS in the stores in a targeted manner? (SQ3)

HR L&D Experts	Store Employees
The store employees have not yet had any systemic learning experiences and learn on the job and by exchanging ideas with each other. Self-directed or lifelong learning are things they have never come into contact with before. There is currently no opportunity for store employees to learn at work, as they do not have work devices and are not allowed to use their private smartphones. One option would be to set a fixed learning time, which in turn would severely restrict situational learning. Access to digital learning content is currently not available due to the lack of technical infrastructure.	The information was previously distributed according to the top-down principle and the learning content was conveyed by the line manager. It took some time before what had been learned was actively applied, so much was forgotten. It would be desirable if learning content could be accessed from home and the appropriate arrangements made for this. The employees have to learn a lot in practice, as everyday situations can be described but not simulated. A real help would be the availability of a laptop with a printer function, internet connection and an e-mail inbox. In addition, a hotspot should be accessible with a private smartphone.

Source: Own processing

Table 4. The HR L&D experts assess the learning needs of store employees differently than they do. (H)

HR L&D Experts	Store Employees
Some employees actively request learning content, but it is not certain that the desired knowledge also represents the required knowledge. In order to determine the required learning content in more detail and prepare it specifically, a prior target group analysis is necessary. The scattergun approach should not be used, which would not be possible due to the sheer volume of topics. The employees in the store should be familiar with the basic sales processes, but it is difficult to ensure that everyone does everything in detail. In addition, a basic understanding of technology should be created, as many employees have no connection to it. In order to meet the work requirements, the learning fields should be closed with pragmatic approaches. In the best case scenario, we get to the point where the employee wants to learn. The affinity for digital learning is higher among employees than it used to be and if they don't know something, they look it up briefly on the internet, but they don't consciously take this action.	The IT systems to be used are not self-explanatory and in the past had to be learned independently with a great deal of effort. Appropriate seminars offered by the regional companies would be desirable before the roll-out of new software. There must always be several employees at the point of sale who are familiar with the processes and can take over in the event of staff shortages. Nevertheless, every employee has individual strengths and weaknesses that need to be encouraged. For this reason, there are employees who have a focus on performing certain activities. If training content (e.g. Excel content) is no longer present after participation, the employees concerned watch a video on YouTube to reactivate the knowledge. The headset is highly valued as a fast and location-independent communication channel for exchanging information among colleagues. Despite technical weaknesses, its use is perceived as a real work facilitator. The private smartphone is an absolutely essential work tool for working quickly and in an organized manner, as the information does not arrive where it is supposed to and the response via the smartphone usually takes only a few seconds.

Source: Own processing

Table 5. Could Electronic Performance Support Systems (EPSS) help employees in retail stores to find appropriate solutions to suddenly occurring problems? (MQ)

HR L&D Experts	Store Employees
There has been a development from stock learning to learning on demand. Electronic Performance Support Systems (EPSS) can support employees in their tasks if the assistance offered is targeted, simple and tailored to their needs. The learning content should be prepared in as small a format as possible so that it can be integrated into the daily work routine and processed as quickly as possible. The EPSS should be able to recognize exactly which software you are currently using, as you need to get exactly the answers to the open questions that you need at a specific moment of need. An EPSS is highly suitable for employees in the operational area where processes change or need to be relearned, but it should not be seen as a stand-alone solution, as it always requires basic knowledge. There are currently numerous obstacles (including technical, legal and organizational ones) that stand in the way of value-adding solutions. The electronic performance support approach can be easily integrated into the workflow if appropriate end devices that can be used to access learning content are available when required. In the future, learning in the workflow will become even more important.	In most cases, the training courses are based on the standard process, but most errors only occur if you deviate from this procedure. A search engine that allows you to search for specific information would be a target-oriented solution. You need to be able to access the results quickly in order to take the next step in the work process. At the moment, everyone knows what needs to be done because employees are well networked and support each other. The headset used in this context saves employees a lot of time and promptly provides the answers to the questions asked.

Source: Own processing

4. DISCUSSION

In order to develop a basic understanding of the learning situation, both the experts and the employees were asked right at the beginning of the interview how they assessed the status quo. While the HR L&D experts generally rated the learning situation as too analogue, not needs-oriented and not up to date, the store employees made a connection to their day-to-day work and used specific

examples to describe how they access relevant information, what kind of learning aids are available to them, what training is provided and how they help themselves. The current approach cannot be clearly assigned to any learning theory, as the topic of learning is not based on any recognisable principle (Grotlüschen & Pätzold, 2020). Although information is often shared with employees via various communication channels, the degree of processing varies, meaning that the absorption and retention of information depends on the cognitive abilities of the respective employee (Kerres, 2018, p. 153). The attempt to help employees cope with their day-to-day work is recognisable, but the approach is uncoordinated and not very effective, as there is no learning context. Based on the interview results, it became clear that the employees have found their own ways to create a functioning learning situation within the framework of the available options. They use their personal smartphones to access the customer app or exchange information via the WhatsApp messenger service, even though their employer prohibits the use of personal devices during working hours and the exchange of data via WhatsApp. However, the availability of a communication channel between the operational managers and the store employees was made impossible due to the frequently changing work situations in stationary retail. There is a need for action on the part of the employer to find a solution that either allows the use of private devices and access to WhatsApp during and outside working hours or provides for the purchase of company devices and a suitable communication tool. Both experts and employees rate the importance of learning in the company as low, which is surprising given the impending wave of change that HR L&D experts at least are likely to be aware of on a larger scale. The implementation of IT systems and the associated implementation of new work processes require new opportunities for learning to adequately cover the resulting needs. A contemporary type of education and new forms of learning are needed that can keep pace with the speed of digital transformation (Nieswandt et al., 2019, p. 2).

4.1. Effects of the Changing World of Work on Store Employees (SQ1)

The product range is constantly growing, new product categories are being added, the product area is expanding rapidly and all of this has a direct impact on the work of store employees. The creation of new areas of activity means that employees have to learn and implement completely new work processes, but there are also work tasks that need to be completed in order to remain attractive to customers. A new product is usually accompanied by a new work process and, if it is an organic product, the way it is handled also changes due to legal requirements. This practical example shows that even supposedly small changes have far-reaching and long-term consequences for the work of store employees. Complexity inevitably increases due to an increased number of unrelated work processes that have to be carried out separately and can sometimes overwhelm employees. In addition, the planned use of new IT tools and the automation of processes will present employees with new challenges that they were not previously confronted with. Some store employees have digital skills that they have primarily acquired privately, while others do not. According to a Bitkom (2018) study, many large companies rate the digital skills of their employees as the most important skill. In this context, however, digital competence does not only mean the operation of software or the use of technology but also the ability to communicate digitally with each other via the available channels (use of the employee app, responsible use of messenger services, etc.) (Nieswandt et al., 2019, p. 3). It would therefore be important to equip the employees concerned with this competence before the technologisation of their work takes place on a large scale. The interviews with employees revealed that they have no idea what challenges they will face in the coming months.

The changes that have been implemented or are currently taking place mainly relate to non-technical issues such as the large-scale modernisation initiative at the stores, the gradual expansion of the product

range, the intensified advertising campaigns and similar measures. The digital transformation projects have not yet affected the operating business to any great extent, but will do so very soon. There is no doubt that work will continue to change as a result of digitalisation. The widespread availability of the internet with sufficient bandwidth is a standard requirement and the use of laptops and smartphones in a professional context is indispensable (Gerdenitsch & Korunka, 2019, p. 1). It is also to be expected that communication and cooperation with each other, but also with others, will continue to increase with the help of appropriate technologies (Hasenbein, 2020, p. 8). Hasenbein (2020) explains that the type of collaboration must be less hierarchical, as long decision-making processes hinder progress and teams should increasingly be able to make decisions themselves. Both the HR L&D experts and store employees believe that the store employees directly affected by the change should be directly involved in the change process, as they are at the centre of the digital transformation. The 8-step model by Kotter (2011) has proved particularly useful in this context, as the model clearly shows the individual steps that need to be taken to implement a successful change process.

4.2. Current and Future Learning Challenges for the Company (SQ2)

The implementation of new IT systems and processes is imminent and, in this context, the need for digital learning content is growing. Meeting this demand adequately is a major challenge due to the wide range of topics. The time available to employees in the stores is extremely limited and there is hardly any time for learning. Acquiring in-depth knowledge or attending training courses is out of the question. Employees must be able to access learning content in the workflow that will help them immediately. Up to now, learning has been externally controlled and detached from the specific work context in the form of written instructions. As some employees are already struggling with the new way of working, the far-reaching changes brought about by the digital transformation can quickly become overwhelming. Communication according to the top-down principle is problematic, as the information content/content decreases or varies from level to level. This leads to more misunderstandings and misinformation that is passed on to colleagues. In addition to the top-down procedure, there are other communication channels, such as circulars, which are also used to share information. This leads to confusion, as it is not always clear where the required information can be found.

As a result of the digital transformation, the development of action competence, rather than the development of knowledge, is moving to the centre of interest (Niemeier, 2016, p. 6). Informal learning is becoming increasingly important compared to formal learning, as learning takes place during the work process. The challenge lies in linking the learning content with the activity being carried out. The aim is to meet the needs of the employees with their very different requirements and wishes, but the role of the employee must also change so that they take responsibility for their personal development and not just wait to be offered learning opportunities. To achieve this, it is necessary to establish a sustainable culture of self-directed learning and to develop training strategies that promote this development (Niemeier, 2016, p. 11). Learning will inevitably become more flexible and self-directed learning will take place on a case-by-case basis. In addition, networking and the exchange of knowledge with others (social learning in communities) is becoming increasingly important.

4.3. Current Technical, Regulatory and Organisational Framework Conditions (SQ3)

The employees have not had any systematic learning experiences to date and have mainly learned by interacting with each other. They have no proven learning skills and therefore do not know how to learn in a self-directed and autonomous manner. In a flexible working environment, very different learning needs develop depending on the activity and work process, because the learning on stock

that has generally been practised to date can only be met to a limited extent (Braun & Schmidt, 2006, p. 283). It is therefore important to create the basic conditions for employees to be able to access the required learning content when needed in the future and for this type of learning to be anchored in the learning culture. Currently, store employees do not have any work-related devices and the use of private devices is officially prohibited. There are no working/learning time regulations, which means that employees have to learn (on the side) while working if they can find the time. In this context, one employee expressed the wish to be able to access the learning content from home, as this is the only way to learn undisturbed. Access to digital learning content is not possible due to the lack of technical infrastructure (low internet bandwidth, no W-LAN coverage in the store).

4.4. The Experts in the HR L&D Department Assess the Learning Needs of Store Employees Differently to the Store Employees Themselves (H)

The HR L&D experts identify a learning need for processes and technology, whereas the store employees see their needs primarily in the area of IT. This sufficiently supports the hypothesis that the HR L&D experts assess the learning needs of operational employees differently than the store employees themselves. The statements of the HR L&D experts are contradictory. One expert demands that the scattergun approach (everyone learns everything) should not be applied and points out that target group analyses are necessary in order to be able to make specific offers. Another expert believes it is right that all employees have a uniform basic understanding of sales processes and technology, meaning the use of new hardware. There is agreement on the point that the learning fields should be developed using pragmatic approaches wherever possible. The hope is that once employees have recognized the benefits of learning, they will develop their own drive to learn. The experts estimate that employees generally have a higher affinity for digital learning than was previously the case. Store employees associate the implementation of new IT systems with an arduous learning process that they had to go through independently. They would very much appreciate seminars offered before the roll-out of software, as the acquisition of knowledge was very cumbersome, and the system was operated suboptimally for a long time. They generally agree with the experts that employees should know the basic sales processes, but they do not currently see any acute need for learning. Every employee has individual strengths and weaknesses that need to be encouraged. Although there are employees who have a focus on performing certain activities, there are no fixed role assignments with specific activities in the sales outlet. The learning behavior of employees has changed due to the available digital possibilities, so that it is quite normal to watch a video on YouTube or to use the headset as a practical means of communication for technical questions.

5. CONCLUSION

The learning situation is very intransparent and disorganized, which is due to the fact that there is no overarching learning strategy. Employees receive information from different sources via different channels on a daily basis and have to prioritize which information is important and which is not. Learning aids in the form of written instructions can be very useful at a specific moment of need but do not provide any background information or context to other topics. The employees have found effective ways to help themselves and to learn. They access the customer app on their personal cell phones to find out about the latest offers, they google articles and learn about products this way, they communicate with their supervisor via WhatsApp and help each other using the headset. All of these solutions fulfill their purpose and help employees to master their day-to-day work. However, the employer does not provide for the use of a private device during working hours, nor does it allow the use of the WhatsApp messenger service for data protection/

information security reasons. Now that it is known how useful the solutions are, it should be the employer's task to look for suitable technical alternatives that can achieve a similarly good or even greater benefit.

The effects of the change processes implemented, which primarily relate to the product range, are enormous. The work processes are becoming more extensive and more complicated as not only the sheer number of products is growing, but special tasks are also being added. As a result, store employees have more and more work to do in less time. Under these circumstances, learning is out of the question, even if time were available, because there are no appropriate regulations for learning during and outside working hours. The planned implementation of new IT tools and processes would completely overwhelm employees, who generally do not have sufficient digital skills, at this point. It is therefore necessary to pave the way for the planned IT roll-outs, make arrangements that are conducive to learning and drive forward the necessary skills development among employees. The company skips stages of development in order to catch up with the competition, which means that some parts of the organization are faster than others. Employees criticize the communication and implementation of changes, which can have a demotivating effect. Employers should be more forthcoming, especially with those at the center of the digital transformation.

In view of the systems and processes that will soon be implemented, the question arises as to how the high demand for learning can be adequately satisfied. It is a major challenge to be able to guarantee the enormous production costs of the training materials. In addition, the learning content must be designed in such a way that it can provide the employee with rapid assistance at a specific moment of need. The focus is on strengthening skills and in this context, informal learning is becoming increasingly important compared to formal learning. Learning takes place in the work process and the requested content should provide the answers needed to continue or complete the work process as precisely as possible.

5.1. Could Electronic Performance Support Systems (EPSS) Help Employees in Retail Stores to Find Appropriate Solutions to Suddenly Occurring Problems?

Electronic Performance Support Systems are predestined to provide store employees with needs-based solutions to problems that suddenly arise, provided that the necessary technical, regulatory and organizational conditions are met. These conditions do not currently exist and would have to be created. The added value of an EPSS solution would far outweigh the effort involved and provide employees with real assistance in the context of digital transformation, helping them to implement their tasks in the respective IT systems. Electronic Performance Support Systems (EPSS) are able to provide learning content in a context-sensitive manner. Employees receive simple, targeted and tailored assistance that supports them in their work process. The production of learning content must be geared to demand, which means that it must be prepared in as small a format as possible. An EPSS is highly suitable for employees in the operational area where processes change or need to be relearned, but it should not be seen as a stand-alone solution, as basic knowledge is always required. The "Five Moments of Need" model by Gottfredson and Mosher (2011) shows that basic knowledge forms the basis for performance support and that formal and informal learning can be easily combined. Many classroom training courses are based on the standard process, but most errors only occur when there is a deviation from this approach. IT systems have a great many functions and not all of them can be trained, which is why it is absolutely helpful to be given food for thought if necessary when there are a large number of different work processes in different IT systems.

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References

Bitkom. (2018). (Ed.): Further training for the digital world of work. A representative study by Bitkom Research on behalf of VdTÜV e. V. and Bitkom e. V.. Berlin, Germany.

Braun, S., & Schmidt, A. (2006). Context-aware learning support for learning on demand. In: Heinecke, A. M. & Paul, H. (Eds.), Mensch und Computer 2006: Mensch und Computer im Strukturwandel. Munich: Oldenbourg Verlag. (S. 283-292).

Dehnbostel, P. (2007). Learning in the process of work. Münster, Germany: Waxmann.

Ebbinghaus, H. (1885). On memory. Studies in experimental psychology. Leipzig, Germany: Duncker & Humblot.

Gerdenitsch, C., & Korunka, C. (2019). Digital transformation of the world of work: Psychological insights into the design of current and future working environments (Die Wirtschaftspsychologie). Berlin, Germany: Springer.

Gottfredson, C., & Mosher, B. (2011). Innovative Performance Support: Strategies and Practices for Learning in the Workflow. United States of America: McGraw-Hill Education.

Grotlüschen, A., & Pätzold, H. (2020). Theories of learning. Stuttgart, Germany: UTB.

Hasenbein, M. (2020). People in the focus of the digital world of work: Business psychological perspectives and fields of application (German Edition) (1st ed. 2020 ed.). Berlin/Heidelberg, Germany: Springer.

Helfferich, C. (2011). The quality of qualitative data: Manual for conducting qualitative interviews (4th ed.). VS Verlag für Sozialwissenschaften.

Kerres, M. (2018). Media didactics - conception and development of digital learning programmes (5th ed.). Berlin, Germany: De Gruyter.

Kotter, J. P. (2011). Leading Change: How to successfully change your company in eight steps (1st ed.). Munich, Germany: Verlag Franz Vahlen.

Liebold, R., & Trinczek, R. (2009). Expert interview. In P. Strodtholz, A. Taffertshofer & S. Kühl (Eds.), Handbuch Methoden der Organisationsforschung: Quantitative und Qualitative Methoden (2009. ed., pp. 32-56). VS Verlag für Sozialwissenschaften.

Matthews, P. (2013). Informal Learning at Work: How to Boost Performance in Tough Times. Milton Keynes, United Kingdom: Three Faces Publishing.

Mayring, P. (2015). Qualitative content analysis. Weinheim, Germany: Beltz Verlag.

Niemeier, J. (2016). Corporate learning facing new challenges. *Controlling & Management Review, 60*(5), 6-17. https://doi.org/10.1007/s12176-016-0076-x

Nieswandt, M., Geschwill, R., & Zimmermann, V. (2019). EdTech in companies: Learning as the key to innovation and growth in times of digitalization. Wiesbaden, Germany: Springer Gabler.

Reglin, T. (2000). Recognition and crediting of informal and non-formal learning. System issues and consequences for political implementation. Bundesinstitut für Berufsbildung (BIBB). Retrieved April 12, 2024, from https://www.bibb.de/dokumente/pdf/ststt_foko_120330_anerkennung_informellen_non_formales_lernen_reglin.pdf

Rohs, M. (2013). Informal learning - Highlights on the scientific discussion. Bundesinstitut für Berufsbildung (BIBB). Retrieved April 12, 2024, from https://bibb-dspace.bibb.de/rest/bitstreams/7117b0fd-3ede-4c44-a8f1-9faae5068bf8/retrieve

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Organizational Culture Study of the Elements Affecting Individual Effectiveness in the Social Sector

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Abstract: *Organizational culture has been identified by numerous researchers as a factor, influencing both organizational and individual effectiveness. The purpose of this article is to present the methodology and the obtained results of a study of the elements of organizational culture that influence individual effectiveness in the social sector. The research methodology includes the development of an organizational culture model, based on thirty-eight elements, grouped into nine sections. The methodology includes a combination of the expert Delphi Method and variance analysis, used in the behavioral and social sciences. The research findings show where the concurrence of expert opinions is regarding the elements of organizational culture that are important for individual effectiveness in the social sector. The article provides a future research direction and indicates which elements of organizational culture should be included in a Recommended Model of Organizational Culture (RMOC) to improve individual effectiveness in Bulgaria's social sector.*

1. INTRODUCTION

According to the Center for New Economy and Society (2024), social services are a policy area that is not seen by economists as an effective growth driver for high-income rather than low-income economies (p. 6). However, it can play an important role in achieving a social and solidarity economy for sustainable development. However, in Bulgaria, as discussed by Kandilarov (2023) severe negative consequences of "gradual decrease of population income increase of social inequalities and people living below the poverty line, higher risk of social exclusion" (p. 1) require urgent change though corrective government policies and adequate measures at local, regional and national levels. In addition, government policies and measures have to be targeted at improving current organizational performance and individual effectiveness as well as executed promptly to have a positive impact on society.

The influence of organizational culture on organizational and individual effectiveness has been studied by numerous researchers. Agbo and Okeoma (2020) concluded that "organizational culture had a great influence on the productivity of employees in organizations, which leads to better performance and profitability organizations" and they further recommended that "management should enforce security measures to protect the interest of the organizations" (p. 140). A literature review analysis by Akpa et al. (2021) found that clearly communicated work ethics, like-minded employees, shared beliefs and values, consistency, adaptability and effective communication system give employees a sense of identity in the organization, which increases their commitment to work and ultimately leads to better performance (p. 361). Asikhia et al. (2021) studied organizational performance and its relation to change management; they concluded that "by improveing the readiness for change, organizations can strengthen their adaptability mechanisms and build their internal competencies for facing future uncertainties" (p. 67). Since change can play a proactive or reactive role, we developed an RMOC as a proactive type of change instrument in the social

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sector to improve individual effectiveness and organizational performance. According to Aninkan (2018) organizations should adapt and respond to appropriate changes in a timely manner in order to improve organizational performance" (p. 109). Thus, the practical application of proactive organizational change instruments, like strong organizational culture models, can allow organizations to achieve sustainable organizational effectiveness, especially in the public sector.

This research paper is part of a series of scholarly articles that aim to contribute to the improvement of individual and organizational effectiveness via organizational culture models in the social services sector. The purpose of the study is to develop a Recommended Model of Organizational Culture (RMOC), which can be further utilized by policymakers to implement Recommended Standards for Organizational Culture (RSOC) to achieve sustainable improvement in the social services sector. The research methodology is based on the Delphi Method as the most appropriate of the expert decision-making methods in the social sector. The research data was collected in the winter of 2023 - spring of 2024, in Bulgaria.

2. HYPOTHESES AND RESEARCH METHODOLOGY

The research hypothesis suggests that the developed RMOC is confirmed and, therefore, it can be applied in practice to improve individual effectiveness in the social sector. The study assumed that the research hypothesis is confirmed, when there is positive consensus among the respondents regarding the researched sections in the RMOC. The research hypothesis is represented by the null hypothesis,

$$H_0: \mu_1 = \mu_2 = \mu_3 \ldots \mu_m, \quad (1)$$

where H_0 is the null hypothesis; $\mu_1, \mu 2, \mu_3 \ldots \mu_m$ are the numeric values of multiple means of m random samples. Therefore, the research hypothesis is rejected, when the multiple means are not equal:

$$H_a: \mu_i \neq \mu_j, \quad (2)$$

where H_a is the alternative hypothesis; μ_i, μ_j are the numeric values of any two multiple means.

For the needs of the study, it is accepted that the level of the stochastic error α should be the standard level used in most statistical studies α=0.05, with five degrees of freedom (df = 5). Therefore, the value of F_c is 5.05 (F_c=5.05). The alternative hypothesis (H_a) is confirmed, when

$$F > F_c \quad (3)$$

where F is the numeric value of the Fisher distribution; F_c is the upper critical numeric value of F (F_c = 5.05); **α** is stochastic error; and $\mathbf{d_f}$ are the degrees of freedom. The null hypothesis is accepted and the alternative hypothesis is rejected, when

$$F < F_c \quad (4)$$

The research methodology applies a combination of the expert Delphi Method and variance analysis, widely used in behavioral and social sciences studies. First, we developed a RMOC that includes 38 research elements (statements), grouped into 9 research sections. Next, we approbated the developed RMOC, by applying the expert Delphi Method, using the opinions of social sector experts. The

research sample consisted of 58 social sector experts, representing public and private organizations, and government institutions, with diverse expert roles, managerial and non-managerial and years of professional experience. According to Daniels (2017), the Delphi Method is an "approach, initially developed by Dalkey and Helmer (1963) at Rand Corporation for business and economic forecasting" (p. 4). He stated that "as the participants express their own opinions, and are exposed to others opinions, there may be convergence and confluence of ideas as the rounds progress" (p. 5). During the approbation, a questionnaire was delivered to a panel of 58 experts (respondents).

The Delphi questionnaire consisted of 9 research sections and 38 research elements (statements). The first research section is regarding employee engagement and dedication to the organization; it examines participation in the decision-making process, on-the-job training, learning and development opportunities, communication with management and colleagues, employee incentives and rewards. The second research section relates to employee commitment to continuous quality improvement; it examines respect for and trust in supervisors' decision-making, prioritization of high quality achievement, client satisfaction, ability to understand clients' thoughts and feelings, responsiveness to client problems, and client feedback. Metz et al. (2020) conclude that the „improvement of customer service effectiveness can significantly enhance organizational effectiveness, as well as customer and employee satisfaction" (p. 1). As Hill et al. (2020) concludes „improving the quality and safety of health care is a priority of governments, health care workers, and the public" (p. 2). The third research section is regarding striving to achieve a good work climate in the organization; it examines four research elements: balancing personal and professional interests; taking on greater challenges and setting higher goals, equal opportunities and professional direction, and provision of resources to carry out effective work. The fourth research section relates to opportunities and attitudes for change and improvement in the organization; it examines: emphasis on specific employee relationships, legal contracts, change and gaining trust, respect and embracing change, and acceptance of different points of view. In their study, Mahesh et al. (2024) stated „peer challenges are a useful tool to improve adult social work practice" (p. 15). The fifth research section regards the collectivistic nature of the organization; it examines four research elements: the use of the word „We" more often than „I", collective decision-making, group recognition of success and failure, and vacation decision-making. The sixth research section relates to the emotional nature of communication in the organization; it examines: the expression of thoughts and feelings, the release of tension through transparency and expressiveness, and making claims with pathos. The seventh research section relates to the nature of professional relations and contacts in the organization; it examines four research elements: indirect forms of work relationships, tactical relations, and situational morality. The eighth research section relates to attitudes in the organization towards the environment; it examines: attitude and willingness to compromise, desire for harmony and response to problems, focus on the other person, and accepting change as a natural process. Finally, the ninth research section relates to organizational culture's relationship with national and regional culture; it examines four research elements: acting according to the interests of the internal group, doing well in the presence of uncertainty in their work environment, the role of the organization's hierarchical system as facilitating communication and compromising to solve conflicts.

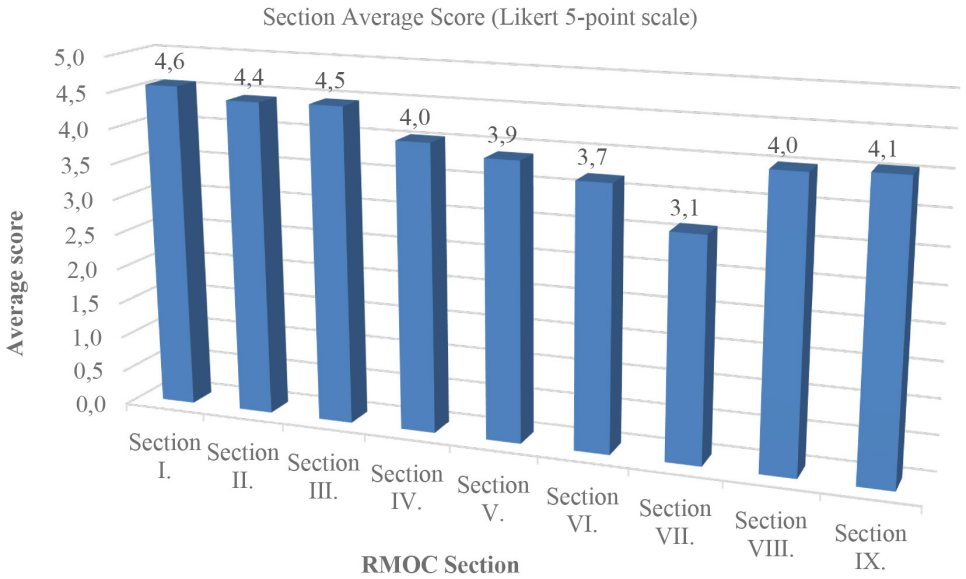
To ensure high-quality standard of the Delphi study, the consensus level among the panelists was defined, and the anonymity among panelists as well as the controlled feedback was fully guaranteed. The majority of the expert panel questionnaires were distributed electronically, using publicly available tools, Google Forms, to active social service professionals in Bulgaria. It was noticed that the panel members reached the defined consensus level in the first round; therefore the "Delphi process" comprised a single phase.

The experts expressed their opinions on a 5-point Likert scale from 1 to 5, where 1 represents 'Highly Disagree' and 5 represents 'Highly Agree'. Each statement represents a research element of the RMOC and is part of a research section. There are 9 research sections in the RMOC that are rated, based on the ratings of their research statements. The analysis of the data from the Delphi round involves the integration of a one-factor variance analysis, ANOVA (Analysis of Variance) method via the statistical SPSS software to analyze the differences between three or more groups and to show if there is a significant difference between them. When identifying the consensus sections, the obtained data is analyzed, using a dispersion model, which includes one dependent and fifty-eight independent variables. The dependent variable (Y_{ij}) is presented as the sum of the experts' ratings for all thirty-eight elements of organizational culture. Each independent variable (X_{ij}) denotes the evaluation of the i^{-th} expert for the j^{-th} research element of the RMOC that is being rated by the experts. To check the null hypothesis, the value of the ratio between the within-section and the between-section variance – that is the value of F, is compared with the critical value (F_c). If the null hypothesis is confirmed, there is a consensus among the experts regarding the researched sections of the RMOC.

The research analysis consists of the level of consensus (F) and the level of significance (Sig.), which the panel experts have given to the researched statements. Statements with significance levels of <1 have reached consensus, and those of 0 have absolute consensus. The consensus levels show the level of agreement among panel members on a specific statement. If the consensus is in the positive range of the 5-point Likert scale, these sections are confirmed to be important for individual effectiveness in the social sector. If the null hypothesis is rejected, then there is no consensus among the experts regarding specific researched sections of the developed RMOC.

3. RESEARCH FINDINGS

The research results show that in all nine Sections of the RMOC, the null hypothesis has been accepted and the RMOC is confirmed because, for each independent variable, the calculated value of Fisher Distribution (F) is less than the critical value $F < F_c$ ($F_c = 5.05$). Additionally, the concurrence of experts' opinions regarding each Section is in the positive part of the Likert scale (4-Agree, 5-Highly Agree), as shown in Graph 1:

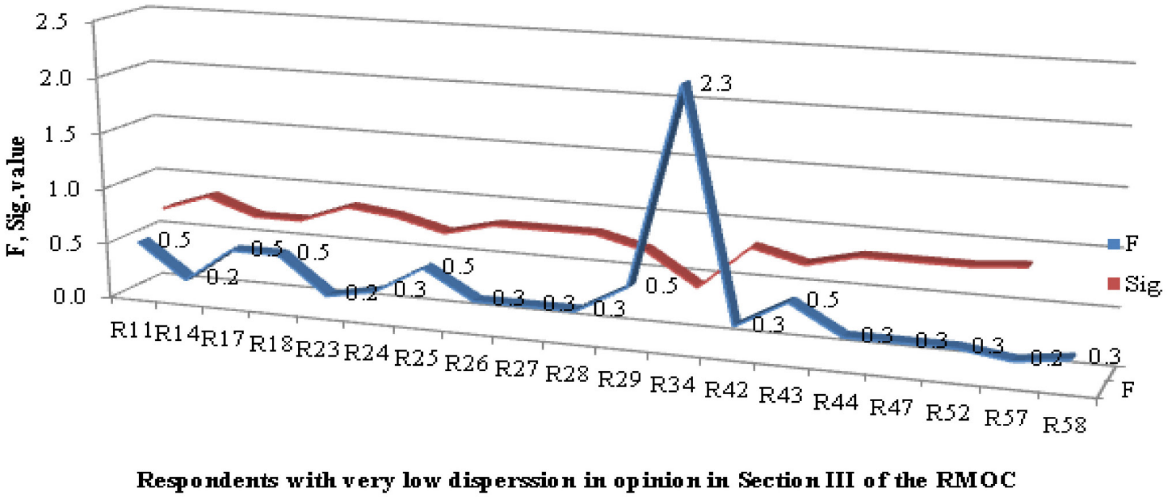


Graph 1. Average scores of RMOC research sections

Source: Own research

These results show a lack of any dispersion in the expert opinions in sections I, II, IV, V, VI, VII, VIII and IX.

A very low, insignificant dispersion exists in Section III among 19 out of 58 respondents, which represent 33% of the expert opinions (Respondents #11, #14, #17, #18, #23, #24, #25, #26, #27, #28, #29, #34, #42, #43, #44, #47, #52, #57, and #58). In these Sections, the numeric value of F is between 0.2 and 2.3, and the numeric value of Sig. (Significance of variance) is between 0.4 and 0.9, as shown in Graph 2.



Graph 2. F-values and significance of dispersion in 33% of respondents in Section III. of the RMOC

Source: Own research

4. FUTURE RESEARCH DIRECTIONS

This research has applied a new approach to a well-known research methodology that seeks to contribute to the standardization of organizational culture elements in the social sector. It can be beneficial to the scientific community to join efforts to conduct the same study in other geographic parts of Bulgaria, as well as other European Union countries, in order to confirm these research results on a larger scale. Such further research would allow social services sector experts to rate and propose additional organizational culture research elements that may increase individual effectiveness, accounting for the impact of their national and regional cultures.

Acknowledging the fact that the social services sector is not considered a factor for economic growth in developed EU countries, their government social policies can be further examined and researched to provide a better understanding of what individual and organizational effectiveness challenges they are faced with. In Bulgaria, further research directions have to be focused on utilizing available research findings in a timely manner due to the pressing, systematic societal issues throughout the years.

Further research can also be conducted to assess the potential of the RMOC and future RSOC to increase the effectiveness of efforts, such as The Schwab Foundation for Social Entrepreneurship and the resolution of the UN General Assembly since April 2023, focused on promoting social and solidarity economy for sustainable development.

5. CONCLUSION

In order for individual effectiveness and organizational performance to be improved, social sector organizations can focus on strengthening their organizational cultures. This study has confirmed that organizational culture includes important elements of strategic performance that impact on a personal and organizational level. Since the research findings showed that the experts agree that the researched elements are important to individual effectiveness in the social sector, we conclude that the RMOC can be used to potentially increase the effectiveness of social workers and experts in public and private organizations.

The study has allowed the author to move forward with further research and to develop a prototype of Recommended Standards for Organizational Culture (RSOC) to increase overall effectiveness in the social services sector. The currently developed RMOC is a reliable and long-term management tool for improving individual effectiveness sustainably. Therefore, we advise government authorities to consider and seek opportunities to implement Recommended Standards for Organizational Culture (RSOC) within the social sector.

References

Agbo, M. U., & Okeoma, M. E. (2020). Impact of Organizational Culture on Employee Productivity (A Study of Nigerian Breweries Plc, Enugu) Enugu State, Nigeria. *International Journal of Research and Innovation in Social Science, 4*(6), 140 -148.

Akpa, V. O., Asikhia, O. U., & Nneji, N. E. (2021). Organizational Culture and Organizational Performance: A Review of Literature. *International Journal of Advances in Engineering and Management, 3*(1), 361-372.

Aninkan, D. (2018). Organizational Change, Change Management, and Resistance to Change – An Exploratory Study. *European Journal of Business and Management, 10*(26), 109-117.

Asikhia, O. U., Nneji, N. E., Olafenwa, A. T., & Owoeye, O. (2021). Change Management and Organisational Performance A Review of Literature. *International Journal of Advances in Engineering and Management, 3*(5), 67-79.

Center for New Economy and Society. (2024). Chief Economists Outlook. *World Economic Forum*, https://www3.weforum.org/docs/WEF_Chief_Economists_Outlook_May2024.pdf

Dalkey, N., & Helmer, O. (1963). An experimental application of the Delphi method to the use of experts. *Management Science, 9*(3), 458-467.

Daniels, J. (2017). A matter of opinion: the Delphi method in the social sciences.

Hill, J. E., Stephani, A.-M., Sapple, P., & Clegg, A. J. (2020). The effectiveness of continuous quality improvement for developing professional practice and improving health care outcomes: a systematic review. *Implementation Science, 15*(1). https://doi.org/10.1186/s13012-020-0975-2

Kandilarov, E. (2023). Bulgaria social briefing: Outlook of the Bulgarian Social Challenges in 2023. *China-CEE Institute, 58*(3).

Mahesh, S., Jason Lowther, J., & Miller, R. (2024). Improving Quality in Social Work: The Role of Peer Challenge. *British Journal of Social Work 54*, 1719–1736. https://doi.org/10.1093/bjsw/bcad252

Metz, D., Ilieș, L., & Nistor, R. V. (2020). The Impact of Organizational Culture on Customer Service Effectiveness from a Sustainability Perspective. *Sustainability 2020, 12*(15), 6240, https://doi.org/10.3390/su12156240

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Hospitality Managerial Attitudes in the Spotlight of Emotional Intelligence

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Hotel industry

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Abstract: *This research delves into how Emotional Intelligence (EI) impacts managers' attitudes in the hospitality industry, focusing on how these attitudes shape leadership effectiveness in hotel management. Emotional intelligence, which involves recognizing, understanding, managing, and influencing one another emotions, is increasingly seen as a skill for managers in demanding fields like hospitality. The study combines a review of existing literature with research that includes interviews with hotel managers and a 360-degree assessment of management competencies. The results indicate that managers with emotional intelligence tend to display more positive managerial attitudes, resulting in enhanced staff performance, customer satisfaction, and overall organizational achievement. The research suggests ways to incorporate emotional intelligence training into hospitality management development initiatives.*

1. INTRODUCTION

The hospitality sector revolves around people. It emphasizes customer service quality, which is closely linked to the happiness and involvement of employees. Within this setting, the role of a manager is crucial in shaping an organization's culture, influencing employee behaviour, and ensuring customer contentment. Emotional intelligence (EI), which includes self-awareness, self-control, drive, empathy, and interpersonal skills, is increasingly acknowledged as an element in leadership and management. This article explores how emotional intelligence impacts perspectives in the hospitality industry, particularly within hotel management.

The research combines insights from existing literature with investigations involving interviews with hotel managers and data from a 360-degree assessment of management competencies. This mixed approach offers insight into how intelligence influences managerial perspectives and consequently impacts organizational performance.

2. LITERATURE REVIEW

2.1. Emotional Intelligence as a Predictor of Leadership Effectiveness

The strong connection between emotional intelligence and leadership efficacy, as shown by the feedback from all angles, implies that EI plays a role in predicting success in hospitality management. Leaders who can effectively handle their emotions, show empathy towards others and communicate well are likelier to steer their teams toward success and meet objectives. This discovery supports studies highlighting intelligence as a crucial skill for effective leadership in

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diverse industries (Goleman, 1998). In the hospitality industry, managers often face situations and oversee diverse teams; utilizing emotional intelligence is incredibly beneficial.

2.2. Emotional Intelligence: Definition and Importance

Daniel Goleman brought Emotional intelligence (EI) into the spotlight in the mid-1990s, describing it as the ability to understand our emotions and those of others to motivate ourselves and to handle emotions effectively in both professional relationships. Since then, the concept of EI has evolved, with researchers pinpointing five elements: self-awareness, self-control, drive, empathy, and social skills. In the realm of management, emotional intelligence plays a role in leadership (Bar-On, 2006). Managers who possess EI are better equipped to deal with stress, navigate dynamics, and lead teams successfully. This is especially significant in industries like hospitality, where managing emotions during service interactions can significantly impact employee well-being and customer satisfaction (Hochschild, 1983).

2.3. Emotional Intelligence and Managerial Attitudes

In the workplace, managerial attitudes reflect the behaviours displayed by a manager, often influenced by their beliefs and emotional reactions. Managers who maintain attitudes tend to create a collaborative work environment, increasing employee engagement and productivity. Emotional intelligence plays a role in shaping these attitudes by helping managers manage their emotions and respond effectively to the feelings of others (George, 2000). Studies indicate that intelligent managers are more inclined toward adopting a transformational leadership style. This style involves inspiring and motivating employees, encouraging innovation, and driving change (Bass & Avolio, 1994). Such leadership approaches have been associated with outcomes in the hospitality sector, such as enhanced employee satisfaction, reduced turnover rates, and better customer service quality (Kim & Brymer, 2011).

2.4. The Role of Emotional Intelligence in Hospitality Management

In the hospitality sector, dealing with customers and handling situations require emotional intelligence. Managers play a role in maintaining a workplace atmosphere and ensuring customer satisfaction amidst these demands (Karatepe, 2011). Research indicates that emotional intelligence is a factor in success within the industry. For instance, Wong and Law (2002) discovered that hotel managers with intelligence levels excelled in team management, conflict resolution, and meeting organizational objectives. Similarly, Grobelna's study (2015) emphasized the significance of intelligence in overseeing the well-being of hospitality staff, resulting in improved job performance and decreased burnout rates.

3. METHODOLOGY

360-degree feedback gathers input from multiple sources to provide a comprehensive view of a manager's skills and behaviours, supporting growth (Lepsinger & Lucia, 1997). In hospitality, it is vital to assess both abilities and interpersonal skills, like emotional intelligence (Nowack, 1994), helping managers refine their leadership impact.

3.1. Research Design

This research uses a blend of methods merging a review of existing literature with research. The literature review lays the groundwork for comprehending the significance of intelligence in

hospitality management. The qualitative research includes conducting structured interviews with hotel managers and implementing a survey on management competence from different perspectives.

3.2. Participants

The study involved choosing participants from a group of hotel managers employed in different types of hotels, including upscale and budget accommodations. Fifteen managers were interviewed, covering a range of management roles from frontline supervisors to managers.

3.3. Data Collection

3.3.1. Semi-Structured Interviews

Two main approaches were used to gather information: conducting interviews and distributing a 360-degree feedback questionnaire. During the interviews, a semi-structured format was employed to delve deeply into the participant's thoughts and feelings about intelligence in their positions. Additionally, every manager completed a 360-degree feedback survey that included input from colleagues, team members, and supervisors.

The interviews with hotel managers played a role in gathering data to delve into their thoughts and experiences related to emotional intelligence in their managerial roles. A diverse group of 15 hotel managers, ranging from front-line supervisors to managers, were purposefully chosen for these interviews based on their industry experience, duties, and willingness to participate. The interviews were conducted face-to-face or via video, depending on the participant's availability and location. Each interview lasted between 60 and 90 minutes, providing time for discussions. An interview guide was created to maintain consistency while allowing participants the flexibility to elaborate on topics to them. The guide included ended questions covering aspects such as;

- The role of emotional intelligence in daily managerial tasks.
- Examples of situations where emotional intelligence was crucial in resolving workplace issues.
- The impact of emotional intelligence on team dynamics and customer interactions.
- Challenges faced in managing emotions in high-stress environments.
- Perceptions of how emotional intelligence affects overall leadership effectiveness.

Participants could share their experiences using a structured format, allowing for a detailed exploration of emotional intelligence within hospitality management. All conversations were recorded with permission and transcribed word for word for examination.

3.3.2. 360-Degree Feedback Survey

To supplement the insights gathered from the interviews, we conducted a 360-degree feedback survey for all managers involved. The 360-degree feedback approach was selected because it evaluates a manager's skills and behaviours as perceived by stakeholders like supervisors, colleagues, team members, and managers (Lepsinger & Lucia, 1997). The survey consisted of statements focusing on competencies linked to intelligence, such as self-awareness, emotional control, empathy, interpersonal communication, and conflict resolution. Participants were requested to rate each statement on a Likert scale ranging from (1 - Strongly Disagree/ 2 – Disagree/ 3 – Neutral/ 4 – Agree/ 5 - Strongly Agree). Some examples include: "The manager remains calm and composed under

pressure." "The manager is aware of the impact of their emotions on their team." "The manager effectively resolves conflicts by considering the emotions of all parties involved." "The manager demonstrates empathy towards both employees and customers."

The survey asked questions and allowed respondents to share specific examples and additional thoughts on how the manager's emotional intelligence influences their leadership skills. This qualitative input added depth to the ratings, giving insights into how emotional intelligence plays out in day-to-day interactions and decision-making.

To maintain confidentiality and encourage responses, the 360-degree surveys were conducted online, allowing participants to give feedback anonymously. The collected data was then analyzed to uncover connections between intelligence abilities and managerial effectiveness as perceived by stakeholders.

3.4. Ethical Considerations

Ethical considerations were prioritized in data collection. Participants were informed of their rights and gave consent before the study. Data was anonymized and securely stored, accessible only to the research team.

3.5. Data Analysis

The interview information was examined through analysis, a technique for recognizing, evaluating, and describing trends in the data (Braun & Clarke, 2006). The findings from the 360-degree feedback were scrutinized to determine how emotional intelligence competencies correlate with perceptions as seen by stakeholders.

4. RESULTS

4.1. Interview Findings

The interviews uncovered themes regarding how emotional intelligence plays a role in hospitality management. Managers stressed the significance of self-awareness and empathy in their positions, especially when dealing with staff and customers. Many participants mentioned that staying composed under pressure and handling their emotions were crucial for their achievements.

One manager shared how emotional intelligence guided them through a situation with a customer; "I could see things from the customer's perspective, validate their feelings, and then collaborate with my team to reach a resolution that pleased everyone. It wasn't about fixing the issue but managing the emotions involved."

Another manager pointed out how intelligence impacts team leadership; "Being mindful of my emotions and their impact on my team is vital. When I'm stressed, it affects everyone. I've improved my stress management skills, changing how my team deals with challenges."

4.2. 360-Degree Feedback Results

The feedback from 360-degree assessments aligned with the insights from the interviews, showing a link between emotional intelligence levels and favourable managerial perceptions. Managers

who demonstrated elevated intelligence levels consistently received ratings from their colleagues, subordinates, and supervisors regarding their leadership effectiveness, communication proficiency, and conflict-resolution skills.

For instance, their team members frequently described managers with high EI ratings as approachable, supportive, and inspirational. These managers were also recognized for their communication and problem-solving skills in demanding situations.

On the contrary, managers with lower EI scores often received feedback highlighting difficulties in managing stress, handling conflicts, and nurturing team relationships. They were perceived as effective in their roles, particularly when faced with challenges that required control and interpersonal understanding.

4.2.1. The following average scores were obtained on the Likert scale

Self-Awareness (4.2): The ratings predominantly fall under the "Agree" and " Strongly Agree" categories suggesting that most survey participants view the manager as possessing a high level of self-awareness. **Self-Regulation (3.8):** Indicates a tendency towards agreement. Is more closely aligned with neutrality when compared to other skills. This implies that there may be differences, in how managers are perceived in terms of their ability to effectively manage emotions. **Motivation (4.5):** The manager is seen as highly motivated, with most ratings falling between "Agree" and "Strongly Agree," highlighting a strong ability to inspire and maintain enthusiasm. **Empathy (4.0)** and **Social Skills (4.1):** Both competencies are rated slightly lower than motivation but are still firmly within the "Agree" category, showing that the manager is generally empathetic and socially adept, though there may be room for slight improvement. **Overall Leadership Effectiveness (4.3):** High scores indicate that the manager is regarded as effective in their leadership role, with strong agreement from respondents on this competency.

Overall, the evaluation shows that the managers who took part in the survey performed well in all emotional intelligence competencies, and their motivation and general management effectiveness are particularly strong. The areas for improvement, although not significantly weak, suggest that by further developing self-regulation, empathy and social skills, managers can further increase their effectiveness. This comprehensive feedback provides clear direction for personal and professional development, ensuring managers continue to excel in their leadership roles in the hospitality industry.

5. DISCUSSION

5.1. The Impact of Emotional Intelligence on Managerial Attitudes

The results of this study highlight the influence of intelligence on managers' attitudes in the hospitality sector. Managers with high EI skills can better manage their emotions, empathize with others, and navigate the intricate interpersonal relationships prevalent in hospitality. These capabilities lead to managerial outlooks fostering a supportive and productive workplace environment. Managers demonstrating EI levels are more inclined to embrace a transformational leadership approach, which boosts employee satisfaction, decreases turnover rates, and enhances organizational performance (Bass & Avolio, 1994).

5.2. Implications for Hospitality Management Training

This research highlights how crucial (EI) is for the growth and education of hospitality managers. Since the hospitality sector prioritizes customer service, managers must grasp and handle emotions effectively – whether their own or their staff – to cultivate a workplace, boost employee involvement, and maintain top-notch customer happiness. The impact on training programs for hospitality management is wide-ranging, demanding a strategy that weaves (EI) into the heart of management training initiatives.

5.2.1. Integrating Emotional Intelligence into Leadership Development Programs

The study highlights the importance of hospitality organizations incorporating (EI) training into their leadership development programs. The strong link between (EI) and effective leadership, supported by research and feedback surveys, emphasizes the need for prioritizing (EI) in training managers in the hospitality industry.

Studies have demonstrated that targeted training can enhance emotional intelligence. For instance, Clarke's research (2006) revealed that emotional intelligence training significantly boosted managers' interpersonal skills, leading to improved leadership effectiveness. Hospitality organizations can integrate (EI) training through workshops, coaching sessions, and role-playing exercises to strengthen self-awareness, empathy, and emotional management.

Moreover, (EI) integration into leadership development programs must be more continuous than sporadic interventions. Managers should be encouraged to engage in self-assessment and reflection to monitor their (EI) competencies over time. Tools like the Social Competency Inventory (ESCI) developed by Boyatzis and Goleman in 2007 can help assess managers' EI levels and pinpoint areas for growth.

5.2.2. Fostering a Culture of Emotional Intelligence

In addition to training, hospitality companies must cultivate a culture that values and emphasizes (EI) on a broader scale. This means integrating EI principles into the organization's core values, procedures, and day-to-day activities. For instance, when hiring for roles, assessing candidates' emotional intelligence is crucial to ensure they have the skills to thrive in the demanding hospitality industry (Groves et al., 2008).

Moreover, businesses can introduce policies and initiatives that promote intelligence development across all staff levels, not among managers. This may involve offering EI training sessions, providing stress management resources, and encouraging team communication and feedback. By fostering a culture that values intelligence, hospitality companies can build a supportive and adaptable workforce capable of delivering exceptional customer service even in challenging circumstances (Madera et al., 2011).

5.2.3. Enhancing Customer Service through Emotional Intelligence

The impact of attitudes on customer service quality is crucial, and improving (EI) among hospitality managers can significantly enhance customer satisfaction. Managers who possess (EI) are more adept at handling customer complaints, defusing tense situations, and fostering a welcoming environment, all of which are vital for achieving high levels of customer satisfaction (Delcourt et al., 2013).

It is recommended that hospitality management training programs incorporate modules that focus on customer service, emphasizing the significance of (EI) in managing interactions with customers. The training should encompass techniques for identifying and responding to customers' emotional cues, dealing with interactions effectively, and using empathy to cultivate customer relationships. For example, interactive role-playing sessions can replicate real-life customer service scenarios to allow managers to practice and enhance their intelligence skills in a setting. Furthermore, organizations should contemplate integrating emotional intelligence into their assessment metrics for customer service. This could involve including questions in customer feedback forms that evaluate staff members' emotional intelligence levels by assessing their ability to comprehend customer needs and respond empathetically. By associating intelligence with performance in customer service, organizations can underscore the importance of emotional intelligence in delivering exceptional service (Gabbott et al., 2011).

5.2.4. Addressing Emotional Labor and Employee Well-being

The idea of labour, which involves managing and expressing emotions in line with company expectations, is crucial in the hospitality industry. Excessive emotional labour can result in stress, exhaustion, and dissatisfaction among employees who feel compelled to hide their feelings (Hochschild, 1983). Emotional Intelligence training can assist managers in understanding and handling their employee's emotional labour better, reducing its effects on their well-being.

Training sessions should educate managers on recognizing signs of fatigue and offer strategies to support employees facing challenges with labour. For instance, managers can learn to identify when an employee is emotionally overwhelmed and provide assistance like breaks, temporary changes in duties, or access to employee support programs. By meeting the needs of their team members, managers can help prevent burnout and enhance job satisfaction, ultimately improving performance (Brotheridge & Grandey, 2002).

Moreover, hospitality businesses should implement emotional intelligence assessments for managers to ensure they can manage their emotional labour and that of their team members.

Continuous training and assistance can support managers in sustaining their emotional intelligence, especially when dealing with the distinctive obstacles encountered in the hospitality sector.

5.2.5. Leveraging 360-Degree Feedback for Continuous Improvement

The study emphasized the effectiveness of using 360-degree feedback to evaluate emotional intelligence and managerial attitudes. By gathering input from supervisors, peers, and subordinates, managers gain insights into their strengths and areas for improvement. (Lepsinger & Lucia, 1997). It is recommended that hospitality organizations integrate 360-degree feedback into their performance assessments, focusing on emotional intelligence competencies to provide managers with constructive feedback on their EI-related behaviours. This feedback can help create development plans to enhance EI skills relevant to the manager's role and organizational needs. Additionally, receiving and acting on 360-degree feedback allows managers to practice emotional intelligence skills such as self-awareness, emotional regulation, and empathy. Providing training on obtaining and utilizing feedback effectively can further link intelligence with professional growth. (Nowack & Mashihi, 2012).

5.2.6. Incorporating Emotional Intelligence into Crisis Management Training

The hospitality sector is highly susceptible to crises, including disasters, economic downturns, and public health emergencies. Emotional Intelligence is crucial for managers in times of crisis as it helps them stay composed, make informed decisions, and offer emotional support to their teams. Hospitality management training programs need to include sections on crisis management that also cover intelligence training (Haver et al., 2013). These sections should concentrate on building the strength to lead effectively under pressure by teaching tactics for handling stress, communicating openly with staff members, and maintaining a positive attitude when faced with challenges. One practical approach is to use real-life examples of crises in the hospitality industry to demonstrate how emotional intelligence plays a role in successful crisis management. Managers can analyse these scenarios to pinpoint the emotional intelligence skills that led to positive outcomes and practice applying these skills in simulated crises. By equipping managers with the ability to lead with emotional intelligence during crises, organizations can strengthen their resilience and capacity to bounce back from circumstances.

5.2.7. Customizing Training Based on Individual and Organizational Needs

The study findings suggest that emotional intelligence training should be tailored to suit the needs of managers and the organization. Managers vary in their levels of intelligence. They encounter distinct challenges in their roles, so a one-size-fits-all approach to EI training may be ineffective.

Organizations need to assess both organizational emotional intelligence requirements regularly. These assessments can guide the development of customized training programs that target areas needing improvement. For example, a manager lacking empathy could benefit from coaching sessions to enhance this skill, while an organization dealing with high employee turnover might prioritize training that helps managers build supportive relationships with their teams.

Apart from formal training initiatives, organizations can promote emotional intelligence through mentoring, peer support networks, and hands-on learning opportunities. Organizations can cultivate an environment that fosters learning and growth in emotional intelligence by offering resources and support systems.

6. CONCLUSION

This research has offered insights into how emotional intelligence (EI) shapes managers' attitudes and improves leadership effectiveness in the hospitality sector. By conducting a literature review, interviews, and gathering 360-degree feedback, the study emphasizes that emotional intelligence not only shapes managers' behaviours and attitudes but also directly impacts organizational results, like employee satisfaction, customer service quality, and overall business performance.

6.1. Summary of Findings

The study's discoveries highlight how crucial emotional intelligence is for hospitality managers. Managers with intelligence are better equipped to navigate the interpersonal complexities of working in the hospitality sector, especially during stressful times. Managing their emotions and understanding and influencing others' feelings helps managers create work environments that inspire their teams and ensure high levels of customer satisfaction. According to Goleman (1998) and Kim and Brymer (2011), this is essential.

The 360-degree feedback survey results further confirm the link between emotional intelligence and leadership. Their peers, subordinates, and superiors consistently viewed managers who scored highly in intelligence as capable leaders. They were seen as empathetic, better at communication, and more adept at conflict resolution—qualities in a customer-focused industry, like hospitality, as indicated by Wong and Law (2002) and Grobelna (2015).

6.2. Implications for Practice

The findings have implications for the hospitality sector. Recognizing the role of emotional intelligence, hospitality businesses need to prioritize enhancing EI skills among their management teams. This goal can be accomplished through structured training initiatives that concentrate on improving aspects of emotional intelligence—such as self-awareness, self-regulation, motivation, empathy, and social skills (Mayer & Salovey, 1997; Clarke, 2006).

Furthermore, fostering an environment that appreciates emotional intelligence can result in organizational advantages. Companies that incorporate EI into their principles and operational strategies are likely to witness enhancements in employee satisfaction levels, decreased turnover rates, and increased customer contentment (Madera et al., 2011; Delcourt et al., 2013). By integrating emotional intelligence into leadership development programs and daily practices, hospitality enterprises can cultivate a more resilient and adaptable workforce.

6.3. Recommendations for Future Research

Future research should explore the long-term impacts of emotional intelligence (EI) training on managers' performance, particularly how sustained EI development influences organizational outcomes like employee retention and customer satisfaction (Prentice et al., 2020). Additionally, examining how cultural differences affect the expression and effectiveness of EI in hospitality management is crucial, as cultural contexts can significantly shape EI's impact (Gabel Shemueli et al., 2014; Park & Im, 2021). Another key area for investigation is the role of EI in crisis management within the hospitality industry. Given the challenges posed by events such as the COVID-19 pandemic, understanding how EI can enhance organizational resilience and leadership effectiveness during crises could provide valuable insights (Kaushik & Guleria, 2020; Haver et al., 2013).

Ultimately, this research underscores the importance of intelligence in hospitality management. Developing intelligence among leaders in the hospitality sector can lead to changes in their attitudes and actions, ultimately boosting overall organizational performance. In the changing hospitality sector, the significance of emotional intelligence (EI) in successful leadership is set to grow. Companies in the hospitality industry that focus on enhancing EI skills among their managers will be more equipped to tackle industry hurdles and attain lasting prosperity.

References

Bar-On, R. (2006). The Bar-On model of emotional-social intelligence (ESI). *Psicothema*, 18(Suppl), 13-25.

Bass, B. M., & Avolio, B. J. (1994). *We are improving organizational effectiveness through transformational leadership.* Sage Publications.

Boyatzis, R. E., & Goleman, D. (2007). *Emotional and Social Competency Inventory (ESCI).* The Hay Group.

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77-101.

Brotheridge, C. M., & Grandey, A. A. (2002). Emotional labor and burnout: Comparing two perspectives of "people work". *Journal of Vocational Behavior*, 60(1), 17-39.

Clarke, N. (2006). Developing emotional intelligence through workplace learning: Findings from a case study in healthcare. *Human Resource Development International*, 9(4), 447-465.

Delcourt, C., Gremler, D. D., van Riel, A. C. R., & van Birgelen, M. (2013). Effects of perceived employee emotional competence on customer satisfaction and loyalty. *Journal of Service Management*, *24*(1), 5-24.

Gabbott, M., Tsarenko, Y., & Mok, W. H. M. (2011). Emotional intelligence as a moderator of coping strategies and service outcomes in circumstances of service failure. *Journal of Service Research*, 14(2), 234-248.

Gabel Shemueli, R., Dolan, S. L., & Suárez Charvet, M. (2014). The role of cultural differences in the implementation of emotional intelligence in the workplace: The case of the Middle East. *Journal of Management Development*, *33*(6), 548-562.

George, J. M. (2000). Emotions and leadership: The role of emotional intelligence. *Human Relations*, 53(8), 1027-1055.

Goleman, D. (1995). *Emotional intelligence: Why it can matter more than IQ*. Bantam Books.

Goleman, D. (1998). *Working with emotional intelligence*. Bantam Books.

Grobelna, A. (2015). Emotional intelligence and individual performance: The perspective of hotel managers in Poland. *International Journal of Contemporary Hospitality Management*, 27(4), 659-678.

Groves, K. S., McEnrue, M. P., & Shen, W. (2008). Developing and measuring the emotional intelligence of leaders. *Journal of Management Development*, *27*(2), 225-250.

Haver, A., Akerjordet, K., & Furunes, T. (2013). Emotional intelligence in organizations: The impact of coaching and training. *International Journal of Training and Development*, *17*(1), 33-49.

Hochschild, A. R. (1983). *The managed heart: Commercialization of human feeling*. University of California Press.

Karatepe, O. M. (2011). Managing employee burnout in the hotel industry: A strategic approach. *International Journal of Contemporary Hospitality Management*, *23*(7), 958-974.

Kaushik, M., & Guleria, N. (2020). The impact of emotional intelligence on psychological resilience during the COVID-19 pandemic: Insights from the hospitality sector. *Journal of Hospitality and Tourism Management*, 45, 15-24.

Kim, H. J., & Brymer, R. A. (2011). The effects of emotional intelligence on leadership effectiveness in the hospitality industry. *International Journal of Hospitality Management*, *30*(3), 585-593.

Lepsinger, R., & Lucia, A. D. (1997). *The art and science of 360-degree feedback*. Pfeiffer.

Madera, J. M., Neal, J. A., & Dawson, M. (2011). A strategy for diversity training: Focusing on empathy in the workplace. *Journal of Hospitality & Tourism Research*, *35*(4), 469-487.

Mayer, J. D., & Salovey, P. (1997). What is emotional intelligence? In P. Salovey & D. Sluyter (Eds.), *Emotional development and emotional intelligence: Educational implications* (pp. 3-31). Basic Books.

Nowack, K. M. (1994). The secrets of successful managers: Developing 360-degree feedback programs. *Jossey-Bass*.

Nowack, K. M., & Mashihi, S. (2012). *Leveraging the impact of 360-degree feedback: A process for successful individual and organizational development*. Pfeiffer.

Park, J., & Im, E. O. (2021). Emotional intelligence and cross-cultural leadership: The effects on job satisfaction and performance in the hospitality industry. *International Journal of Contemporary Hospitality Management*, *33*(7), 2345-2362.

Prentice, C., Dominique-Ferreira, S., & Wang, X. (2020). Emotional intelligence or artificial intelligence–an employee perspective. *International Journal of Hospitality Management*, 88, 102415.

Wong, C.-S., & Law, K. S. (2002). The effects of leader and follower emotional intelligence on performance and attitude: An exploratory study. *The Leadership Quarterly*, 13(3), 243-274.

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Wellbeing Management: Designing and Explaining a Wellbeing Model in Organization

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Abstract: *In today's organizational environment, wellbeing management plays an essential role in creating a productive work environment. This concept could be a primary consideration at all stages of policy development of an organization. In order to be able to exploit the labor force as much as possible, a manager should also put special emphasis on what the employees want, more precisely on what makes them happy. This article aims to present a comprehensive wellbeing model designed for organizations that includes five key dimensions the authors considered essential: Physical Wellbeing, Emotional Wellbeing, Social Wellbeing, Financial Wellbeing and Psychological Wellbeing. This proposed model is drawn from the analysis of other wellbeing models established in the specialized literature and it aims to enhance employee health and satisfaction, ultimately driving organizational success. The implementation of a structured wellbeing management model would only bring benefits to both the employer and the employees.*

1. INTRODUCTION

In an era of continuous development, the importance of wellbeing management cannot be contested (Vakkayil et al., 2017). As the organizations focus on enhancing productivity and employee satisfaction, well-being becomes a central element in achieving these goals (Uribe Fiallega et al., 2024). Wellbeing at work has been defined as the creation of an environment that promotes "a state of contentment which allows an employee to flourish and achieve their full potential for the benefit of themselves and their organisation" (Chartered Institute of Personnel and Development, 2022). It has been proved that organisations distinguished by their commitment to their workforce's health, safety, and wellbeing outperform in the marketplace (Fabius & Phares, 2021). This article aims to present a comprehensive wellbeing model that organizations can adopt to improve their general management, having effects on the elements of employee wellbeing. By focusing on the five key dimensions of wellbeing—Physical, Emotional, Social, Financial and Psychological—organizations can use this model to satisfy both parties: they, as employers and the employees, as the most important resource in achieving their goals.

Seligman (2011) defines wellbeing as a state that involves positive emotions, engagement, relationships, meaning and accomplishment.

Recognizing the importance of employee wellbeing (Kowalski & Loretto, 2017) not only for individual health and satisfaction but also for organizational success, various models of wellbeing management have been conceived in the specialized literature.

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For example, The PERMA Model, which was developed by psychologist Seligman (2011), focuses on five key elements: positive emotions (positive people perform better than others), engagement (applying the best individual strengths, cultivating passion, engaging in personal fulfillment), relationships (it is about developing and keeping positive and constructive relationships that bring knowledge and drive teams to achieve their goals), meaning and purpose (giving meaning to the projects and activities which are developed) and accomplishment (it is the establishment of common achievable goals, based on discipline, pursuing success at all times through self-control).

Wellbeing management focuses on the employee as a central element, as there is a causal link between the employee's wellbeing and the employer's wellbeing. The wellbeing of the employee determines the wellbeing of the employer (Treven et al., 2015).

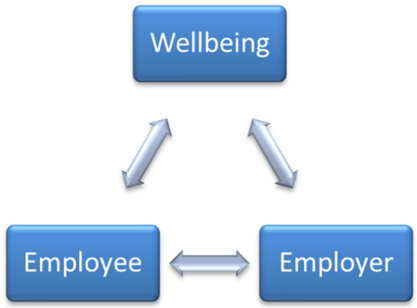


Figure 1. The beneficiaries of wellbeing model
Source: Own processing

From the point of view of the evolution of the concept of wellbeing, it has evolved from the basic measures of health and safety at work (Maamri et al., 2019), which an employer is obliged by law to respect, (at least in Romania), to a more modern vision, which includes various aspects of the employee's life and which also influences his work productivity (Bennett et al., 2017).

This contribution includes a detailed exploration from specialized literature (Goetzel et al., 2008) of each dimension of wellbeing the authors consider them essential, providing specific components and implementation examples. In this way, Physical Wellbeing covers health and safety programs, fitness and nutrition initiatives, Emotional wellbeing involves the ability to manage emotions and cope with stress, Social wellbeing emphasizes the importance of relationships within the workplace, Financial Wellbeing refers to the ability to manage finances effectively and achieve financial security and Psychological wellbeing involves promoting a sense of purpose, autonomy and self-fulfillment in the workplace.

A wellbeing model, in order to apply as best as possible to a large sample of employees, should have several dimensions and address various aspects of employee health and satisfaction (Bennett et al., 2017). By focusing on the five key dimensions of wellbeing – physical, emotional, social, financial and psychological – organizations can create a more engaged and goal-focused workforce.

2. THE FIVE DIMENSIONS OF WELLBEING

2.1. Physical Wellbeing

Physical wellbeing is one of the most commonly referred to, next to psychological and social wellbeing (Kowalski & Loretto, 2017). Positive people perform better than others. Learning how to cultivate this improves the handling of negative situations (Lari, 2023). It includes factors such as nutrition,

exercise and access to healthcare. Organizations can promote physical wellbeing by offering health programs and gym memberships (Hall & Noonan, 2023). Research shows that a healthy workforce is less prone to illness, leading to reduced absenteeism and higher productivity (Bennett et al., 2017).

2.2. Emotional Wellbeing

It refers to the ability to understand and manage the emotions. Emotional wellbeing also implies very good management of emotions so that the employee can cope with stress (Laine & Rinne, 2015). Organizations can promote emotional wellbeing by creating a conducive work environment, as well as through a less authoritarian management style of the employer, leaning towards the employee and their lives. This can be achieved, for example, through programs such as counseling services and stress management meetings (Treven et al., 2015).

2.3. Social wellbeing

Social wellbeing emphasizes the importance of relationships and the created community within the workplace. Strong social connections can increase job satisfaction and employee morale, making them not feel as strongly the pressure from the employer or the negative emotions that certain practical situations could create (Pagán-Castaño et al., 2020). So, it focuses on positive relationships and a sense of belonging among employees. It includes initiatives such as team-building activities, social events, and mentoring programs. By prioritizing social wellbeing, organizations aim to strengthen interpersonal connections, improving teamwork and cohesion (Biggio & Cortese, 2013).

2.4. Financial Wellbeing

Financial stress is the main cause of stress in today's society, being able to have a decisive impact on the general wellbeing of an employee (Chakraborty & Mahanta, 2019). In an organisation that seeks greater financial performance, employees may experience increased levels of work intensification and job strain (Pagán-Castaño et al., 2020).

In this way, an organization should help the employee to manage this stress through various programs in order to achieve financial security. For example, stress management, such as budgeting, saving, investing and planning for future financial goals and emergencies could be effective ways of managing financial stress (Chakraborty & Mahanta, 2019).

2.5. Psychological Wellbeing

Psychological wellbeing necessarily involves the employee's mental health (Dollard & Bailey, 2021). Psychological wellbeing involves promoting an employee's purpose, autonomy and self-fulfillment at work (Weziak-Bialowolska et al., 2023). It includes initiatives such as career development opportunities, goal-setting workshops and mindfulness training. In this way, organizations aim to increase employee motivation, satisfaction and performance. A psychologically healthy workforce is not only more productive but also more innovative and engaged (Weziak-Bialowolska et al., 2023).

3. IMPLEMENTING THE WELLBEING MODEL

For the wellbeing model to be effective, it must be integrated into the organizational culture and supported by leadership (Bennett et al., 2017). Here (Table 1) are the key steps to successful implementation:

Table 1. Key steps to successful implementation of the model

1. Leadership Commitment	2. Assess Current Wellbeing Status	3. Implement the Wellbeing Model	4. Monitor and Evaluate
Objective: -Top management support and commitment to wellbeing initiatives	Objective: -Understand the current state of employee wellbeing and identify areas for improvement	Objective: -Implement a comprehensive wellbeing strategy aligned with organizational goals	Objective: -Continuously assess the effectiveness of wellbeing initiatives and make improvements
Actions: -Educate leaders on the importance and benefits of employee wellbeing -Allocate resources and budget for wellbeing programs	Actions: -Conduct employee surveys and focus groups -Analyze absenteeism and productivity data	Actions: -Develop policies that support Physical Wellbeing, Emotional Wellbeing, Social Wellbeing, Financial Wellbeing and Psychological Wellbeing	Actions: -Regularly review employee feedback -Adjust strategies and programs based on data and evolving employee needs

Source: Own processing

For organizations to successfully implement this comprehensive wellbeing model, it is essential to integrate these dimensions into every stage of policy development.

While implementing a wellbeing management model offers numerous benefits, organizations may also face challenges (Bennett et al., 2017). These could reflect resistance to change, budget constraints and a lack of understanding of wellbeing initiatives.

To overcome these challenges, organizations should promote a management based on communication between employer and employee, addressing the identified problems and explaining the necessity and benefits of implementing a wellbeing management. Moreover, the managers should allocate resources to prioritize wellness initiatives and they should also educate employees about the benefits of wellbeing programs to encourage participation (Treven et al., 2015).

4. FUTURE RESEARCH DIRECTIONS

Considering the fact that society is in a continuous evolution, organizations will have to adapt to some changes that this evolution implies, which will undoubtedly lead to the influence of wellbeing management. Current trends such as remote working, flexible working hours and the integration of technology into wellbeing initiatives are constantly changing the way organizations support their employees. For example, wellness apps and telehealth services are becoming increasingly popular, providing employees with convenient access to health resources (Poulsen & Ipsen, 2017).

Additionally, organizations recognize the importance of tailoring wellness programs to meet the diverse needs of the workforce (Treven et al., 2015). This includes considering factors such as age, cultural background and individual preferences when designing wellbeing initiatives.

5. CONCLUSION

In conclusion, the proposed wellbeing model provides organizations with a structured approach to improving employee health and satisfaction. By focusing on the five essential dimensions of wellbeing – physical, emotional, social, financial and psychological – organizations can create a workforce that is more engaged, more productive and more resilient to everyday stress (Goetzel et al., 2008).

The benefits of implementing such a model are multiple, with both parties benefiting from the implementation of it. Of course, organizations can benefit from integrating just some elements from the model, elements that they would consider suitable for their management. Organizations also need to find out if the programs are addressing the concerns of the employees (Chakraborty & Mahanta, 2019).

As organizations adopt modern wellbeing management practices, prioritizing this management will be crucial to a thriving work environment (Salas-Vallina et al., 2020).

References

Bennett, J., Weaver, J., Senft, M., & Neeper, M. (2017). Creating workplace well-being. In *The Handbook of Stress and Health: A Guide to Research and Practice* (pp. 570-604). https://doi.org/10.1002/9781118993811.ch35

Biggio, G., & Cortese, C. G. (2013). Well-being in the workplace through interaction between individual characteristics and organizational context. International Journal of Qualitative Studies on Health and Well-Being, 8(1). https://doi.org/10.3402/qhw.v8i0.19823

Chakraborty, A., & Mahanta, M. (2019). Employee wellbeing – Are organizations addressing it the correct way? *IRA-International Journal of Management & Social Sciences, 14*(2sp), https://doi.org/10.21013/jmss.v14.n2sp.p3

Chartered Institute of Personnel and Development. (2022). Health and wellbeing at work: Survey report April 2022. https://www.cipd.org/globalassets/media/comms/news/ahealth-wellbeing-work-report-2022_tcm18-108440.pdf

Dollard, M. F., & Bailey, T. (2021). Building psychosocial safety climate in turbulent times: The case of COVID-19. *Journal of Applied Psychology, 106*(7), 951–964. https://doi.org/10.1037/apl0000939

Fabius, R., & Phares, S. (2021). Companies that promote a culture of health, safety, and wellbeing outperform in the marketplace. *Journal of Occupational and Environmental Medicine, 63*(6), 456-461. https://doi.org/10.1097/JOM.0000000000002153

Goetzel, R., Ozminkowski, R., Bowen, J., Tabrizi, M., Weiss, A., Hohlbauch, M., Mummert, A., Baker, K., Short, M., DeJoy, D., Wilson, M., Roemer, E., Liss-Levinson, R., & Samoly, D. (2008). Employer integration of health promotion and health protection programs. *International Journal of Workplace Health Management*. https://doi.org/10.1108/17538350810893900

Hall, F., & Noonan, R. (2023). A qualitative study of how and why gym-based resistance training may benefit women's mental health and wellbeing. *Performance Enhancement and Health*. https://doi.org/10.1016/j.peh.2023.100254

Kowalski, T. H. P., & Loretto, W. (2017). Well-being and HRM in the changing workplace. *The International Journal of Human Resource Management, 28*(16), 2229–2255. https://doi.org/10.1080/09585192.2017.1345205

Laine, P., & Rinne, R. (2015). Developing wellbeing at work: Emerging dilemmas. *International Journal of Wellbeing, 5*(2), 91-108. https://doi.org/10.5502/ijw.v5i2.6

Lari, M. (2023). A longitudinal study on the impact of occupational health and safety practices on employee productivity. https://doi.org/10.2139/ssrn.4510772

Maamri, N., Rachid, C., Benidir, M., & Verzea, I. (2019). The assessment of the sound environment in the workplace: A lever for work quality and safety. https://doi.org/10.31926/RECENT.2019.57.005

Pagán-Castaño, E., Maseda-Moreno, A., & Santos-Rojo, C. (2020). Wellbeing in work environments. *Journal of Business Research, 115*, 469-474. https://doi.org/10.1016/j.jbusres.2019.12.007

Poulsen, S., & Ipsen, C. (2017). In times of change: How distance managers can ensure employees' wellbeing and organizational performance. *Safety Science, 100*(A), 37-45. https://doi.org/10.1016/j.ssci.2017.05.002

Salas-Vallina, A., Pozo, M., & Fernandez-Guerrero, R. (2020). New times for HRM? Well-being oriented management (WOM), harmonious work passion and innovative work behavior. *Employee Relations, 42*(3), 561-581. https://doi.org/10.1108/ER-04-2019-0185

Seligman, M. E. P. (2011). Flourish: A visionary new understanding of happiness and well-being. Free Press.

Treven, S., Treven, U., & Šarotar Žižek, S. (2015). Training programs for managing well-being in companies. *Naše gospodarstvo/Our Economy, 61*(4), 23-31. https://doi.org/10.1515/ngoe-2015-0015

Uribe Fiallega, A. S., Amin, N., Issa, D., & Dzandu, M. D. (2024). Exploring the effect of mindset on project manager wellbeing. *Procedia Computer Science, 239*, 1831-1838. https://doi.org/10.1016/j.procs.2024.06.364

Vakkayil, J., Della Torre, E., & Giangreco, A. (2017). "It's not how it looks!" Exploring managerial perspectives on employee wellbeing. *European Management Journal, 35*(4), 548-562. https://doi.org/10.1016/j.emj.2016.12.002

Weziak-Bialowolska, D., Lee, M. T., Cowden, R. G., Bialowolski, P., Chen, Y., VanderWeele, T. J., & McNeely, E. (2023). Psychological caring climate at work, mental health, well-being, and work-related outcomes: Evidence from a longitudinal study and health insurance data. Social Science & Medicine, 323. https://doi.org/10.1016/j.socscimed.2023.115841

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The Glass Ceiling Phenomenon in Medicine Analysis of the State of Human Resources of the Medical Profession in the Republic of Croatia*

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Statistical data of healthcare in the Republic of Croatia

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Abstract: *Human resources in medicine are becoming more and more numerous, it is a constantly growing sector that is strengthening qualitatively and quantitatively in Croatia. Medical women with completed post-graduate studies and with elections for scientific positions dominate to a decent degree, while the selection for higher scientific positions is dominated by men. Women in medicine dominate numerically, and in 5 out of a total of 61 hospital institutions, there are more doctors, but not in leading management positions. Currently, there are no female directors of clinical hospital centers and clinical hospitals as the largest hospital institutions in Croatia. When representatives are elected in professional chambers, male representatives dominate. Entrepreneurship in medicine is dominated by men, only in the field of general medical practice is it dominated by women. Analyzing the ratios of representation of women and men according to hierarchies in medicine, one gets the impression that there are equals among equals. The behavior pattern of the practice of deciding on promotion, decisions on entrepreneurship, and taking on management or representative roles are on the side of men. This paper aims to investigate the phenomenon of the glass ceiling in medicine in Croatia. The research methodology is a survey questionnaire and analysis of statistical data from reports in medicine. For additional data analysis, the Statistical Package for Social Sciences Analysis Older was used, which confirmed that older age groups of women express stronger feelings towards the existence of the glass ceiling. The contribution of the research is to provide insight into the analysis of human resources in medicine and management in healthcare organizations in Croatia.*

1. INTRODUCTION

Women have played a significant, although often neglected, role in medicine throughout history, while today they occupy a dominant part of human resources in healthcare. The number of women graduating from medical schools and doctoral studies is higher than the number of men, but men dominate in high management positions such as directors of health institutions and higher scientific positions. The glass ceiling means blocked opportunities for women's promotion and development, a lower proportion of women at management levels, the probability of advancement and differences in salaries (Bain & Cummings, 2000). Unfortunately, women themselves play a role in creating glass ceilings (Smith et al., 2012). Women are progressing in their careers, but the inequality in salaries and promotions still eludes them. They can see the top, but they cannot get to the top (Bashir et al., 2021). The glass ceiling literature attributes a 'class penalty' to working-class women against a background of historical exclusion from elite occupations (Friedman & Laurison, 2020). Women have made slight progress in influencing power in working life (Berry, 2010). Today's world needs women in higher management positions (Akkaya & Üstgörül, 2020). Female leaders make a positive contribution to

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organizations (Bektur & Arzova, 2022). Overcoming stereotypes means fighting the boys club network, balancing work and family, selecting mentors, understanding the queen bee syndrome, developing a leadership style, and determining personal aspirations for advancement (Baumgartner & Schneider, 2010). The introduction of quotas that promote the representation of women in management positions can be a temporary step towards long-term equality and this is what the law on companies from the Directive of the European Parliament and the Council (Directive, 2022/2381) aims to achieve.

2. RESEARCH METHODOLOGY

Data from reports, bulletins, and atlases of the Fine register were analyzed using statistical methods. The empirical part of the research was carried out during the spring of 2024 in such a way that requests for participation in the research were sent to the e-mail addresses of health institutions. In the research, for the purposes of quantitative data collection, a Google form survey questionnaire was used, and doctors were invited to fill out the survey. 408 respondents participated in the survey using the indirect method via electronic mail. The survey questionnaire consisted of questions in the general part in which demographic data were recorded (Table 1), a part of the survey consisting of a Likert scale with a total of 4 questions (Table 2) and an open question in which the examinees were invited to comment on their own observations of darkness, and 72 of them did so. Table 3 contains some selected comments from the respondents.

Table 1. Profile and characteristics of respondents of the survey part

		N	%
Gender	Male	0	0
	Feminine	408	100 %
	Else	0	0
Education level	Graduate study	374	92 %
	Doctorate	34	8 %
Age group	Less than 25	47	11 %
	26-35	45	11 %
	36-45	88	22 %
	46-55	131	32 %
	56-65	57	14 %
	More than 65	40	10 %
Health institution of employment	Clinical hospital centers	96	23 %
	General Hospital	62	15 %
	County Institute for Emergency Medicine	7	2 %
	Health center	80	19 %
	Clinical hospital	16	4 %
	Special hospital	34	8 %
	Polyclinic	17	4 %
	Private practice - doctor's office	13	3 %
	Special practice	7	2 %
	Clinic	14	3 %
	County Institute for Public Health	2	0 %
	Private practice - concessionaire	8	3 %
	Colleges of health care	3	2 %
	Spas	1	0 %
	Medical faculty	34	8 %
	The rest	17	4 %
Years of work service	Less than 5	47	12 %
	6-10	46	11 %
	11-25	180	44 %
	26-34	95	23 %
	More than 35	40	10 %

Source: Author's analysis

Table 2. Results of the Likert scale of the survey part of the research

Statement	1 - strongly disagree	2	3	4	5 - strongly agree
I believe that there is/feels like a glass ceiling phenomenon in the organization where I work	72 (17,7 %)	39 (9,6 %)	74 (18,2 %)	63 (15,5 %)	158 (38,9%)
I felt the glass ceiling phenomenon from the women in the organization where I work	73 (17,9 %)	41 (10,1 %)	70 (17,2 %)	68 (16,7%)	155 (38,1 %)
I felt the phenomenon of the glass ceiling from the men in the organization where I work	73 (18,1 %)	44 (10,9 %)	84 (20,8 %)	70 (17,3 %)	133 (32,9 %)
I believe that we are making progress as a society in terms of neutralizing gender differences	36 (8,9 %)	42 (10,4 %)	153 (37,8%)	76 (18,8%)	98 (24,2%)

Source: Author's analysis

Table 3. Selected comments from the interviewees

It is unfortunate that the phenomenon of the glass bell is felt by women in the work organization. I believe that the female population is a bigger problem than the male population, instead of being united to each other, we put up "barriers" so that some female colleagues would not be better than us or overshadow us. Especially this phenomenon comes from older colleagues. There is no more collegiality than competition, and in the end, the patient turns out.
Apparently, there is no glass ceiling, but in practice, it is very noticeable. Even more pronounced than a female boss, compared to a male boss.
I believe that nowadays, when the law protects women in the workplace, to claim that there is a glass ceiling phenomenon is an excuse and that women do not fight for themselves in the workplace, but expect someone else to fight for them. Women should be taught that if they are discriminated against on the basis of gender, they have to say it, sue and show it publicly, and not sit and whine in silence and resign themselves to their fate.
To a certain extent, this problem exists because women, by virtue of being women and mothers, are inevitably in a situation where they cannot dedicate a large part of their time to their careers, and the system is still not adapted to this (kindergartens that are close to the place of work and that also work afternoon, working from home to a certain extent, etc.).
A woman has to be far more successful than men in order to advance because it is considered that she cannot be good for more demanding roles at work in addition to other roles in life. If a woman sacrifices other life roles or does not want to have them (parenthood, marriage, etc.), she is considered more suitable for advancement. The same rule does not apply to men.
In the area where I work (higher education and clinical hospital center), the majority of employees are women, but the highest management positions are still mostly men. In the last ten years, there have been more visible changes on this front as well (deans, rectors, vice-deans, etc.), but only because these are actually underpaid positions. This does not necessarily apply to management positions (but those too!), but to initial positions from which one moves forward.
Men are provided with more options and opportunities than women.
I believe that a woman has to give much more of herself to work in order to be respected by male colleagues.
Croatia is still a "boys club".

Source: Author's analysis

The empirical part of the research concludes that the majority of respondents believe that there is/feels like a glass ceiling phenomenon in the organization where they work and that it is promoted by male colleagues as well as by women themselves. The largest percentage of respondents generally believe that we are making progress as a society in terms of neutralizing gender differences. The comments shown in Table 3 support the responses and provide context to the Likert scale responses.

3. RESULTS

Statistical Package for Social Sciences Analysis was used for further data analysis. In order to determine the possible existence of differences in relation to the stated claims, a one-way analysis of variance was performed. Before carrying out the analysis of variance itself, a test of homogeneity of variances (Levene's test) was carried out and the variances were found to be homogeneous. The distribution of the results is also normal, which fulfills the assumptions for the implementation of the analysis of variance. Analysis of variance showed that there is a statistically significant difference between age groups in all tested statements ($p < 0.01$). Post-hoc Tukey HSD test was used to test differences between individual groups.

The statement about the glass ceiling phenomenon in the organization establishes a difference between age groups 0 and 3 ($p < 0.01$), as well as between groups 0 and 5 ($p < 0.01$), which suggests that older age groups feel the glass ceiling phenomenon more than younger groups.

I believe that there is/feels like a glass ceiling phenomenon in the organization where I work	0 i 3 ($p < 0.01$)	0 i 5 ($p < 0.01$)

Source: Author's analysis from SPSS

The statement "I felt the glass ceiling phenomenon from women," establishes a difference between group 0 and groups 3 and 5 ($p < 0.01$), which means that older age groups believe that women are exposed to the glass ceiling phenomenon more than younger groups.

I believe that there is/feels like a glass ceiling phenomenon in the organization where I work	0 ($p < 0.01$)	3 i 5 ($p <0.01$)

Source: Author's analysis from SPSS

The statement "I felt the glass ceiling phenomenon from men" establishes a difference between groups 0 and 3 ($p < 0.05$) and 5 ($p < 0.01$), as well as between groups 1 and 5 ($p < 0.01$). Older age groups express stronger feelings about the existence of a glass ceiling caused by men.

I felt the phenomenon of the glass ceiling from the men in the organization where I work	0 i 3 ($p < 0.05$)	5 ($p < 0.01$)

Source: Author's analysis from SPSS

The statement of progress in neutralizing gender differences, establishes differences between groups 1 and 5 ($p < 0.01$), as well as between groups 3 and 5 ($p < 0.01$), suggesting that older age groups are less likely to believe that there is progress in neutralizing gender differences in comparison with younger groups.

I believe that we are making progress as a society in terms of neutralizing gender differences	1 i 5 ($p < 0.01$)	3 i 5 ($p < 0.01$)

Source: Author's analysis from SPSS

4. DEMOGRAPHICS AND GENDER DISTRIBUTION OF DOCTORS IN CROATIA

The number of doctors in Croatia in 2023 is 16,399, of which 64% are female doctors (Table 4). The average age is 45 (Table 5). 14,742 or 89.9% of doctors are employed in the public sector, while 1,657 or 10.1% of doctors are employed in the private sector. The number of doctors by type of institution: in clinical hospital, centers is 4,117, general hospitals 3,339, health centers 2,289, private practice - surgeries 1,529, clinical hospitals 1,079, polyclinics 748, special hospitals 721, county institutes for emergency medicine 714, county public health institutes 519, clinics 473, health care institutions 174, spas 13. The number of specialists is 10,865, of which 61% are women, and the number of residents is 3,333, of which 68% are women. Women in medicine dominate and are more inclined to lifelong education, and there are more women PhDs in the field of biomedicine and healthcare. In 2024, there were 56%, i.e. 530 female doctors, and 44%, i.e. 422 doctors of medicine, in the field of biomedicine and healthcare. Female PhDs and assistants are numerous, while 53% of 186 are male assistant professors and 47% of 164 female assistant professors, and we conclude that they stay longer at lower scientific levels because they devote themselves to other life roles during that period of life. There are more men than extraordinary, full-time professors, full-time professors in permanent selection and academics. Currently, 2 women and 15 men in the class for medical sciences are regular members, while there are 8 men and 3 women in associate status.

Table 4. Presentation of the gender structure of doctors of medicine by age

	2019		2020		2021		2022		2023	
	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men
In total	9 689	5 629	9 779	5 638	9 957	5 750	10 092	5 771	10 479	5 895
Doctors of medicine	1 589	682	1 528	637	1 495	624	1 392	599	1749	823
Resident	2 047	958	2 058	987	2 076	981	2 199	1 058	2117	1006
Specialists	5 976	3 934	5 975	3 919	6 159	4 051	6 284	4 007	6 515	4 164

Source: The author's analysis according to data from the Croatian Institute of Public Health (n.d.)

Table 5. Ratio of representation of female doctors by age

Year of age	% of women	Year of age	% of women
up to 30	65 %	**50-54**	68 %
30-34	66%	**54-59**	66 %
35-39	67 %	**60-64**	57 %
40-44	66 %	**65+**	54 %
45-49	63 %		

Source: Author's analysis based on data from the Croatian Medical Chamber (2024)

5. GENDER DISTRIBUTION AND EMPLOYMENT TRENDS IN THE CROATIAN HOSPITAL SYSTEM

The hospital system records an increase in the number of employees. The hospital system is dominated by women doctors: in clinical hospital centers there are about 51%-58% women, in clinics about 63-68%, the exception is the Lovran Orthopedic Clinic 29% women and in clinical hospitals about 53%-57% (Tables 6, 7 and 8). Hospitals where there are more male doctors are: Lovran Orthopedic Clinic, Ogulin General Hospital, Virovitica General Hospital, OiR Hospital "Prim.dr.Martin Horvat" Rovinj, Special Orthopedic Hospital, Biograd, which also results from the ratio of representation of female specialists by branch medicine. General hospitals, a total of 22 of them, all record an increase in the number of employees, and the ratio of representation of female doctors is around 51% - 65%, Pula General Hospital has as many as 66% female doctors

(Table 9). Special hospitals dominated by women in the largest proportion are Lipik Special Hospital 83% and Lopača Hospital 80% female doctors (Table 10), while Bizovačke Toplice Spa has 100% female doctors (Table 11). Likewise, the number of women in specialization dominates.

Table 6. Analysis of the number of doctors in KBCs (year 2024)

	Total number of employees	Number of doctors	Number of female doctors	Share of female doctors	Share of female residents	Average age
KBC Zagreb	5 858	1 204	699	58 %	57 %	43
KBC *Sestra Milosrdnice*	3 910	777	443	57 %	56 %	43
KBC Rijeka	3 459	658	401	61 %	56 %	42
KBC Split	3 897	892	500	56 %	51 %	43
KBC Osijek	2 861	592	350	59 %	58 %	43

Source: Author's analysis according to data from Fina (n.d.) and Croatian Medical Chamber (2024)

Table 7. Analysis of the number of doctors in clinics (year 2024)

	Total number of employees	Number of doctors	Number of female doctors	Share of female doctors	Share of female residents	Average age
Clinic for Children's Diseases ZG	753	132	90	68 %	67 %	45
Clinic for Infectious Diseases "Dr. Fran Mihaljević" ZG	745	115	73	63 %	59 %	44
Orthopedics Clinic Lovran	150	34	10	29 %	30 %	46
Vrapče Psychiatry Clinic, ZG	687	79	50	63 %	62 %	46

Source: Author's analysis according to data from Fina (n.d.) and Croatian Medical Chamber (2024)

Table 8. Analysis of the number of doctors in clinical hospitals (year 2024)

	Total number of employees	Number of doctors	Number of female doctors	Share of female doctors	Share of female residents	Average age
Clinical hospital "Dubrava" ZG	2208	485	257	53 %	49 %	42
Clinical hospital "Merkur" ZG	1264	278	147	53 %	50 %	43
Clinical hospital "Sveti Duh" ZG	1617	318	182	57 %	56 %	42

Source: Author's analysis according to data from Fina (n.d.) and Croatian Medical Chamber (2024)

Table 9. Analysis of the number of doctors in general hospitals (year 2024)

	Total number of employees	Number of doctors	Number of female doctors	Share of female doctors	Share of female residents	Average age
Hospital "Dr. Ivo Pedišić" Sisak	819	197	128	65 %	59 %	44
Hospital "Dr Anđelko Višić" Bjelovar	811	143	87	62 %	61 %	42
Čakovec Hospital	928	194	109	56 %	55 %	41
Dubrovnik Hospital	970	184	98	53 %	46 %	45
Gospić Hospital	246	40	23	58 %	56 %	50
Karlovac Hospital	964	180	109	61 %	61 %	43
Veteran Hospital "Hrvatski Ponos" Knin	284	40	23	63 %	58 %	51
Hospital "Dr. Tomislav Bardek" Koprivnica	839	163	90	57 %	55 %	43
Našice Hospital	454	74	42	65 %	57 %	44

Nova Gradiška Hospital	429	65	34	54 %	52 %	44
Ogulin Hospital	319	41	18	46 %	45 %	53
Pakrac Hospital	297					
Požega Hospital	603	117	56	51 %	48 %	45
Pula Hospital	1322	280	151	66 %	65 %	45
Hospital "Dr. Josip Benčević" Slavonski Brod	1188	274	162	59 %	59 %	43
Šibenik Hospital	1048	228	125	62 %	55 %	45
Varaždin Hospital	1860	300	171	61 %	57 %	41
Virovitica Hospital	1068	104	46	47 %	44 %	41
Vinkovci Hospital	701	164	93	62 %	57 %	45
Vukovar Hospital	709	136	75	57 %	55 %	43
Zabok Hospital	551	157	74	56 %	47 %	42 %
Zadar Hospital	1271	267	142	58 %	53 %	43

Source: Author's analysis according to data from Fina (n.d.) and Croatian Medical Chamber (2024)

Table 10. Analysis of the number of doctors in special hospitals

	Total number of employees	Number of doctors	Number of female doctors	Share of female doctors	Share of female residents	Average age
Biokovka	175	6	3	50 %	no residents	54
Lopača Hospital	86	5	4	80 %	no residents	54
OiR Hospital "Prim. dr. Martin Horvat" Rovinj	109	11	3	27 %	no residents	52
Daruvar spa	233	7	4	57 %	75 %	42
Srebrljak Children's Hospital	222	51	39	75 %	70 %	47
Children's Psychiatric Hospital	87	19	14	74 %	69 %	54
Naphthalan	136	13	9	69 %	54 %	47
Dr. Ivan Barbot Popovača Neuropsychiatric Hospital	456	64	45	69 %	72 %	46
Psychiatric Hospital Rab	247	25	16	64 %	67 %	45
Psychiatric Hospital Ugljan	266	18	12	67 %	60 %	49
Special hospital Duga resa	159	17	13	76 %	67 %	47
Specijalna bolnica Krapinske Toplice	747	59	40	64 %	58 %	44
Lipik Special Hospital	194	12	10	83 %	78 %	48
Stubičke Toplice Special Hospital	156	15	8	53 %	45 %	48
Special Hospital Sveti Rafael Strmac	99	7	6	76 %	76 %	47
Varaždinske Toplice Special Hospital	590	39	30	77 %	74 %	41
Special hospital for chronic childhood diseases, Gornja Bistra	99	7	5	71 %	33 %	39
Kalos Special Hospital for Medical Rehabilitation	137	9	7	78 %	100 %	43
Special Hospital for Orthopedics, Biograd	212	31	11	35 %	39 %	47
Special Hospital for Lung Diseases, Rockefeller	158	25	18	72 %	74 %	42
Special hospital for the protection of children with neurodevelopmental and motor disabilities	206	13	10	77 %	no residents	57
Thalassotherapia – Crikvenica special hospital for medical rehabilitation of the Primorje-Gorski Kotar County	165	16	9	53 %	50%	50
Thalassotherapia Special hospital for medical rehabilitation of heart, lung and rheumatism	246	43	28	65 %	67 %	46

Source: Author's analysis according to data from Fina (n.d.) and Croatian Medical Chamber (2024)

Table 11. Analysis of the number of doctors in spas

	Total number of employees	Number of doctors	Number of female doctors	Share of female doctors	Share of female residents	Average age
Bizovačke Toplice spa	45	2	2	100 %	no residents	65
Spa Topusko	65	6	4	67 %	50 %	49
Veli Lošinj spa	44	4	3	75 %	no residents	49

Source: Author's analysis according to data from Fina (n.d.) and Croatian Medical Chamber (2024)

6. WOMEN IN MANAGEMENT IN THE HOSPITAL SYSTEM

Currently, there are 2 female clinic directors: Clinic for Infectious Diseases *Dr. Fran Mihaljević* and the Vrapče Psychiatry Clinic, while the directors of 5 KBC, 3 clinical hospitals and 5 clinics are men, a total of 11 directors, 8 deputy directors and 5 deputy directors, 18 assistant directors and 31 assistant directors. Of the 22 general hospitals, 6 are female directors in: General Hospital Gospić, General Hospital Pakrac, General Hospital "Dr Anđelko Višić" Bjelovar, General Hospital Karlovac, General Hospital Pula, General and Veterans Hospital "Hrvatski ponos" Knin. General hospitals in Karlovac and Pakrac have all women in management positions: director, deputy director and assistant director. In 22 general hospitals, there are 40 female assistants and 18 assistant directors, where predominantly women are assistants for nursing, finance and legal affairs, while men are more often assistants for quality. In 23 special hospitals, there are 13 directors and 10 directors, along with 10 deputies and 10 deputies and 30 female assistants and 19 assistant directors. In a total of 3 spas, there is one female director, a total of 2 deputy and 3 assistant directors. In 11 private hospitals, there are 9 directors and 2 directors (Table 12).

Table 12. Presentation of gender structure in management positions in hospitals

	Principal Deputy		Principal Assistant		Principals	
	Female	Male	Female	Male	Female	Male
5 KBC	0	5	1	4	12	7
3 Clinical hospitals	0	3	1	2	8	5
5 Clinic	2	3	3	2	11	6
22 General hospitals	6	16	8	14	40	18
23 Special hospitals	10	13	10	10	30	19
11 Private hospital specialties	2	9	0	0	0	0
3 Spas	1	2	2	0	3	0
2 Private spas	2	0	0	0	0	0

Source: Analysis by the author (January, 2024)

Doctors join together in the medical chamber as the main professional association and elect their representatives at the county level. Representatives of the medical chamber make up 63% of 18 commissioners and 14% of 3 female commissioners in addition to the main male president and deputy president of the chamber (Table 13).

Table 13. Presentation of the gender structure of commissioners and representatives in the Croatian Medical Chamber

	Croatia medical chamber	
	Male	Female
The main president of the chamber	1	
Chamber deputy	1	
County commissions		
In total	18	3

Source: Analysis by the author (January, 2024)

7. WOMEN ENTREPRENEURS IN MEDICINE

Women's entrepreneurship refers to business activities initiated and led by women. Entrepreneurship provides women with the opportunity for economic independence and personal development, while the inclusion of women in entrepreneurship brings different perspectives and experiences, creating new jobs and innovations. Women entrepreneurs in medicine face challenges such as raising capital, gender bias, and balancing work and personal life. When entrepreneurship in medicine is analyzed in 2022, a total of 41% of women, 50% of men and 9% of mixed registrations are registered as responsible persons in the register of Fina (Table 14). When the same entities are analyzed according to the actual owner in the medical practice and hospital business, 16% of business entities have no registered owner, 30% are women, 40% are men and 13% have mixed ownership (Table 15). It is clear that the owners and responsible persons of business entities are dominated by men, only in the field of general medical practice are women predominant. Supporting women's entrepreneurship is not only a question of equality, but also crucial for overall economic and social development. Encouraging female entrepreneurs in medicine has long-term positive effects by contributing to the development of innovative solutions and better health services.

Table 14. Entrepreneurs in medical activities, division by responsible person registered in the Fine register (2022)

Responsible person (registered in the fina register)	Women	Men	Mixed
Activity of specialist medical practice	341	420	72
Activity of dental practice	194	244	55
Activity of general medical practice	60	35	7
Activity of hospitals	1	7	1

Source: Author's analysis according to data from Fina (n.d.)

Table 15. Entrepreneurs in medical activities, division by actual owner (2022)

Beneficial owner	No registered owner	Women	Men	Mixed
Activity of specialist medical practice	62	268	356	116
Activity of dental practice	113	136	191	65
Activity of general medical practice	55	24	18	5
Activity of hospitals	0	0	6	3

Source: Author's analysis according to data from Fina (n.d.)

Despite the large number, achievements in career development and scientific and professional titles of women in medicine, the fact is that they earn less than their male colleagues (Table 16). The reason for this is that men dominate management positions in healthcare institutions and there are more of them in the scientific titles of assistant professor, associate and full professor, as well as academics.

Table 16. Average monthly net salary of employees in health care and social welfare activities and salary ratios by gender (in kuna, HRK)

	In total net salary	Women net salary	Men net salary	Share of women's salaries in men's salaries
2004.	4 762 HRK	4 494 HRK	5 600 HRK	The share of women's wages in men's wages 80,3
2015.	6 125 HRK	5 127 HRK	7 593 HRK	The share of women's wages in men's wages 75,3
2020.	7 876 HRK	7 354 HRK	9 524 HRK	The share of women's wages in men's wages 77,2

Source: Author's analysis according to data from State Statistical Office of the Republic of Croatia (2024)

8. CONCLUSION

Increasing awareness of the importance of gender equality plays a key role in the transformation of social norms. Women in medicine have great potential for growth and change in leadership aspects. Increased participation of women in management positions means strengthening the gender perspective. Although the number of women in medicine dominates, gender bias is present, which is confirmed by this research. Women lag behind in terms of salaries, career advancement and recognition from the environment. Supporting women in entrepreneurship in medicine is a reflection of women's empowerment and at the same time contributes to better health care. The fight against bias is important for further progress, therefore supporting women in medicine through education, mentoring and equal opportunities is key. A medical system in which female doctors are valued, rewarded and recognized in the same way as their male counterparts reflects the diversity and richness of talent.

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References

Akkaya, B., & Üstgörül, S. (2020). Leadership styles and female managers in perspective of agile leadership, in: Agile Business Leadership Methods for Industry 4.0, *Emerald Publishing Limited, Leeds* (pp. 121-137).

Bain, O., & Cummings, W. (2000). Academe's glass ceiling: Societal, professional-organizational, and institutional barriers to the career advancement of academic women. *Comparative Education Review 44 (4),* (pp. 493–514).

Bashir, B., Khan, M., & Mir, F. A. (2021). Technological awareness and glass ceiling among women professionals. *International Journal of Indian Culture and Business Management 23(3)*, (pp. 364-382).

Baumgartner, M. S., & Schneider, D. E. (2010). Perceptions of Women in Management: A Thematic Analysis of Razing the Glass Ceiling, *Journal of Career Development, 37(2),* (pp. 559-576).

Bektur, Ç., & Arzova, S. B. (2022). The effect of women managers in the board of directors of companies on the integrated reporting: example of Istanbul Stock Exchange (ISE) Sustainability Index, *Journal of Sustainable Finance & Investment 12(2),* (pp. 638-654).

Berry, P. (2010). Women in The World of Corporate Business: Looking At The Glass Ceiling, companies on the integrated reporting: example of Istanbul Stock Exchange (ISE). *Contemporary Issues In Education Research 3(2*), (pp. 1-10).

Croatian Institute of Public Health. (n.d.). Croatian Health and Statistical Yearbook by year. https://www.hzjz.hr/hrvatski-zdravstveno-statisticki-ljetopis/

Croatian Medical Chamber. (2024). Medical Atlas. https://www.hlk.hr/digitalni-atlas-hrvatskog-lijecnistva.aspx

Directive 2022/2381, Companies Act, https://narodne--novine-nn-hr.translate.goog/clanci/sluzbeni/2022_03_34_398.html?_x_tr_sl=hr&_x_tr_tl=en&_x_tr_hl=en&_x_tr_pto=sc

Fina. (n.d.). https://infobiz.fina.hr/

Friedman, S., & Laurison, D. (2020). The Class Ceiling: Why it Pays to be Privileged. *Policy Press & Bristol University Press.*

Smith, P., Caputi, P., & Crittenden, N. (2012). A maze of metaphors around glass ceilings. *Gender in Management 27 (7)*, (pp. 436-448).

State Statistical Office of the Republic of Croatia. (2024). Women and men in Croatia. https://ravnopravnost.gov.hr/istaknute-teme-12/zene-i-muskarci-statistika/3453

https://doi.org/10.31410/ERAZ.2024.397

Sustainable Development of Marketing in SMEs in Bulgaria and the EU

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Abstract: *The article is devoted to the role of marketing and its sustainable development in small and medium-sized businesses in modern economic conditions. The purpose of the article is to examine and evaluate the process of marketing management in small and medium-sized enterprises, to determine the potential of the marketing processes of these economic entities and to assess the degree of influence of their activity on the economic situation. Looking at the main objectives of SME sustainability marketing and ways to promote business more cheaply. The role of marketing in small and medium-sized companies is the basis of the market economy, and the modern challenges to marketing and sustainable development are related to many problems that significantly complicate their activities. These problems and taking preventive measures are discussed in the article.*

1. INTRODUCTION

Marketing is a system of practices for discovering what customers need and then communicating how the company can satisfy the identified needs. Advertising, social media and product packaging design are also part of marketing. Sales analytics and the response database are aimed at understanding customer likes and searches so that messages found can be adjusted. Marketing is a set of activities to promote and sell products or services, including market research and advertising. Marketing management is the process by which goods and services move from concept to customers. Thus, sustainable development and marketing management are parts of business management. Achieving the main goals of any business depends entirely on the type and style of marketing for sustainable development carried out by the business organization (Kotler et al., 2021). In this sense, marketing management is the process of formulating strategies and plans for products, services, advertising, promotion and sales to consumers. Where marketing is based on thinking about business from the perspective of customer needs and satisfaction.

Marketing differs from selling because selling deals with the tricks and techniques of getting people to exchange their money for your product, but not with the values they exchange, as stated by Kotler et al. (2021).

Fuciu and Dumitrescu (2018), emphasize in their work, that marketing orientation is a database concept aimed at the sustainable development of the business organization. This is perhaps the most common

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orientation used in modern marketing—a customer-centric approach that involves a company basing its marketing program on products that meet new consumer tastes. Businesses that adopt a marketing orientation typically engage in extensive market research to gauge consumer wants, use research and development, develop a product following the information revealed, and then use promotion techniques to ensure that consumers are aware of the existence of the product and the benefits it can deliver.

Erragcha and Rabia Romdhane (2014) emphasize the "marketing researcher", who uses statistical methods (such as quantitative research, qualitative research, hypothesis tests, chi-square tests, linear regression, correlation coefficient, frequency distributions, Poisson and binomial distributions, etc.) to interpret their findings and to convert data into information.

2. MODERN CHALLENGES TO MARKETING

Market concepts bring the marketing concept full circle. Marketing means human activities carried out concerning markets. Marketing means dealing with markets to actualize potential exchanges to satisfy human needs and wants. If one party is more actively looking for an exchange than the other, the former is called a marketer and the latter a potential customer. A marketer is someone who seeks a resource from another and is willing to offer something of value in return. The marketer looks for an answer from the other side, either to sell something or to buy something. A marketer can be a seller or a buyer. In the case, for example, that several people want to buy an attractive house that has just become vacant, each buyer will try to promote himself as the seller's choice. These buyers do the marketing. If both parties actively seek exchange, both are considered to be traders and the situation becomes an example of reciprocal marketing. In the study by Bertello et al. (2021), the marketer is generally viewed as a company serving a market of end users in the face of competitors. Where the company and competitors send their respective products and messages directly and/or through marketing intermediaries to end users.

Marketing management occurs when at least one party is in a potential exchange, taking into account the goals and means of achieving desired responses from other parties. According to the American Marketing Association, "Marketing management is the process of planning and executing the conception, pricing, promotion, and distribution of ideas, goods, and services to create exchanges that satisfy individual and organizational goals." (Kotler, 2024).

This definition recognizes that marketing management is a process involving analysis, planning, execution and control; Covers ideas, goods and services; It is based on the concept of exchange and the aim is to create satisfaction for the parties involved.

Marketing boasts a rich set of concepts and tools to help marketers deal with the decisions they need to make. A distinction can be made between a social and a managerial definition of marketing. According to Ivanova-Kadiri (2022), in a social definition, marketing is a social process by which individuals and groups obtain what they need and want by creating, offering, and exchanging products and services of value freely with others. The above leads to the presentation of some of the main contemporary challenges facing marketing, shown in Figure 1.

As a management definition, marketing is often described as the art of selling products, but many authors emphasize that the purpose of marketing is to make selling redundant. The goal of marketing is to know and understand the customer so well that the product or service fits them and sells itself. According to Drucker and Cohen (2007) " Ideally, marketing should lead to a customer who is ready to buy" .

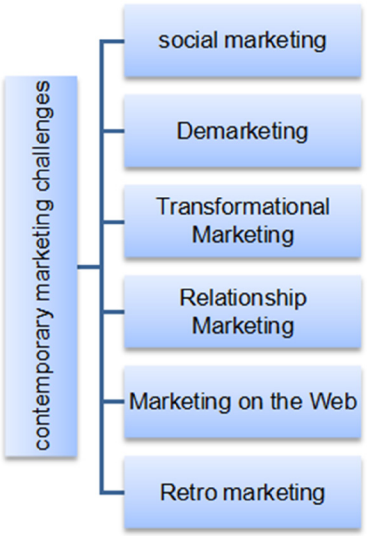


Figure 1. Identifying the modern challenges of marketing
Source: Own processing

3. THE MODERN CHALLENGES AND PROBLEMS OF MARKETING IN BULGARIA AND THE EUROPEAN UNION (EU)

Challenges of marketing in SMEs in Bulgaria and the EU include various aspects that are related both to the general trends in marketing and to the specific characteristics of the region. The goal is the search for sustainable development of the business organization. Some of the major challenges include various aspects related to the rapidly changing business environment, technological innovation, and social trends, etc. Figure 2 presents some of the main challenges of marketing in SMEs in Bulgaria and the EU.

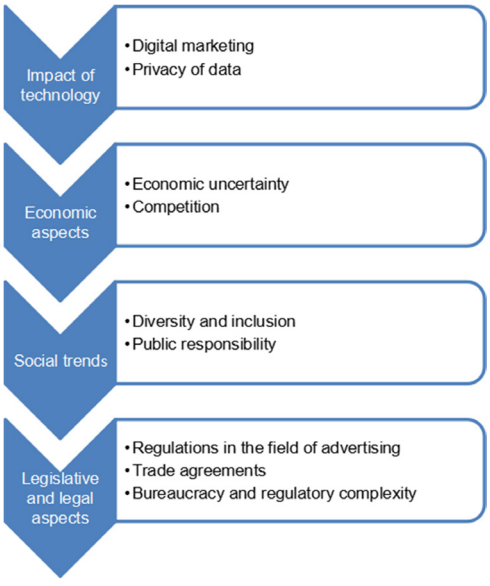


Figure 2. Modern challenges and problems of Marketing in Bulgaria and the EU
Source: Own processing

Based on these challenges, **some of the main specificities and regularities of the modern marketin**g of small and medium-sized enterprises (SMEs) in Bulgaria and the European Union (EU) can be summarized, as shown in Table 1.

Table 1. Specificities of modern marketing of small and medium-sized enterprises (SMEs) in Bulgaria and the European Union (EU)

Digital Marketing and Online Presence:	Small and medium-sized businesses are increasingly moving to digital marketing and relying on an online presence to reach consumers. Websites, social networks and online advertising are becoming more and more important.
Social Networks and Influence:	The use of social networks for advertising and customer interaction is increasing. Influencer marketing strategies are becoming popular, especially with young audiences.
Personalized Marketing:	Personalized marketing is becoming a key tool. SMEs use consumer data to personalize messages and increase engagement.
Environmental and social responsibility:	Consumers gravitate toward brands that demonstrate social and environmental responsibility. SMEs that integrate these values into their marketing can create a stronger relationship with customers.
Mobile apps and search:	Mobile technology continues to grow. The optimization of websites for mobile devices and the use of mobile applications are becoming increasingly important to reach the target audience.
Data analytics and artificial intelligence:	The introduction of data analysis and artificial intelligence in marketing strategies allows for more effective targeting of users, prediction of trends and optimization of advertising campaigns.
Using local resources:	In the context of Bulgaria and the EU, SMEs that actively use local resources and cultural features in their marketing can enjoy greater success.
Support from the EU and national programs:	SMEs can benefit from various programs and financial instruments provided by the EU and national authorities to stimulate innovation and development in the field of marketing.

Source: Own research

However, it should be noted that these findings may change over time due to changing technological, economic and societal conditions.

All these aspects impose the need for constant adaptation and innovation in marketing strategies to achieve successful communication with stakeholders and build a successful brand in the respective markets. To overcome these challenges and achieve sustainability in their development," Businesses must be innovative, invest in technology and staff training, and develop strategies that reflect the unique characteristics of their business and target audience " (Challagalla et al., 2014).

Small and medium-sized enterprises (SMEs) play a key role in the economy of Bulgaria and the European Union, providing innovation, employment, and stability. They have their specific similarities and differences, also expressed in marketing for their development sustainability. These enterprises face various challenges in the dynamic marketing environment, related to modern trends and challenges that arise in the marketing efforts of SMEs in Bulgaria and the EU. These similarities and differences are presented in the table.2 by evaluating several aspects.

After analyzing these factors, it can be concluded that SMEs in the European Union generally have greater marketing capabilities and resources, as well as wider market opportunities. Bulgarian SMEs, for their part, often have to focus on more local and specific strategies, but can also benefit from lower operating costs.

For successful marketing in both environments, it is important for SMEs to develop strategies that meet their specific needs and capabilities and to follow marketing trends both nationally and internationally. Marketing in SMEs in Bulgaria and the EU develops in the context of the specific structures, economic conditions and legal frameworks of each area. Awareness of these differences

and similarities is essential to building effective marketing strategies for businesses in these two environments to sustain their growth. Marketing in small and medium-sized enterprises (SMEs) in Bulgaria and the European Union (EU) obeys the general principles of marketing, but there are also differences due to differences in the business environment, regulations and culture. It is important to note that these differences and similarities are not universal and there may be exceptions depending on individual cases.

Table 2. Similarities and differences in marketing in SMEs in Bulgaria and the EU

Marketing budget:	SMPs in the European Union have greater financial opportunities for investment in marketing compared to Bulgarian SMPs. This usually means that EU SMP marketing can include a wider range of activities, such as advertising, PR, digital marketing and more.
Digital Marketing:	In the EU, SMPs have a greater online presence and are actively using social media, e-commerce and online advertising. In Bulgaria, the possibilities for digital marketing of SMP are developing, but they are not yet at the level of developed European markets.
Marketing Strategies:	Bulgarian SMPs often face limited resources and can focus their marketing on more specific strategies, such as local marketing and targeting a smaller number of customers. In the EU, SMPs can afford to develop broader and more ambitious strategies.
Regulations and Legislation:	The European Union has strict laws and regulations related to the protection of personal data of customers (GDPR) and advertising. Bulgarian SMPs must comply with these rules, which may increase their compliance costs.
Competitive advantage:	EU SMEs can benefit from a greater competitive advantage, including wider market opportunities and access to larger customer bases. Compared to them, the Bulgarian SMPs may face stronger competition at the local level.
Innovations and technologies:	The EU is often a leader in innovation and technological development, leading to more advanced marketing solutions. Bulgarian SMPs may encounter difficulties in accessing these innovations due to limited resources.

Source: Own research

Small and medium-sized enterprises (SMEs) must adopt innovative and adaptive approaches in their marketing to achieve better results and sustainability in today's business environment. Small and medium-sized enterprises (SMEs) can take many measures and changes in their modern marketing to achieve better results. All these measures must be adapted to the specific conditions and objectives of each SME, bearing in mind that marketing strategies are dynamic and require constant adaptation to changes in the environment and consumer preferences. These measures and changes must be adapted to the specific characteristics and needs of each SME. Vassileva (2017) examines many measures that Small and medium-sized enterprises (SMEs) can take in their marketing. Table 3 presents some of the main and applicable strategies and measures to achieve better results.

The key to successful marketing is for SMEs to be flexible, to follow market trends and innovations. As indicated by Foreman (2023), every business is different, so it's important to consider which strategy is best for the specific case. Combining several of these measures can help SMEs achieve better marketing results.

These measures are an example of possible approaches and SMEs need to consider which are most suitable for their specificities and objectives. As noted by Vassileva (2017), continuous market research, analysis of results and flexibility in the implementation of strategies are the keys to successful marketing for sustainable development in the realities of modern business.

Table 3. Strategies and adaptive approaches of marketing in SMEs

Digital marketing:	**Website and Search Engine Optimization (SEO)**: Creating a professional website and optimizing it for search engines is a key step in attracting an online audience. **Social Media:** An active social media presence can help increase visibility and customer engagement
Content marketing:	**Creating quality content:** The development of valuable and relevant content that attracts and retains the attention of the target audience. **Blogging:** Posting a regular blog with up-to-date information can increase brand authority.
E-commerce:	**Online store:** If possible, create an online store to sell goods and services. **Electronic payments:** Providing convenient payment methods can make it easier for customers and increase conversion.
Local marketing:	**Local SEO:** Optimizing your website for local search, especially if your business targets a specific geographic region. **Collaborating with local businesses:** Partnerships with other local businesses can be mutually beneficial.
Analysis and metrics:	**Use of analytical tools:** For example, Google Analytics, to monitor the effectiveness of marketing campaigns and understand customer behavior. **Customer Feedback:** Actively seeking customer feedback and using this information to continually improve your products and services.
Personalized Marketing:	**Audience Segmentation:** Divide your customers into different segments and target your marketing efforts to their preferences. **Personalized campaigns:** Send personalized messages and offers to customers who are more likely to respond.
Staff training and development:	**Marketing training:** Investing in staff training and development to ensure they understand the latest trends and technologies in marketing.
Corporate social responsibility:	**Community Involvement:** Being actively involved in community and charitable initiatives can improve brand reputation and attract customer loyalty.
Competitive Research:	**Competitive Analysis:** Ongoing competitor research can provide valuable guidance on how to differentiate yourself in the marketplace.
Innovations and technologies:	**Integration of new technologies:** Implementation of innovative solutions, such as using artificial intelligence to personalize marketing campaigns.

Source: Own processing

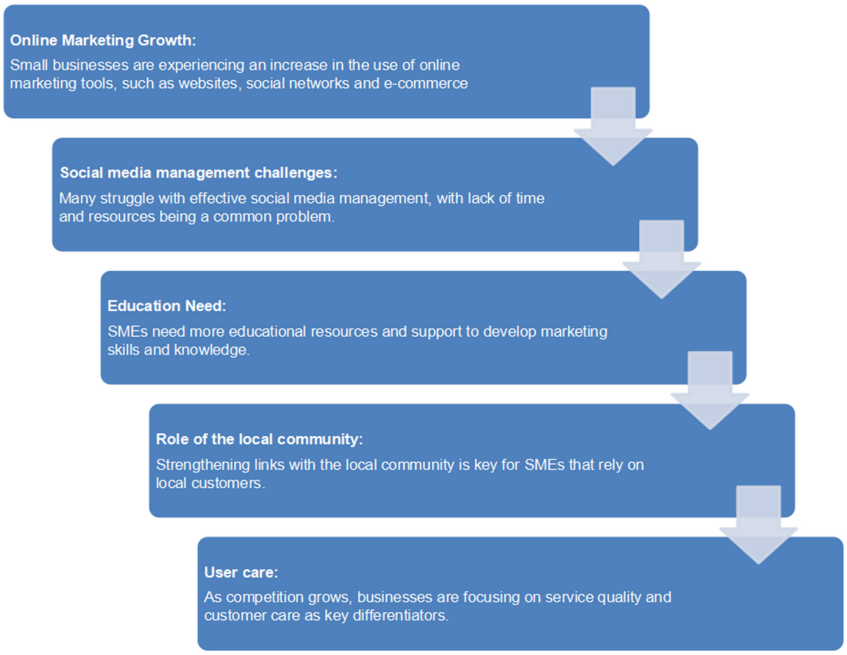


Figure 3. Sustainable development of marketing in SMEs in Bulgaria and the EU

Source: Own processing

4. SUSTAINABLE DEVELOPMENT OF MARKETING IN SMES IN BULGARIA AND THE EU

Marketing in SMEs in Bulgaria and the EU share some basic principles, but differences in business environment and culture require unique approaches to achieve success. The key to successful marketing strategies includes adaptation to the specifics of the respective market, attention to legal regulations and understanding of consumer preferences. As a result, a series of measures can be identified that help sustainable growth in SMEs. As part of these measures for sustainable growth of marketing in SMEs, Bulgaria and the EU are shown in Figure 3.

5. CONCLUSION

Modern marketing in SMEs in Bulgaria and the EU is strongly influenced by digital technologies, local focus and the need for effective strategies for serving target groups. Education and support from government and industry are essential to foster sustainable growth in this sector.

The modern challenges facing the marketing of SMEs in Bulgaria and the EU impose the need for innovation, flexibility and strategies aimed at meeting the needs of the changing market environment. The development of digital skills, efficient use of resources and adaptation to changes in consumer preferences are key to the sustainable development and success of SMEs in an increasingly competitive business environment.

References

Bertello, A., Ferraris, A., De Bernardi, P., & Bertoldi, B. (2021). Challenges to open innovation in traditional SMEs: an analysis of pre-competitive projects in university-industry-government collaboration. *International Entrepreneurship and Management Journal, 18*(1). https://doi.org/10.1007/s11365-020-00727-1

Challagalla, G., Murtha, B. R., & Jaworski, B. (2014). Marketing Doctrine: A Principles-Based Approach to Guiding Marketing Decision Making in Firms. *Journal of Marketing, 78*(4), 4–20. http://dx.doi.org/10.1509/jm.12.0314

Drucker, P. F., & Cohen, W. (2007). A Class with Drucker: The Lost Lessons of the World's. Greatest Management Teacher, https://www.researchgate.net/publication/294769543_A_Class_with_Drucker_The_Lost_Lessons_of_the_World's_Greatest_Management_Teacher

Erragcha, N., & Rabia Romdhane, R. (2014). New Faces of Marketing In The Era of The Web: From Marketing 1.0 To Marketing 3.0. *Journal of Research in Marketing*, 2(2), 137–142. http://dx.doi.org/10.17722/jorm.v2i2.46

Foreman, B. (2023). Marketing 5.0, EndGame Marketing Solutions https://www.endgamems.com/post/marketing-5-0

Fuciu, M., & Dumitrescu, L. (2018). From Marketing 1.0 To Marketing 4.0 – The Evolution of the Marketing Concept in the Context of the 21st Century. International Conference KNOWLEDGE-BASED ORGANIZATION, 43–48 24(2) http://dx.doi.org/10.1515/kbo-2018-0064

Ivanova-Kadiri, I. (2022). Genetic Marketing: (R)evolution In Customer Segmentation. In M. Kehayova-Stoycheva (Ed.), Remarketing the reality: Vol. 5. Selected Papers from the International Scientific Conference devoted to the 25th Anniversary of the Establishment of the Marketing Department at University of Economics - Varna, Bulgaria (pp. 322-329). https://ue-varna.bg/uploads/filemanager/303/publishing-complex/2022/Reality-remarketing-2022.pdf

Kotler, P., Kartajaya, H., & Setiawan, I. (2021). Marketing 5.0: Technology for humanity. New Jersey: Wiley.

Kotler, P. (2024). Marketng Management, Millennium Edition. https://library.ucyp.edu.my/wp-content/uploads/2024/01/Marketing-Management.pdf

Vassileva, B. (2017). Marketing 4.0: How Technologies Transform Marketing Organization. *Óbuda University E-Bulletin*, 47-56 7(1) https://uni-obuda.hu/e-bulletin/Vassileva_9.pdf

Additional reading

Alexa, E. L, & Alexa, M., & Stoica, C. M. (2012). The use of online marketing and social media in higher education institutions in Romania. *Journal of Marketing Research & Case Studies*, Volume 2012. pp. 1-9. http://dx.doi.org/10.5171/2012.721221

Becker, M. J. (2014). The consumer data revolution: The reshaping of industry competition and a new perspective on privacy. *Journal of direct data and digital marketing practice, 15*(3), 213–218. http://dx.doi.org/10.1057/dddmp.2014.3

Daviet, R., Nave, G., & Wind, J. (2022). Genetic Data: Potential Uses and Misuses in Marketing. *Journal of Marketing, 86*(1), 7-26. https://doi.org/10.1177/0022242920980767

Eltayeb, T. K., & Zailani, S. (2009). Going green through green supply chain initiatives towards environmental sustainability. *Operations and Supply Chain Management*, Vol. 2, No. 2, pp 93-110

Fidel, P., Schlesinger, W., & Cervera, A. (2015). Collaborating to innovate: Effects on customer knowledge management and performance. *Journal of Business Research, 68*(7), 1426-1428. https://doi.org/10.1016/j.jbusres.2015.01.026

Gibadullin, A. A., Romanova, J. A., Morkovkin, D. E., & Pirakov, R. M. (2020). Assessment of the level of environmental innovation in industrial production and information and communication sphere. *Journal of Physics: Conference Series* (Vol. 1679, No. 5, p. 052076). http://dx.doi.org/10.1088/1742-6596/1679/5/052076

Hoffman, D. L., Moreau, C. P., Stremersch, S., & Wedel, M. (2022). The Rise of New Technologies in Marketing: A Framework and Outlook. *Journal of Marketing, 86*(1), 1–6. https://doi.org/10.1177/00222429211061636

Jayaram, D., K. Manrai, A. K., & Manrai, L. A. (2015). Effective use of marketing technology in Eastern Europe: Web analytics, social media, customer analytics, digital campaigns and mobile applicationsUso eficaz de la tecnología de marketing en Europa del Este: analíticas de web, medios sociales, analítica de clientes, campañas digitales y aplicaciones móviles. *Journal of Economics, Finance and Administrative Science*, Volume 20, Issue 39, , Pages 118-132 https://doi.org/10.1016/j.jefas.2015.07.001

Möller, K. E. (2006). Comment on: The Marketing Mix Revisited: Towards the 21st Century Marketing? by E. Constantinides. *Journal of Marketing Management, 22*(3), 439-450. https://doi.org/10.1362/026725706776861181

Muriithi, S. M. (2020). The future business diagnostic model: The core to successful business sustainability in the 21st century. European Journal of Research and Reflection in Management Sciences, 8(2), 14-34. ISSN 2056-5992. https://www.researchgate.net/publication/344236603_The_future_business_diagnostic_model_the_core_to_successful_business_sustainability_in_the_21st_century

Sahi, G. K., Gupta, M. C., & Lonial, S. C. (2016). Relating strategic market orientation and market performance: Role of customer value types. *Journal of Strategic Marketing,* 1-21. https://doi.org/10.1080/0965254X.2016.1240215

Sandeen, P. (2023). The 44 P's of Marketing, Peter Sandeen. https://petersandeen.com/44-ps-of-marketing/

Tarabasz, A. (2013). The Reevaluation of Communication in Customer Approach – Towards Marketing. International Journal of Contemporary Management 4.0,12(040) https://ejournals.eu/czasopismo/international-journal-of-contemporary-management/artykul/the-reevaluation-of-communication-in-customer-approach-towards-marketing-4-0

Warrink, D. (2018). The Marketing Mix in a Marketing 3.0 Context, 4(4), *INTERNATIONAL JOURNAL OF INNOVATION AND ECONOMIC DEVELOPMENT*, 4(4), 7-30 http://dx.doi.org/10.18775/ijied.1849-7551-7020.2015.44.2001

https://doi.org/10.31410/ERAZ.2024.407

From Stores to Screens: The Digital Transformation of Shopping in Albania During COVID-19: Impact of Social Media

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Albania

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Abstract: *The COVID-19 pandemic caused unprecedented changes in consumer behavior worldwide. This study explores the impact of the COVID-19 pandemic on consumer behavior in Albania, with a focus on the shift from physical store shopping to online purchases via social media. The research aims to understand how the pandemic influenced consumer purchasing habits and to identify the factors driving this transition.*

A mixed-methods approach was employed, combining qualitative data from 4 focus groups of various participants and quantitative data from a survey of 124 respondents aged 18-39. The findings reveal a significant increase in online shopping during the pandemic, with approximately 40% of respondents showing a preference for social media purchases even after the pandemic. Key factors influencing this shift include time-saving benefits, ease of product search and comparison, a wider variety of products, and lower perceived costs.

The study contributes valuable insights into the Albanian market, highlighting the dual influence of the pandemic and digital platforms on evolving consumer preferences.

1. INTRODUCTION

The COVID-19 pandemic in 2020 brought significant socio-economic changes, drastically altering daily life and consumer behavior worldwide. The pandemic's restrictions, including job losses, quarantines, and uncertainties about the future, led to increased stress and anxiety (Turale et al., 2020). Indoor confinement and limited movement significantly impacted individuals' lifestyles, as countries imposed bans on outdoor activities (Parmet & Sinha, 2020). Social networks have become essential for communication, work, education, and entertainment, with Instagram emerging as a crucial platform not only for social interaction but also for shopping (Pokhrel & Chhetri, 2021).

In Albania, the number of social media users surged during the pandemic, with a significant increase in Instagram usage, particularly for purchasing goods (Kemp, 2022). The pandemic significantly influenced consumer spending patterns, leading to more cautious behavior. People prioritized essential items and relied heavily on e-commerce (Elmaslar Özbaş et al., 2022). Businesses, especially in Albania, had to adapt quickly to these changes, with many realizing that social media, particularly Instagram, was vital for survival. Approximately 55% of the population used social networks like Instagram to purchase products during the pandemic, highlighting the platform's significance (Kemp, 2022).

The psychological impact of social media on consumer behavior is also to be highlighted during the pandemic, noting how Instagram contributed to panic buying, particularly during the initial

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phases of the pandemic when uncertainty was high. Media coverage of the pandemic's uncertain duration led to widespread fear, resulting in panic behavior, as seen in the rush to buy toilet paper.

This research focuses on understanding consumer behavior before, during, and after the pandemic in Albania. It aims to explore how social media influences purchasing decisions and compares online shopping through Instagram to offline shopping in physical stores. The research seeks to answer key questions about the impact of Instagram on consumer behavior during the pandemic, the reasons behind changes in shopping behavior, and the factors that influenced consumers' choices between online and offline purchases. It provides insights into changes in consumer behavior during the pandemic, particularly the increased use of Instagram for shopping, and analyzes whether these changes have persisted post-pandemic.

Finally, this study's findings are relevant, particularly for businesses and individuals interested in understanding the dynamics of online shopping through social media. The objective is to investigate the relationship between Instagram, physical stores, and consumer behavior during the pandemic, using data collected through surveys and focus groups in Albania. It will also contribute to the literature on the subject matter as there are limited studies in the context of Albania about the impact of the COVID-19 pandemic on purchase behavior.

2. LITERATURE REVIEW

The retail sector has undergone a significant transformation over the past decade, primarily driven by the rise of e-commerce and digital marketing. These developments have empowered consumers, forcing companies to adapt to rapidly changing market dynamics (Rita et al., 2019). Traditional brick-and-mortar stores have increasingly shifted towards online platforms, with Instagram playing a pivotal role in this transition. This shift has blurred the lines between physical and online retail, creating a competitive landscape where both traditional and digital storefronts compete for consumer attention (Verhoef et al., 2015). The digital revolution has provided consumers with unparalleled convenience. With just a few clicks, they can now browse, compare, order, and pay for products without leaving their homes. This ease of access has heightened consumer expectations, pushing companies to innovate and expand their digital presence, particularly on Instagram, where visual appeal and instant gratification drive consumer engagement (Verhoef et al., 2015). The shift to online platforms has not only increased customer numbers but has also allowed retailers to fill gaps in the market, thereby boosting profits. Retailers have leveraged data analytics to better understand consumer behavior on platforms like Instagram. By tracking user activity, companies can identify consumer interests and tailor their offerings accordingly, thereby enhancing the shopping experience and encouraging repeat purchases. This data-driven approach has played a crucial role in the evolution of customer behavior, as consumers are now presented with personalized product recommendations that align with their preferences and past interactions.

Consumer behavior is a multifaceted concept that encompasses the mental, emotional, and physical activities involved in selecting, purchasing, and using products and services to satisfy needs and desires (Wilkie, 1994). The process of buying behavior includes the actions taken before and during the purchase, which are influenced by various internal and external factors (Priest et al., 2013; Rita et al., 2019). There are two primary types of consumer behavior: purchasing and shopping. Purchasing is a deliberate action based on prior knowledge and experience with a product, while shopping is often an impulsive act driven by immediate desires without thorough consideration

of the product's details (Blachman, 2018). Both behaviors are influenced by a variety of factors, including the individual's personality, cultural background, and the current market environment (Juaneda-Ayensa et al., 2016). As consumers adapt to changing circumstances, their shopping behavior evolves. This adaptation can be gradual or immediate, depending on external factors such as economic conditions or technological advancements (Blachman, 2018). Understanding these behaviors is crucial for companies, particularly those operating on platforms like Instagram, as it allows them to anticipate consumer needs and tailor their strategies accordingly.

Customer behavior is crucial for maintaining the profitability of any business. Companies must understand the various factors that influence consumer behavior, which can be categorized into internal and external influences (Azad et al., 2013). Internal influences include factors such as culture and personal reasons, which vary from customer to customer. Culture, for instance, plays a significant role in shaping consumer behavior and decision-making processes. Cultural factors influence individuals' values, attitudes, and purchasing actions, making it essential for businesses to understand the cultural backgrounds of their target markets (Nayeem, 2012). Personal reasons, such as age, financial condition, and personality traits, also impact consumer behavior. As globalization continues to blur cultural lines, understanding these personal influences becomes increasingly complex (Domie, 2013). External influences instead include factors beyond the consumer's control, such as crises, social media, and motivational impacts. Crises, like wars or pandemics, have profound effects on consumer behavior, often leading to changes in spending habits and priorities (Duquenne & Vlontzos, 2013; Mróz, 2015). For example, economic downturns can lead to decreased purchasing power and increased savings, altering consumer behavior in the long term.

Motivational impacts, such as promotions and discounts, are powerful tools that retailers use to influence consumer behavior. These marketing strategies often target the consumer's subconscious, encouraging impulsive purchases that provide immediate gratification (Domie, 2013; Ling & Yazdanifard, 2015). Impulsive buying, whether online or offline, is driven by momentary decisions that are often influenced by external factors like sales promotions or peer pressure (Nayeem, 2012). Retailers employ various marketing techniques to create a sense of urgency, prompting consumers to make unplanned purchases. These techniques are particularly effective in physical stores, where the tactile experience can drive immediate buying decisions (Lee & Kacen, 2008). However, with the rise of e-commerce, online platforms have also become increasingly adept at encouraging impulsive purchases through targeted advertising and personalized recommendations (Ling & Yazdanifard, 2015).

The COVID-19 pandemic in 2020 had catastrophic effects on both global health and the economy, leading to significant changes in consumer behavior. As people were forced to stay indoors, their spending habits shifted, with a greater focus on essential goods like food, while non-essential purchases, such as clothing and travel, were deprioritized (Zhao & Bacao, 2021). The pandemic accelerated the adoption of digital platforms, particularly Instagram, as consumers turned to online shopping for convenience and safety. Retailers, recognizing this shift, increased their investments in digital channels to maintain consumer engagement and drive sales during the pandemic (Zhao & Bacao, 2021). This period also saw the development of company-specific apps and other digital tools designed to enhance the online shopping experience, making it easier for consumers to access products and services despite the ongoing crisis. The pandemic's impact on consumer behavior was profound, with lasting changes that continued even after the immediate threat had passed. These changes include increased trust in online shopping, greater social awareness, and a shift towards more integrated, digital-first shopping experiences.

In Albania, the COVID-19 pandemic struck with the same unexpectedness and severity as in other parts of the world. The Albanian government implemented strict quarantine measures in March 2020, leading to the closure of most physical retail outlets and a surge in digital commerce (Kemp, 2022). Many businesses, particularly in the apparel sector, turned to Instagram and other social media platforms to sustain their operations during the lockdown. However, not all businesses were able to adapt, and some were forced to close permanently due to the economic strain. While larger cities in Albania experienced more stringent movement restrictions, leading to a greater reliance on digital platforms, smaller areas were less affected. Despite these challenges, the pandemic catalyzed a significant shift towards online shopping in Albania, particularly through social media channels like Instagram. This shift highlighted the importance of digital adaptability in maintaining business continuity during unprecedented crises (Kemp, 2022).

In summary, the COVID-19 pandemic reshaped consumer behavior and retail strategies globally, with lasting effects on how people shop and how businesses operate. The rise of digital platforms like Instagram has been a critical factor in this transformation, offering both new opportunities and challenges for retailers and consumers alike. This posits an important frontier for research, especially in the context of Albania, which has lacked similar studies. In light of the gap in research for the case of Albania, the researchers of this study aim to provide a comprehensive understanding of consumer purchasing behavior during the COVID-19 pandemic, with a particular focus on online shopping through Instagram.

3. METHODOLOGY

The research design adopted in this study employs primary data collection methods, which are essential for comprehensive data gathering. Primary data will be collected through questionnaires and focus group discussions involving customers who were active during the COVID-19 pandemic, particularly in relation to online shopping on Instagram. The study used purposive sampling as it focuses on individuals aged 18 to 39 years, with an emphasis on understanding their shopping behaviors during COVID-19 quarantine in Albania.

The primary tool for data collection in this study is a questionnaire, which has been adapted from the research of Choura and Abou Jeb (2021) to fit the context of the Albanian market. The questionnaire is structured to include general questions, shopping behaviors (both online and offline), and participants' experiences and preferences during the transition from physical to online stores during the pandemic, with options for participants to provide additional input if needed. A pilot test of the questionnaire was conducted, which led to revisions and improvements in the questionnaire design before its formal distribution to the target population. The reliability and validity of the questionnaire are ensured through expert panel reviews. The questions are designed to be clear and easily understandable by respondents, and the majority of the questions are closed-ended. The participants for this study are individuals 18 to 39 years old who were quarantined during the pandemic, with a focus on those who engaged in online shopping via Instagram, thus purposive sampling. Participants are invited to take part in the study voluntarily, and the questionnaire is distributed both online and physically, with few reminders to fill it. Finally, the sample size is 124 participants who responded to the questionnaire.

In addition to the questionnaire, focus group discussions are conducted to gain deeper insights into the research topic. The focus groups consist of individuals purposively selected who have experienced changes in their consumer behavior during the COVID-19 pandemic. The researchers made sure that the discussions took place in comfortable settings to encourage open and honest

communication. The age range for participants is 18 to 39 years, as previous studies have shown that this demographic was more active in online shopping during the pandemic (Kemp, 2022). The focus group methodology is employed to analyze the thoughts and experiences of a specific group of individuals in relation to the research topic. The focus groups consisted of four sessions, with 12 participants, each lasting between 50-60 minutes long. The sessions were designed to explore the psychological aspects of consumer behavior and how it has been influenced by the pandemic. The focus group discussions were guided by a series of exploratory questions designed to generate valuable information from participants.

The data analysis process involves a mixed-methods approach, combining both quantitative and qualitative research methods. This approach allows for a comprehensive analysis of the collected data. The quantitative aspect involves the use of frequency tables and figures to present the results, while the qualitative aspect involves analyzing the data through descriptive statistics.

By employing a mixed-methods approach, the study aims to capture both quantitative and qualitative data, ensuring a robust analysis of the research question. The use of questionnaires and focus groups allows for a detailed exploration of participants' experiences, providing valuable insights into the impact of the pandemic on consumer behavior in Albania.

4. EMPIRICAL FINDINGS

The empirical findings of this study provide detailed insights into consumer behavior regarding shopping both in physical stores and online through Instagram. By analyzing responses to the questionnaire combined with the outcomes from the focus groups, the study sheds light on the motivations, influences, and constraints associated with these different shopping channels. The findings reveal that shopping in physical stores is often driven by social engagement, the need for experiences like touching and trying products, and the desire for entertainment. Conversely, online shopping through Instagram is favored for its convenience, time-saving features, and the ability to easily search for and compare a wide variety of products. These findings highlight the complex relationship of factors that shape consumer choices in the evolving retail landscape in Albania, especially in the context of changes brought about by the COVID-19 pandemic.

Concerning shopping/buying from physical stores participants highlighted various motivations. The most common reason, accounting for 41% of participants is social engagement—shopping as an activity to spend time with friends. Another significant motivation, selected by 36% of participants, is the desire to touch, look at, and try products before purchasing. A smaller portion indicates shopping as a means of entertainment or stress relief. The rest indicate other reasons at non-significant levels. Instead, when it comes to understanding the discouraging factors from shopping/buying products at stores in-person during COVID-19, it appears that 35% of participants were concerned about social responsibility, and 36% of participants view a reduced entertainment value in physically visiting stores during this period. Other discouraging factors included the time and effort required for shopping, the low variety of products, and the distance to the stores. Additionally, they were asked to select some statements describing their purchasing behavior in physical stores. The results showed that 43% of them typically know what they want to buy when visiting malls, while 51% are influenced by factors such as price, promotions, and product appearance.

Participants were asked about their motivations for shopping online, where participants provided various reasons. A majority of 56% of participants mentioned the convenience of searching for

and comparing products and found it easier to browse and click on their preferences. Additionally, 25% of participants primarily felt that online shopping saved their time and effort, and 17% of them primarily appreciated the wide selection of products available via online shopping. When asked specifically about what influenced them to buy via Instagram, 40% of participants indicated the platform's suitability for apparel/clothing purchases mainly. 28% of participants highlighted that some products were only available on Instagram and that Instagram stores offered more affordable prices. 15% of participants noted that spending more time at home during the pandemic increased their desire to shop online. Meanwhile, they were asked about whether there were discouraging factors from purchasing via Instagram. It results that a significant deterrent for Instagram shopping, indicated by 67% of participants, was the inability to touch, try, and assess the quality of products. The rest mentioned factors like online shopping being less entertaining than visiting physical stores, long delivery times, the complexity of the return process, etc. When asked to describe their Instagram shopping behavior, 42% of them indicated that their purchases were influenced by what they saw in the stores, such as price, promotions, and product appearance. An equal number of participants mentioned that they had clear specific criteria, and they knew what they wanted to buy before navigating through stores on Instagram.

Concerning the migration from physical stores to online purchases via Instagram during the pandemic, it is interesting to see that 40% of participants claimed that COVID-19 has encouraged them to be more oriented towards online purchases via Instagram than physical stores. Another 40% of participants indicated that they continued to shop in physical stores, unaffected by the pandemic, and 16% of them claim that nothing changed as they have been online Instagram purchasers even before the pandemic. Participants were asked about their future purchasing behavior once COVID-19 restrictions are fully lifted. Interestingly, 67% of participants stated that they would not return to physical stores at all, or they would rarely return. The rest of the participants indicated they would moderately or fully return to physical stores. When asked about a possible future with fewer physical stores and shopping centers, their main concern was the loss of the fun aspect of shopping, followed by concerns about higher unemployment levels and the fear of social skills reduction.

4.1. Factors Influencing Purchasing Behavior

The reasons, including internal and external factors, how consumers act in relation to their choices, and what influences them were investigated. Respectively, internal factors are different for each consumer, like culture, customer loyalty, personal aspects, etc. (Wadera & Sharma, 2018; Vebrová et al., 2016; Hoyer & Krohmer, 2020). On the other hand, external factors are those factors that the consumer can't change, like social media, crisis, etc. Understanding the factors that influence customer behavior is critical to comprehend how and why consumers make purchasing decisions, particularly in the context of Instagram shopping.

In terms of internal factors influencing purchases via Instagram, the researchers highlight the time and effort saving of Instagram. One of the primary internal factors that influence consumers to shop on Instagram seems to be the convenience of saving time and effort. This is in line with the findings of Juaneda-Ayensa et al. (2016) who claim that shopping in physical stores can be time-consuming and exhausting. In this study, a considerable amount of respondents cited time-saving as a key reason for choosing Instagram over physical stores. In terms of external factors influencing purchases via Instagram, the researchers list the ease of searching and comparing products, together with the wide variety and cheaper options of products. In this context, Instagram offers an easy platform for searching and comparing products, which influences consumer behavior significantly as confirmed

by the findings of this study. These findings are consistent with the works of Wadera and Sharma (2018) and Azad et al. (2013), who emphasize the convenience of online platforms in facilitating product comparisons. Additionally, Instagram's wide range of available products is another factor that attracts consumers. This contrasts with physical stores, where usually the variety is limited. Price too is a significant consideration for consumers, and many perceive Instagram shopping as a more affordable option. Juaneda-Ayensa et al. (2016) also point out that digital transformation has made it easier to find cost-effective solutions online, further supporting this finding.

The COVID-19 pandemic introduced new social responsibilities that impacted consumer behavior. Hassan and Soliman (2021) observed that the pandemic heightened social awareness, leading many to avoid physical stores to prevent the spread of the virus. In this study too, social responsibility prevailed as a reason not to visit physical stores during the pandemic. COVID-19 also brought significant lifestyle changes, with more people spending time online for work, entertainment, and shopping. This shift in behavior was reflected by a majority of respondents who reported increased online shopping during the pandemic. Alaimo et al. (2020) similarly observed that consumers adopted online channels more readily during this period, leading to a notable increase in Instagram purchases. The pandemic also reduced the entertainment value of shopping in physical stores due to restrictions and health concerns. It was confirmed in this study too as many respondents indicated that shopping in physical stores had become less enjoyable. This aligns with findings by Laato et al. (2020), who noted that COVID-19 significantly impacted entertainment and purchasing behaviors.

5. CONCLUSION

This study aimed to examine the shift in consumer behavior during the COVID-19 pandemic, particularly focusing on the preferences of individuals aged 18-39 in Albania when choosing between physical stores and Instagram purchases. The research aimed to uncover the reasons behind these changes and identify the factors influencing consumer decisions during this period of crisis. Through a combination of focus groups and a questionnaire, the study provided valuable insights into how the pandemic reshaped consumer behavior.

The research findings highlight two key observations. Firstly, there has been a significant increase in consumer orientation towards shopping via Instagram post-COVID-19. The study found a strong preference for purchasing through Instagram after the pandemic began. This shift suggests that the convenience, accessibility, and product variety offered by online platforms during the pandemic have had a lasting impact on consumer habits. Secondly, the study identified new behaviors influenced by the pandemic, which were closely tied to factors such as social responsibility, lifestyle changes, and reduced opportunities for entertainment. These factors have either motivated or discouraged consumers from returning to their previous physical shopping habits. The findings suggest that COVID-19 has not only temporarily altered consumer behavior but has also introduced new elements that continue to shape purchasing decisions.

The research methodology was heavily consumer-oriented, relying on direct input from participants through focus groups and questionnaires. The study involved four focus groups with 12 participants and a questionnaire completed by 124 individuals. This approach ensured that the findings were grounded in the real experiences and perspectives of the target age group.

The study emphasizes the value of its findings for companies. Understanding the changes in consumer behavior—whether it involves a preference for Instagram shopping or continued

loyalty to physical stores—can help businesses better navigate the post-pandemic market. By responding quickly to these shifts, companies can enhance their customer engagement strategies and improve their overall market performance. However, the study acknowledges some limitations like the limited sample size. A larger sample size could have provided more robust data, allowing for more generalizable conclusions. Additionally, some of the focus groups were conducted in online settings, which might have influenced the discussions and introduced variability in the responses.

Looking ahead, the study suggests that future research should explore post-COVID-19 consumer behavior because it is important to examine whether the changes observed during the pandemic period persist or if consumers have reverted to their pre-pandemic behaviors. In this way, the long-term effects of the pandemic on consumer behavior would be better understood. In summary, this study provides valuable insights into how COVID-19 has transformed consumer behavior among young adults in Albania. The findings underscore the growing importance of online platforms like Instagram for purchases and highlight the lasting impact of the pandemic on consumer preferences.

References

Alaimo, L. S., Fiore, M., & Galati, A. (2020). How the COVID-19 Pandemic Is Changing Online Food Shopping Human Behaviour in Italy. *Sustainability, 12*(22), 1-18.

Azad, N., Azizi, B., Asgari, H., & Bagheri, H. (2013). A study on important factors influencing customers' impulsive buying behavior: A case study of Shahrvand food chain. *Management Science Letters, 3*(2013), 1415–1420.

Blachman, A. (2018). My Total Retail. Retrieved May 02, 2022, from https://www.mytotalretail.com/article/the-difference-between-buying-andshopping-and-why-it-matters-for-retailers/

Choura, A., & Abou Jeb, S. (2021). The Impact of COVID-19 on the Change of Customer Buying Behavior.: A study on the change of Swedish millennials' buying behaviour for fashion products with respects to selecting between online and offline retail channels. *Jonkoping University (Jonkoping International Business School)*, 100.

Domie, S. P. (2013). Assessing the Factors Influencing Consumer Switch from Local to Imported Products. Vaasan ammattikorkeakoulu. Retrieved April 18, 2021, from http://urn.fi/URN:NBN:fi:amk-2013052310385

Duquenne, M.-N., & Vlontzos, G. (2013). The impact of the Greek crisis on the consumers' behavior: some initial pieces of evidence? *British Food Journal, 116*(6), 890- 903.

Elmaslar Özbaş, E., Akın, Ö., Güneysu, S., Özcan, H. K., & Öngen, A. (2022). Changes occurring in consumption habits of people during COVID-19 pandemic and the water footprint. *Environment, Development and Sustainability*, *24*(6), 8504-8520.

Hassan, S. B., & Soliman, M. (2021). COVID-19 and repeat visitation: Assessing the role of destination social responsibility, destination reputation, holidaymakers' trust and fear arousal. *Journal of Destination Marketing & Management, 19*, 100495.

Hoyer, W. D., & Krohmer, H. (2020). The Retirement Planning Crisis: Finding A Way Out With A Consumer Behavior Perspective. *Review of Marketing Research, 17*(1), 77–85.

Juaneda-Ayensa, E., Mosquera, A., & Murillo, Y. S. (2016). Omnichannel Customer Behavior: Key Drivers of Technology Acceptance and Use and Their Effects on Purchase Intention. *Frontiers in Psychology, 7*(1117).

Kemp, S. (2022). Digital in Albania: All the Statistics You Need in 2022. *DataReportal – Global Digital Insights*. Retrieved from https://datareportal.com/reports/digital-2022-albania

Laato, S., Islam, A. N., Farooq, A., & Dhir, A. (2020). Unusual purchasing behavior during the early stages of the COVID-19 pandemic: The stimulus-organism response approach. *Journal of Retailing and Consumer Services, 57*(1).

Lee, J. A., & Kacen, J. J. (2008). Cultural influences on consumer satisfaction with impulse and planned purchase decisions. *Journal of Business Research, 61*(3), 265–272.

Ling, L. P., & Yazdanifard, R. (2015). What Internal and External Factors Influence Impulsive Buying Behavior in Online Shopping? *Global Journal of Management and Business Research: E-Marketing, 15*(5), 25-32

Mróz, B. (2015). The Implications of The Economic Crisis for Polish Consumer Behaviours. *Modern management review, XX*(22 (4/2015)), 115-128.

Nayeem, T. (2012). Cultural Influences on Consumer Behaviour. *International Journal of Business and Management, 7*(21), 78-91.

Parmet, W. E., & Sinha, M. S. (2020). COVID-19—the law and limits of quarantine. *New England Journal of Medicine, 382*(15), e28.

Pokhrel, S., & Chhetri, R. (2021). A literature review on impact of COVID-19 pandemic on teaching and learning. *Higher education for the future*, *8*(1), 133-141.

Priest, J., Carter, S., & Statt, D. A. (2013). Consumer behaviour. Edinburgh Business School, Hariot–Watt University, UK.

Rita, P., Oliveira, T., & Farisa, A. (2019). The impact of e-service quality and customer

Turale, S., Meechamnan, C., & Kunaviktikul, W. (2020). Challenging times: ethics, nursing and the COVID-19 pandemic. *International nursing review, 67*(2), 164-167.

Vebrová, T., Venclová, K., & Rojík, S. (2016). Customer Segmentation by Factors Influencing Brand Loyalty and Customer Involvement. *Acta Universitatis Agriculturae et Silviculturae Mendelianae Brunensis, 64*(5), 1797-1804.

Verhoef, P. C., Kannanb, P., & Inman, J. J. (2015). From Multi-Channel Retailing to Omni-Channel Retailing Introduction to the Special Issue on Multi-Channel Retailing. *Journal of Retailing, 91*(2), 174–181.

Wadera, D., & Sharma, V. (2018). Impulsive buying behavior in online fashion apparel shopping: An investigation of the influence of the internal and external factors among Indian shoppers. *South Asian Journal of Management, 25*(3), 55.

Wilkie, W. L. (1994). Consumer Behavior. New York: John Wiley & Sons Inc.

Zhao, Y., & Bacao, F. (2021). How Does the Pandemic Facilitate Mobile Payment? An Investigation on Users' Perspective under the COVID-19 Pandemic. *Int. J. Environ. Res. Public Health, 18*(3), 1-22.

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Customer Perceptions of Awareness and Security of E-banking Usage

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Abstract: *E-banking has emerged as a pillar of modern financial systems, offering consumers worldwide remarkable convenience, accessibility, and efficiency. This study investigates the crucial nexus between e-banking adoption and perceptions of safety within Albania's banking system. Based on a survey of 400 customers, our study highlights the importance of safety perception in driving e-banking adoption. We found that independent variables, such as personal income level, customer awareness of e-banking, perception of ease of use, and perception of safety, significantly correlate with e-banking usage. This underscores the crucial role of safety perception in influencing adoption rates. In addition, individuals with a strong sense of safety are more likely to use e-banking. Albania's banking sector is advised to enhance safety perceptions by implementing strong cybersecurity measures, conducting educational campaigns for users, and increasing transparency in e-banking operations. Collaborative partnerships with regulatory bodies and industry stakeholders can further strengthen safety protocols, ensuring resilience against cyber threats and fostering continued user trust and engagement.*

1. INTRODUCTION

Internet Banking is defined as the service that the bank provides to its customers to enable the performance of various transactions online, thus avoiding visiting its physical branches. Internet Banking is a new concept that is becoming more and more part of the routine of every person who has a bank account. Nowadays, despite this, it is the bank that has made it its focus. The many opportunities and facilities in the distribution of information, the reduction of costs, the introduction of new innovations have made the bank completely dependent on information technology and everything it offers. The range of services that Internet banking offers expands even more with the evolution of technology. Through Internet Banking, bank clients have the opportunity to receive services such as: review of ordinary banking transactions, invoicing, fund transfers, print statements, check the balance of the account and the history of transactions, make investments in deposits or securities, manage the entire account in one place, apply for credit cards and loans, etc. Internet Banking is an option that gives a bank's clients the opportunity to have complete control over their money, to be able to receive services even outside the institution's official hours, which benefits both parties, the bank and the clients. In banks, customer waiting lines are reduced and the workload for front-line employees is also reduced, who meanwhile can focus on sales rather than operational work. This service for customers means cost reduction and much better time management since they can perform the actions from wherever they are. However, alongside its convenience, ensuring information security is essential in online banking to protect customer data from cyber threats. Financial institutions use multiple layers of security measures to ensure the confidentiality, integrity and availability of customer information. These

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measures include data encryption, secure authentication methods, intrusion detection systems and regular security audits. By prioritizing information security, financial institutions can prevent data breaches, fraud and identity theft, thereby gaining customer confidence in online banking services. Online banking is transforming the banking industry by replacing traditional practices with a technology-driven system. In Albania, however, the adoption of this innovation faces greater resistance from customers compared to those in more developed countries, despite advancements in technology and recent developments.

In the era of digitization and technological advances, internet banking has emerged as an essential aspect of modern banking services. It provides customers with convenient and secure access to their financial accounts, enabling them to conduct various transactions and manage their finances online. One of the main reasons for the growing importance of online banking is the exceptional convenience and accessibility it offers. Customers can access their bank accounts anytime, anywhere, without being restricted by traditional banking hours or geographic restrictions. With just a few clicks, customers can view real-time account balances, transfer funds, pay bills and even apply for loans or credit cards. This accessibility empowers individuals to have greater control over their finances and saves them valuable time and effort. On the other hand, Internet banking has revolutionized the banking industry by significantly reducing operational costs for financial institutions. By shifting transactions to online platforms, banks can now minimize the overhead associated with physical branches and staff. These cost savings are often passed on to customers as they result in lower fees and better interest rates. Additionally, online banking eliminates the need for customers to visit physical branches, saving them valuable time that they would otherwise spend waiting in line at the bank or traveling to get there. While there are many concerns about information security, internet banking has made tremendous strides in ensuring the security of customer information and transactions. Banks use advanced encryption techniques and strong security protocols to protect sensitive customer data from unauthorized access or cyber threats, applying international security standards. In addition, most institutions offer additional security measures such as two-factor authentication, transaction verification and alerts, which provide customers with confidence and serenity while using online banking services.

The transition from traditional to digital banking has been gradual and consists of different degrees of digitization of the banking service. Digital banking leverages advanced automation and internet-based processes, often incorporating application programming interfaces (APIs) to facilitate seamless integration of services across institutions. It enables users to perform secure transactions and access financial information through various platforms, including desktops, mobile devices, and ATMs. Some of the key benefits of digital banking are: business efficiency, cost savings, increased accuracy, improved competition, greater agility, and improved security. The services that digital banks offer include: monitoring and control of the bank account, bill payments, sending and receiving money, simple and secure control for debit and credit cards, loans, financial advice, etc. The range of banking transactions available online differs across institutions. Most banks provide essential services like fund transfers and bill payments. Additionally, some banks enable customers to open new accounts and apply for credit cards via their online portals. However, online banking does not support certain transactions, such as purchasing traveler's checks or bank drafts, or completing specific credit applications like mortgages. Regardless of the weaknesses listed above, a careful use of e-banking and the application of security rules bring many benefits from its customer-friendly services. To make the e-banking experience a smooth process, sites that are known and trusted should be used and the password should never be shared with an unknown person. The banking sector in Albania stands out as one of the most advanced

in terms of digital infrastructure, largely due to the presence of international banks that introduce best practices. Digital banking usage is nearly universal, while mobile internet penetration exceeds 61%, indicating that a significant portion of the population has constant access to a device for receiving services and, in particular, making payments. Online transactions not only efficiently meet the needs and desires of customers but have become a necessity. Banks will be forced to allocate significant parts of their budget to the development of technologies such as e-banking, mobile banking, digital branches, etc. Electronic banking transactions have already become part of the technological revolution and Covid 19 has given an extraordinary impetus to the development of the electronic banking market in Albania as well.

The main purpose of this paper is to analyze the factors influencing the use of Internet Banking in Albania. The sample of the study will be the customers of some second level banks and the focus will be on the customers' point of view in terms of banking applications, Internet Banking as a whole, the security they feel about the transactions they carry out, the practicality and the difficulties they may have encountered. This paper aims to show how Internet Banking can and is becoming the future of banks, a near future where everything will be done online.

2. LITERATURE REVIEW

Online Banking refers to conducting financial activities through a bank's website. It allows individuals and businesses to manage accounts, transfer funds, or obtain information about financial products at any time and from any location with Internet access (Shao, 2007). Through Online Banking, users can complete their banking tasks swiftly and conveniently without the need to leave their homes or workplaces. Additionally, Online Banking reduces transaction expenses for customers (Dong, 2008). Digital banking refers to the online transformation of traditional banking operations and software services that were once accessible only within a physical bank branch. This encompasses tasks such as depositing and withdrawing funds, managing checking and savings accounts, applying for financial products, overseeing loans, paying bills, and accessing various account-related services. The rise of internet technology has fundamentally reshaped how companies and businesses deliver their services, ushering in numerous innovations in customer service (Sabi, 2014).

Banks began leveraging Internet technology to deliver financial and banking services. Technological advancements have enabled the swift exchange of information, simplified the marketing of banking products, and enhanced customer accessibility and awareness (George & Gireeshkumar, 2012). The internet offers banks strategic tools to transform their operations fundamentally. A notable quote from the Financial Times in 1996 states, «Banking is essential to a modern economy, banks are not» (Tan & Teo, 2000). Unlike other online transactions, adopting Internet Banking tends to be more intricate, as it establishes a long-term relationship between the bank and the customer. This process is significant for customers as they start engaging with Internet Banking services without forming a direct personal connection (Lee, 2009; Liao et al., 1999). Joseph and Stone (2003) explored the influence of the Internet on delivering banking services. Their research identified six key dimensions of e-banking service quality: convenience and accuracy, feedback and complaint handling, efficiency, queue management, accessibility, and personalization.

Meuter et al. (2000) identified key factors influencing customer satisfaction and dissatisfaction in technology-based service interactions. As business-to-business transactions represent the fastest-growing segment of technology-driven services, Meuter and colleagues recommended exploring

the factors that influence business customer satisfaction or dissatisfaction in such contexts. Internet banking enables customers to access their bank accounts online using a computer, mobile device, and web browser. It is recognized as a banking service that allows users to manage and perform financial transactions in their accounts through an Internet connection (Moa et al., 2017). The advent of online banking has enabled banks to offer a range of products and services digitally. This innovation benefits both customers and banks. For banks, it helps lower operational expenses and staffing costs while fostering closer connections with customers by delivering cost-effective services with enhanced convenience, significant time savings, and quicker responses (Nethananthan & Shanmugathas, 2018). Perceived usefulness has emerged as a key factor influencing the adoption of online banking (Pikkarainen et al., 2004). Banks have made substantial investments in developing internet-based platforms, leading to rapid growth of Internet Banking in many countries and revolutionizing traditional banking practices. Also, Internet Banking will continue to transform the traditional banking sector, offering more opportunities to improve customer service through better interaction, data analysis, and personalized services. Internet Banking systems allow bank customers to access their accounts and obtain general information about the bank's products and services via the bank's website, eliminating the need for physical mail, faxes, original signatures, or phone confirmations. These services enable customers to search for information and perform most traditional retail banking tasks, such as opening accounts or transferring funds between accounts, as well as new banking services like making electronic payments online through a telecommunications network, all without leaving their home or office.

In relationship marketing studies, the concepts of customer satisfaction and loyalty are key. The significance of customer retention is underscored by the recognition that customer satisfaction fosters loyalty, which ultimately contributes to a firm's profitability (Chen & Hitt, 2002). Many researchers have continued to explore the strong connection between service quality and customer satisfaction. As a rapidly evolving and modernized area, internet banking requires different service quality dimensions compared to traditional banking. If customers are satisfied with the services provided by internet banking, they are more likely to adopt it. The future of banking technology is driven by consumer needs. A prevalent trend in banking technology involves utilizing an application programming interface (API) to grant access to proprietary data, provided the consumer permits it. APIs can be used to allow a bank's mobile app to retrieve customer account details. Fintech companies have also adopted API technology to support their operations, and their success is motivating competitors to develop their own APIs. Furthermore, Business Insider Intelligence revealed that 48% of banking executives believe emerging technologies like blockchain and artificial intelligence (AI) will have the most significant impact on banking. According to the same source, banks are exploring blockchain technology in an effort to streamline operations and cut costs.

3. RESEARCH METHODOLOGY

Sample and Data: This study uses primary data collected through a survey of 400 customers who use e-banking services in various commercial banks in Albania for 2024. To determine the appropriate sample size for a finite population, a two-step approach was followed. The first step involved calculating the sample size for an infinite population, which required considering the population proportion, the desired confidence level, and the Z-score for normal distribution. The second step focused on computing the finite sample size using the collected data. By applying a 5% confidence interval, the optimal sample size for the study was determined to be 385. This methodology ensures that the sample accurately represents the target population while maintaining a high level of statistical reliability. The use of these techniques allows for the effective analysis of customer perceptions and

behaviors regarding e-banking services in Albania, providing valuable insights into the adoption and usage patterns of digital banking. The findings from this study can inform strategies for improving e-banking services and customer satisfaction in the Albanian banking sector.

Econometric model: This study uses the multiple linear regression model, which aims to estimate the relationship between a dependent variable and several independent variables. It is a widely used and powerful statistical tool in various research applications. The questionnaire used in the study includes questions based on a Likert scale ranging from 1 to 5, with responses classified from the lowest to the highest level. This type of measurement provides the necessary variation for applying linear regression, allowing for an accurate analysis of the factors influencing the dependent variable. Multiple linear regression is particularly useful in this context as it helps assess the impact of multiple independent factors simultaneously, providing a comprehensive understanding of the relationships between variables. The approach is fundamental for identifying key predictors and drawing meaningful conclusions based on the data collected.

$$Y = \beta_0 + \beta_1 X + \beta_2 I_{X_1} + \beta_3 I_{X_2} + \beta_4 I_{X_3} + u \quad (1)$$

Where,

- Dependent variable (the primary focus of this study);
- Independent variables (additional factors that influence the dependent variable or contribute to its variation);
- β_i = regression coefficients that estimate the degree of influence of each independent variable on the dependent variable (assuming all other factors remain constant);
- u_i = error term (representing all variables not included in the model).

The regression model is based on the following key assumptions (Verbeek, 2017):

- A linear correlation between the dependent and independent variables;
- The independent variables are not strongly correlated with one another;
- The residuals' variance remains constant;
- Observations are independent of one another;
- Multivariate normal distribution.

To clearly differentiate the dependent variable from the independent variables, we provide the following explanation. The dependent variable is an index composed of several sub-factors, each measured on a Likert scale ranging from 1 to 5. *Y = {The level of e-Banking usage declared by consumers of the banking system}* where $Y = (Y_1 + Y_2 + Y_3 + Y_4 + Y_5)/5$.

- Y_1 = Regularly uses of internet banking for various financial transactions;
- Y_2 = Internet banking is preferred method of managing my finances;
- Y_3 = Experienced assessments using Internet banking;
- Y_4 = Accessibility of internet banking services anytime and anywhere;
- Y_5 = I would recommend Internet banking to others based on my experience.

X = {Level of personal monthly income, divided into four groups} and other independent variables in index form are Ix_1, Ix_2 and Ix_3. These indices are categorized into several sub-factors (measured on a Likert scale from 1 to 5). Ix_1 = *{Assessment of customer awareness for e-banking}* where $I_{X_1} = (X_{11} + X_{12} + X_{13} + X_{14})/4$.

- X_{11} = Internet banking is a convenient alternative to traditional banking methods;
- X_{12} = I am aware of the services and features offered by internet banking;

- X_{13} = Internet banking gives me better control over my finances;
- X_{14} = I am aware of the benefits of using online banking.

Ix_2 = *{Assessment of easy use of e-banking as perceived by the consumer}* where $I_{X_2} = (X_{21} + X_{22} + X_{23} + X_{24} + X_{25}) / 5$.

- X_{21} = The process of using internet banking is simple and straightforward;
- X_{22} = I find it easy to navigate through the online banking platform;
- X_{23} = I can quickly carry out banking transactions using internet banking;
- X_{24} = Learning how to use internet banking is uncomplicated;
- X_{25} = Internet banking interface is convenient and intuitive.

Ix_3 = *{Evaluation of the perception of security in e-banking}* where $Ix_3 = (X_{31} + X_{32} + X_{33} + X_{34} + X_{35})/5$.

- X_{31} = I believe my personal information is safe when using internet banking;
- X_{32} = Internet banking has adequate security measures to protect my financial data;
- X_{33} = I am confident that my online transactions are secure with internet banking;
- X_{34} = Internet banking uses encryption and other security protocols effectively;
- X_{35} = The bank provides clear and transparent information about the security measures in force for Internet banking.

4. EMPIRICAL RESULTS AND FINDINGS

To summarize the relationship (strength and direction of the connection) between variables, we calculated the following coefficients (Table 1).

Table 1. Descriptive statistics and variables' correlation.

	Correlation					Descriptive	
Variables	**Y**	**X**	**I_{X1}**	**I_{X2}**	**I_{X3}**	**Mean**	**St. deviation**
Y	1.0000					3.84	0.52
X	0.3314	1.0000				2.19	0.56
I_{X1}	0.5693	0.2387	1.0000			3.78	0.53
I_{X2}	0.5846	0.2645	0.6730	1.0000		3.79	0.55
I_{X3}	0.6332	0.3022	0.5561	0.5551	1.0000	3.82	0.51

Note: "*" for statistical significance level of p < 1%.

Source: Authors' calculations in EViews 12.

Table 2. Model estimation for the "e-Banking use"

Dependent variable: I_Y	**Coefficient/parameters**	**Significance**
Constant	0.7779	0.0000*
Independent variables:		
X	0.0974	0.0039*
I_{X1}	0.0979	0.0306**
I_{X2}	0.2406	0.0000*
I_{X3}	0.4115	0.0000*
Adjusted R^2	0.5339	
F-statistic	92.2085	0.0000*

Note: "*" for statistical significance level of p < 1% and "**" for statistical significance level of p < 5%.

Source: Authors' calculations in EViews 12.

Based on the correlation matrix for these indexes (model variables) shows positive statistical significance for all variables. Although some variables have high value of correlations, all of them are less than 0.7 (so it is not expected to have multicollinearity of the model). Based on the empirical

analysis of the multiple regression model in the Albanian banking sector, we identify the relationship between the dependent variable "the extent of e-Banking usage reported by consumers of the banking system" and the independent variables revealed in Table 2:

The generalized form of the model is:

$$Y = 0.78 + 0.09X + 0.09I_{X_1} + 0.24I_{X_2} + 0.41I_{X_3} + 0.21u_{i-1} + u_i \quad (2)$$

The model demonstrates a good explanatory power with a coefficient of determination of 53% and is statistically significant, with a p-value less than 1% (Fisher's test). The model indicates that the dependent variable "*e-Banking usage*" has a positive and statistically significant relationship (with significance level $p < 5\%$) with:

- X = *{level of personal monthly income, divided into four groups},* if it will be an increasing trend in the *personal monthly income*, by a Likert scale for this variable, in that case, this will increase the *e-Banking usage*, with 0.09 Likert scale or 9%.
- I_{x1} = *{assessment of customer awareness for e-banking},* if it will be an increasing in the *customer awareness for e-banking* by a Likert scale for this index, in that case, this will increase the *e-Banking usage*, with 0.09 Likert scale or 9%.
- I_{x2} = *{assessment of easy use of e-banking as perceived by the consumer},* if it will be an increasing in the *customer easy use of e-banking* by a Likert scale for this index, in that case, this will increase the *e-Banking usage*, with 0.24 Likert scale or 24%.
- I_{x3} = *{evaluation of the perception of security in e-banking},* if it will be an increasing in the *customer security in e-banking* by a Likert scale for this index, in that case, this will increase the *e-Banking usage*, with 0.41 Likert scale or 41%.

For the model to be considered valid and applicable for evaluating and predicting similar phenomena in the future, it will undergo testing for the error term or residuals.

Table 3. Residual tests.

The test	Description of hypothesis	Test result
Multicollinearity: VIF-test-Variance inflation factors	This test assesses whether the independent variables are correlated with the residuals or errors of the model. *Null hypothesis:* model does not have multicollinearity	Based on the VIF test all independent variables are less than 10 d.m.th our model does not have multicollinearity.
Heteroskedasticity: Breusch-Pagan Godfrey-statistic	This test evaluates whether the residuals of the model have constant variance or not. *Null hypothesis:* model does not have heteroskedasticity	Based on the test null hypothesis do not reject, so the model has no heteroskedasticity.
Normality of the residual distribution: Jarque-Bera-test	This test determines whether the residuals of the model follow a normal distribution or not. *Null hypothesis:* the residual of the model has normality distribution.	Based on the test null hypothesis do not reject. So, the model has no problem with normality distribution of residual.

Source: Authors' calculations in EViews 12.

This model has successfully the main criteria of creating efficient models according to the main assumptions (Table 3), hence the model is statistically useful to explain the direction and strength correlations of the variables.

5. CONCLUSION

E-Banking has revolutionized banking, providing customers with convenience and accessibility. Through digital channels like online platforms, mobile apps, and ATMs, customers can conduct a wide array of banking activities anytime and anywhere. Additionally, e-Banking empowers customers with enhanced financial control and visibility. Through real-time monitoring, spending tracking, and alert setups, they can make informed decisions and manage finances effectively. Nevertheless, security and privacy remain paramount concerns, necessitating robust cybersecurity measures to foster trust. Moreover, while e-Banking offers numerous benefits, not all customers may find it suitable due to digital literacy or accessibility issues. In this aspect, this study reveals a clear relationship between various factors and e-Banking usage. Factors like as personal monthly income, customer awareness, ease of use of e-banking, and the perception of security all play significant roles. However, the most influential factor is the perception of security, with a substantial 41% increase in security perception corresponding to higher e-banking usage. Personal monthly income demonstrates a positive correlation with e-Banking usage, suggesting that as income increases, individuals are more likely to utilize e-Banking services. Customer awareness plays a crucial role, with higher levels of awareness associated with increased e-Banking usage. The ease of use of e-Banking platforms significantly influences usage patterns, highlighting the importance of user-friendly interfaces and functionalities. The perception of security emerges as a key determinant, with a strong sense of security leading to higher e-Banking adoption rates. Commercial banks in Albania must address many challenges, ensuring inclusivity, security and providing support to facilitate e-Banking adoption across diverse customer segments. Improvement continuously of the e-Banking platform's user implementation and provide user-friendly features to make e-Banking accessible to users of all technological proficiency levels. The great priority should engage in robust security measures to strengthen customers' perception of security in e-Banking. Employ advanced encryption technologies, multi-factor authentication, and real-time fraud detection systems to safeguard customer data and transactions.

References

Chen, P. Y., & Hitt, L. M. (2002). Measuring Switching Costs and the Determinants of Customer Retention in Internet-Enabled Business: A Study of the Online Brokerage Industry. *Information Systems Research*, 13, pp. 255-274.

Dong, J. (2008). Strategies for increased integration of online and in-branch services of banks in Canada. *Journal of Internet Banking and Commerce, 13*(3). https://www.icommercecentral.com/open-access/strategies-for-increased-integration-of-online-and-inbranch-services-of-banks-in-canada.php?aid=38454

George, A., & Gireeshkumar, G. S. (2012). Risks in Internet Banking: Sample Evidence from Idukki District, Kerala. *The IUP Journal of Bank Management, 11*(3), pp. 53-63.

Joseph, M., & Stone, G. (2003). An empirical evaluation of US bank customer perceptions of the impact of technology on service delivery in the banking sector, *International Journal of Retail & Distribution Management*, 31(4), pp. 190 - 202. https://doi.org/10.1108/09590550310469185

Lee, M. C. (2009). Factors influencing the adoption of internet banking: An integration of TAM and TPB with perceived risk and perceived benefit. Electronic commerce research and applications, 8(3), pp. 130-141. https://doi.org/10.1016/j.elerap.2008.11.006

Liao, S., Shao, Y. P., Wang, H., & Chen, A. (1999). The adoption of virtual banking: an empirical study. *International journal of information management, 19*(1), pp. 63-74. https://doi.org/10.1016/S0268-4012(98)00047-4

Meuter, M. L., Ostrom, A. L., Roundtree, R. I., & Bitner, M. J. (2000). Self-Service Technologies: Understanding Customer Satisfaction with Technology-Based Service Encounters. *Journal of Marketing, 64*(3), 50-64. https://doi.org/10.1509/jmkg.64.3.50.18024

Moa, M. O., Obote, R., & Yoweri, N. (2017). A study on the relationship between Internet banking service, customer adoption and customer satisfaction, *International Journal of Banking, Economics and Finance, 1*(5), pp. 037-045. https://www.internationalscholarsjournals.com/articles/a-study-on-the-relationship-between-internet-banking-service-customer-adoption-and-customer-satisfaction.pdf

Nethananthan, S., & Shanmugathas, S. (2018). Exploring the Factors Influencing Adoption of Internet Banking In Jaffna District. *International Journal of Recent Scientific Research, 9*(4L), pp. 26404-26415: https://ssrn.com/abstract=3208654

Pikkarainen, T., Pikkarainen, K., Karjaluoto, H., & Pahnila, S. (2004). Consumer acceptance of online banking: an extension of the technology acceptance model, *Internet Research*, Vol. 14 No. 3, pp. 224-235. https://doi.org/10.1108/10662240410542652

Sabi, H. M. (2014). Research trends in the diffusion of internet banking in developing countries. *Journal of Internet Banking and Commerce, 19*(2). https://www.icommercecentral.com/peer-reviewed/research-trends-in-the-diffusion-of-internet-banking-indeveloping-countries-37981.html

Shao, G. (2007). The Diffusion of Online Banking: Research Trends from 1998 to 2006. *Journal of Internet Banking & Commerce, 12*(2), pp. 1-13, http://www.arraydev.com/commerce/jibc/

Tan, M., & Teo, T. S. H. (2000). Factors Influencing the Adoption of Internet Banking. *Journal of the Association for Information Systems, 1*, pp. 1-44. DOI: 10.17705/1jais.00005

Verbeek, M. (2017). *A guide to modern econometrics* (5th ed.). New York: John Wiley & Sons, Ltd.

https://doi.org/10.31410/ERAZ.2024.427

Applying the TTM Model to Optimize the Marketing of Krishna Consciousness in Europe

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Abstract: *Previous studies (Bence-Kiss, 2021) have shown that the Transtheoretical Model of Behavior Change (TTM) may be applied to analyze the process of involving people in Krishna Consciousness in Europe. The model has shown that the visitors of communities devoted to Krishna Consciousness on the continent belong to one of the four stages of the model, contemplation, preparation, action, and maintenance. The initial stage, precontemplation is missing, since the study was carried out on individuals already interested in the life of the community. This study aims to find out how these findings may be applied to plan marketing activities more consciously and to reach consumer groups on the different stages of behavior change efficiently. The research has found that there is a significant relationship between the stages of change and the means of gathering information, which supports the development of a new and more efficient communication strategy, matching consumer needs.*

1. INTRODUCTION

The Transtheoretical Model of Behavior Change (TTM), developed by Prochaska and DiClemente (1983), has been widely used to understand how individuals progress through stages of behavior modification, particularly in areas like addiction recovery and health-related behaviors. However, the application of TTM to religious contexts remains underexplored, despite the profound impact that religion can have on personal identity and lifestyle choices. This study focuses on Krishna Consciousness in Europe, examining how individuals transition from initial exposure to deeper religious commitment through the stages outlined by TTM.

Understanding these dynamics is crucial, as religious engagement often involves significant life changes, influencing not only individual behaviors but also community cohesion and cultural integration. By investigating the relationship between promotional strategies used by Krishna Consciousness communities and the stages of behavior change, this research sheds light on how religious movements can effectively foster spiritual growth and sustain long-term engagement. Moreover, this study addresses a gap in the literature by linking behavior change theory with religious practice, offering insights into how targeted communication can facilitate religious conversion and retention. Such an understanding is vital in an increasingly secular world, where religious institutions must adapt to new communication landscapes to remain relevant and impactful.

2. THEORETICAL BACKGROUND

The Transtheoretical Model of Behavior Change, developed by Prochaska and DiClemente (1983), was originally designed to explore intentional changes in human behavior. The model's creators outlined five stages of behavior change—precontemplation, contemplation, preparation, action,

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and maintenance – each following the other in a sequential timeline (Prochaska & DiClemente, 1983; Reynolds & Placido, 2020; Vela & Ortega, 2020).

The model's primary aim was to identify the stages and processes individuals undergo when attempting to overcome addictions. Transtheoretical Model of Behavior Change is grounded in rational choice theory, which posits that individuals evaluate the costs and benefits before making significant behavioral changes. This connection to rational choice theory, along with the model's temporal structure, suggests its applicability in analyzing other consumer decisions.

The Transtheoretical Model of Behavior Change has also been utilized in religious contexts. Sohn (n.d.) examined how religious beliefs might inspire individuals to make health-related behavioral changes, while Wongkitrungrueng and Juntongjin (2022) explored the relationship between religion and sustainable consumption using Transtheoretical Model of Behavior Change. The model's relevance to decisions related to religion – assuming such decisions are rational to some degree – stems from the profound impact these decisions have on an individual's life (Prochaska & DiClemente, 1983; Reynolds & Placido, 2020; University of Maryland, 2020; Vela & Ortega, 2020).

3. METHODOLOGY

3.1. Sampling and Data Collection

The research focused on the European continent for several reasons, primarily due to its relative homogeneity in terms of dominant religion and the similar status of new religious movements across the region (Crnic, 2007; Luzny, 2023).

Krishna Consciousness is present in 39 European countries, but in many of these, the movement is not fully institutionalized, making it difficult to engage with individuals who are either familiar with or members of the religious community. To address this, the sample was drawn from countries with tourist destinations that introduce the religion to the public. This approach allowed the researchers to reach both members of the community and those who were either encountering the religion for the first time or learning about it. There are 18 such destinations in 14 European countries, and 11 of them agreed to participate in the study. These locations are in Belgium, the Czech Republic, France, Germany, Hungary, Italy, Sweden, and the United Kingdom (ISKCON, 2024). Participants in the study were intentionally selected based on a single criterion: having visited one of the 18 Krishna Consciousness communities in Europe. Paper-and-pencil questionnaires in English were distributed to the 11 European communities involved in the research. Where feasible, the questionnaires were also provided in the local language, and volunteers were available to assist respondents with language barriers and comprehension issues.

A total of 667 responses were collected during the three-month tourist season in the summer of 2019. Among the respondents, 23.8% identified as devotees of Krishna Consciousness. The majority, as expected, were Christians (45.3%), followed by those affiliated with other religious communities (2.5%), atheists (2.2%), individuals not belonging to any religious group (16.9%), and those who chose not to specify their religion (9.1%).

3.2. Data Analysis and Interpretation

The questionnaire included two sets of statements. One included the frequency of exposure to certain communication tools, such as personal selling, online marketing, social media and events, while the other set was made up of religious activities, ranging from seeing posters and devotees proselytizing on the streets to attending worship services and praying regularly. The latter statements were adapted from the original Transtheoretical Model of Behavior Change questionnaires (University of Maryland, 2020; Vela & Ortega, 2020) and modified to reflect religious activities, drawing on secondary data and previous research (Bence, 2014; Bence-Kiss, 2021). Similar to the original questionnaires, respondents were asked to rate how often they engaged in each activity on a Likert scale from 1 to 5, where 1 indicated "never" and 5 indicated "repeatedly".

The data were analyzed using SPSS 21.0 statistical software, employing factor analysis to identify homogeneous groups of respondents. Principal component analysis (PCA) was used to reduce the dimensions, creating four factors out of the 26 different statements. This method helped to understand the underlying factors influencing the responses, effectively addressing multicollinearity by grouping correlated statements.

The number of factors was determined based on the total variance explained, which was 74.06% for marketing tools and 73.29% for religious activities, which can be considered quite good (Bharadiya, 2023). Although four factors might suggest the exclusion of one of the five stages, previous research by Finnegan et al. (2022) had already combined precontemplation and contemplation into a single factor. The current study followed the same approach, as the activities associated with these stages were found to be correlated.

The factors were derived using Varimax rotation with Kaiser Normalization. The KMO value of the factor analysis exceeded 0.8, confirming that the sample was suitable for this analysis. Additionally, Bartlett's test of sphericity indicated the test's validity with a p-value of 0.000, suggesting a significant relationship among the variables. The reliability of the factors was assessed using Cronbach's Alpha, with all factors showing reliability above 0.7, and most exceeding 0.9, indicating excellent reliability and suitability for further analysis (Malhotra & Simon, 2009).

The relationship between the two aspects was evaluated by the Pearson correlation coefficient, with the following hypothesis:

H1: There is a significant relationship between the stages of changes and individual is in and the promotion tools they are exposed to.

4. RESEARCH RESULTS

4.1. Transtheoretical Model of Behavior Change

During the data analysis, four factors were identified, as presented in Table 1. These factors accounted for 73.29% of the total variance. The activities included within these factors align with the dimensions of the Transtheoretical Model of Behavior Change, corresponding to four stages: contemplation, preparation, action, and maintenance. This suggests that similar behavioral change patterns can be observed in the context of engaging in religious activities, as in the process of modifying health behaviors (Newcombe, 2017; Prochaska & Velicer, 1997; University of Maryland, 2020).

Table 1. The stages of change describing the actions of the respondents towards Krishna Consciousness

I follow/check the Facebook page of a Krishna-conscious village. I follow the national Hare Krishna site/Facebook page. I read the articles about the Hare Krishna community. I check the news of the Krishna-conscious community. I follow/check the YouTube channel of a Krishna-conscious village. I follow/check the Instagram posts of a Krishna-conscious village. I buy books/give donations to Krishna devotees on the streets. I visit a Krishna-conscious village. I attend festivals organized by Krishna-conscious communities. I buy products of a Krishna-conscious village. I give the 1% of my income tax to a Krishna-conscious community.	**Precontemplation and Contemplation** **M=2.28** **Std.=1.18** **Var. exp.=59.50%**
I eat vegetarian/vegan. I buy vegetarian/vegan products. I follow the guidance of the Bhagavad Gíta. I use the Hare Krishna mantra. I read books related to Krishna consciousness. I cook from Indian recipes. I visit Govinda Restaurants. I talk to people devoted to Krishna Consciousness.	**Preparation** **M=2.47** **Std.=1.43** **Var. exp.=6.73%**
I visit Hare Krishna communities in different countries. I celebrate the festivities of Krishna Consciousness. I dress in traditional Indian dresses. I visit Hare Krishna temples. I attend workshops organized by Krishna-conscious groups.	**Action** **M=2.00** **Std.=1.21** **Var. exp.=4.20%**
I visit the Bhaktivedanta College. I attend yoga classes organized by Krishna-conscious groups.	**Maintenance** **M=1.52** **Std.=0.98** **Var. exp.=2.86%**

Extraction Method: Principal Component Analysis.; Rotation Method: Varimax with Kaiser Normalization; Rotation converged in 6 iterations; KMO=0.966; Bartlett (Approx. Chi Sq.)=12779,.11; Sig= 0.000; Total variance explained: 73.289; Cronbach's Alpha: F1=0.948; F2=0.961; F3=0.907; F4=0.779

Source: Own research

The first factor, contemplation, encompassed activities related to gathering information about the religion, with an emphasis on personal interactions, such as attending festivals and events, participating in tourism within farming communities, or making donations. The mean for this factor was 2.28 (Std.=1.18), indicating that most respondents engage in these activities occasionally or not at all. It is worth noting that all survey participants had visited a Krishna-conscious community at least once, which itself serves as a form of information gathering, even if it is not a regular occurrence.

The second factor, preparation, represented a higher level of engagement. At this stage, individuals go beyond basic information gathering and tourist activities. The key activities here included adopting dietary practices in line with the religion's requirements, reading religious texts, and chanting mantras and prayers. This factor had the highest mean, M=2.47 (Std.=1.43), indicating that these actions were the most commonly performed by those visiting Krishna-conscious communities. Although these actions demonstrate a certain level of commitment to the religion, many of them are not externally visible and can be practiced without becoming an active member of the religious community, such as adopting a vegetarian or vegan lifestyle. Additionally, an interesting phenomenon can be observed here, as sometimes it is not the religion that leads people to change their dietary habits; rather, certain dietary preferences may attract individuals to Krishna Consciousness (e.g., cruelty-free nutrition).

The third factor, action, had an even lower mean of 2.00 (Std.=1.21). Since this phase involves activities that are visibly aligned with the religion, demonstrating clear dedication, the lower frequency of these actions among respondents is not unexpected. This factor included wearing traditional Indian attire, covering shoulders and legs as required by the religion, attending religious services, and celebrating religious festivals. The fourth factor, maintenance, had the lowest mean, 1.52 (Std.=0.98). In this stage, the behavior change is fully integrated, and the individual has become a member of the Krishna-conscious community, a status achieved by only a small percentage of respondents. Additionally, within this factor, levels of involvement may vary among individuals, though a certain degree of regularity is typical. Activities included in this factor were attending advanced courses, participating in the education system, and purchasing religious or community-produced goods.

The factor means exhibited a standard normal distribution, with the peak occurring during the preparation phase, but overall low means were observed, likely due to "1" being the most frequent response. The only exception was the nutrition aspect, where the mode was five.

4.2. Communication Tools Applied by Krishna-Conscious Communities

Four factors were identified among the communication tools, which could be distinguished based on the target group they aim at, ranging from those, who have not even heard of the religion, up till the active members of the community.

Table 2. The factors describing the exposure of the respondents to promotional activities

I see educational offers of Bhaktivedanta College. I see advertisements of Govinda Restaurants. I receive newsletter from a Krishna-conscious community.	**Retaining existing audience – other institutions and long-term relationship** **M=1.90** **Std.=1.24** **Var. exp.=49.74%**
I see Facebook advertisements about a Krishna-conscious village. I see posts of a Krishna-conscious village on Instagram. I see Facebook posts of a Krishna-conscious village in my news feed. I see YouTube videos of a Krishna-conscious village.	**Confirming existing audience - Social media of the farming communities** **M=2.04** **Std.=1.20** **Var. exp.=10.71%**
I meet people selling books about Krishna Consciousness on the streets. I see posters about the events organized by the Krishna-conscious community nearby. I see fliers about festivals of Krishna-conscious communities.	**Attracting new, interested audience – Traditional promotion methods** **M=2.32** **Std.=1.08** **Var. exp.=7.09%**
I see tourism agencies advertising a Krishna-conscious village. I see TV shows about Krishna-conscious communities. I see Krishna-products sold in shops or online.	**Raising the attention of the new audience – Touristic and physical products** **M=1.72** **Std.=0.85** **Var.ex.=6.53%**

Extraction Method: Principal Component Analysis; Rotation Method: Varimax with Kaiser Normalization; Rotation converged in 7 iterations; KMO=0.909; Bartlett (Approx. Chi Sq.)=4065.100; Sig=0.000; Total variance explained: 74.062; Cronbach's Alpha: F1=0.857; F2=0.865; F3=0.743; F4=0.717

Source: Own research

The identified factors can be characterized by the level of engagement of the target audience that the promotional tools are designed to reach. The first factor includes methods targeting individuals who have already encountered Krishna Consciousness and its associated lifestyle and have shown

interest in the religion. The second factor comprises elements intended to deepen the commitment of those who have had an initial encounter but are not yet fully engaged. The third factor's tools are aimed at attracting individuals who already display a certain level of openness towards religion. Finally, the fourth factor focuses on promotional activities directed at those who likely have no prior knowledge of Krishna Consciousness.

The distribution of promotional tools among these factors also illustrates how the tourism product is utilized to promote the religion. The activities in the fourth, third, and second factors center around the tourism offerings of farming communities, to capture attention, attracting interest, and solidifying engagement among the audiences. In contrast, the first factor is focused on retention, including activities associated with other Krishna Consciousness institutions, such as restaurants and universities.

The third factor has the highest mean (M=2.32; Std.=1.08), indicating that most people had already been exposed to these elements. This aligns with the observation that the majority of visitors to the farming communities are one-time guests, which also accounts for the decreasing means in the second and first factors (M=2.04; Std.=1.20 and M=1.90; Std.=1.24, respectively). The fourth factor, with the lowest mean of 1.72 (Std.=0.85), might seem unexpected at first, but this can be explained by the fact that it targets audiences who lack prior information or knowledge about religion. Although these tools may reach a broader audience, the research did not measure the frequency with which these tools reached people who ultimately did not visit. Additionally, as reported by tour guides, many visitors had already progressed to the third factor, possessing a certain level of openness before their visit, and were therefore exposed to elements of this factor as well.

4.3. The Relationship Between Promotion Tools Applied and Behavior Changes

After conducting a detailed analysis of the communication tools used by Krishna-conscious communities and the behaviors reported by respondents, it became evident that there are connections between the promotional tools individuals are exposed to and the stage of behavior change they are in.

People in the Precontemplation stage have not yet formed an intention to change their behavior – they either lack knowledge about the religion or are not motivated to learn more about it. At this stage, the goal is to capture their attention and encourage them to visit the touristic destination to expand their knowledge and increase their level of engagement. This can be achieved by introducing physical products and promoting the destination through various means, such as personal outreach, flyers, or posters, highlighting the most attractive events to entice them to visit. Once the devotees succeed in attracting people to the touristic destination, they have the chance to introduce the religion to them in person, which is significant, as many respondents emphasized the importance of personal relationships in becoming acquainted with the religion.

Following the initial visit, the focus begins to shift from promoting the touristic product to emphasizing the religious aspects, thereby aiming to reach the Contemplation stage, where the audience starts considering a deeper involvement with the religion. At this stage, the focus moves to tools that confirm the existing audience, which are still initiated by the farming communities but now emphasize not just the tourist attraction but also the religious community. Social media tools, particularly Facebook, play a crucial role in this phase, as they provide an effective platform to maintain contact with a broad audience from various demographic groups.

In addition to maintaining relationships, these tools aim to further introduce the religion to the audience and encourage them to move into the Preparation phase, where they begin taking certain actions to change their behavior, although these actions may not yet be highly visible to the public. In this phase, it is vital to reinforce and retain those who have already started taking steps, so social media efforts are supplemented with newsletters to ensure a continuous flow of information and communication from other Krishna-conscious community institutions, such as restaurants and universities, which may further support lifestyle changes.

If the efforts to confirm and retain individuals are successful, they may progress to the Action stage, where they adopt more publicly visible habits, such as wearing specific clothing and attending temples, while continuing to maintain previously adopted behaviors. At this stage, promotional tools become less influential, as the individual's integration into the community has already begun. However, despite the reduced impact of promotional efforts, retention tools can still play a role in helping individuals transition into the Maintenance stage. As both qualitative and quantitative research has shown, at this level, promotion has limited influence, except for emphasizing educational opportunities to deepen engagement. Nonetheless, there are many unofficial, less-promoted forms of support for maintenance that are harder to measure.

Table 3. The correlation between promotion tools and the stages of behavior change

Stage of behavior change	Promotion tools	Pearson correlation coefficient	Significance level	Confirmed?
Precontemplation	Raising the attention of new audiences – Tourists and physical products	*No data available*		×
	Attracting new, interested audiences – Traditional promotional methods	*No data available*		×
Contemplation	Confirming existing audience – Social media of the farming communities	0.764	0.000	✓
	Retaining existing audience – other institutions and retention	*0.233*	*0.000*	!
Preparation	Confirming existing audience – Social media of the farming communities	0.043	0.344	×
	Retaining existing audience – other institutions and retention	0.488	0.000	✓
Action	*Raising the attention of new audiences – Tourists and physical products*	*0.204*	*0.000*	!
	Retaining existing audience – other institutions and retention	0.281	0.000	✓
Maintenance	*Raising the attention of new audiences – Tourists and physical products*	*0.347*	*0.000*	!
	Retaining existing audience – other institutions and retention	0.373	0.000	✓

Source: Own research

This hypothesis was tested using the Pearson correlation coefficient. The hypothesis was confirmed for four of the behavior change phases, with one exception: the relationship between Preparation and Confirming existing audience. However, as seen in Table 3., correlations were found between Contemplation and Retaining existing audiences, as well as between Action and Maintenance, and tools for Raising the attention of new audiences. In the table, confirmed relationships are marked with a tick, while an "X" represents instances where no significant relationships were observed. Relationships marked with an exclamation point indicate cases where no initial relationship was hypothesized, yet significant correlations were discovered between the variables.

The relationship between the promotional tools and the stages of change was positive across all cases. The strongest correlation (r=0.764, p=0.000) was observed between the Contemplation stage and the tools for Confirming existing audiences, indicating a strong alignment between the platforms most used by respondents in the Contemplation stage and the promotional tools employed by the communities to target them. A moderately weak relationship (r=0.233, p=0.000) was also found with Retaining existing audiences, suggesting that individuals in the Contemplation stage may already be influenced by retention tools, which implies that communication about educational opportunities could also be effectively directed at this group.

Conversely, no significant relationship (r=0.043, p=0.000) was found between the promotional tools for Confirming existing audiences and those in the Preparation stage. Instead, these respondents may be more effectively reached through Retention tools, where a positive medium correlation (r=0.488, p=0.000) was observed.

As previously discussed, only a limited number of communication tools are aimed at audiences in the Action and Maintenance stages, as the influence of the group becomes more critical at these levels. Nevertheless, a medium but not particularly strong positive correlation was found for Retaining existing audiences in both stages (r=0.281, p=0.000 and r=0.373, p=0.000, respectively). Interestingly, in both the Action (r=0.204, p=0.000) and Maintenance (r=0.347, p=0.000) stages, a medium positive correlation was also discovered concerning the promotional tools designed to raise the attention of new audiences.

5. FUTURE RESEARCH DIRECTIONS

The topic is broad and continuously developing, there is yet a lot to discover in this area. Future research could explore the application of the Transtheoretical Model of Behavior Change in different religious contexts beyond Krishna Consciousness, examining its relevance to other new religious movements or established religions. Comparative studies could investigate how religious and cultural differences influence the stages of behavior change. Additionally, longitudinal studies could track individuals over time to assess the long-term impact of religious marketing strategies on behavior change. Finally, qualitative research could provide deeper insights into personal motivations and barriers to adopting religious practices, enriching the quantitative findings of this study.

6. CONCLUSION

This study aimed to explore the intersection between religious engagement and behavioral change, specifically examining how individuals' interactions with promotional tools influence their progression through the stages of the Transtheoretical Model of Behavior Change within the context of Krishna Consciousness communities in Europe. The findings demonstrate that religious behavior change, much like health-related behavior change, follows a structured and identifiable pattern. The identification of four key factors – contemplation, preparation, action, and maintenance – underscores the model's applicability beyond its original context of addiction and health behaviors, extending it to the realm of religious conversion and commitment.

The results also reveal a significant correlation between the stages of behavior change and the types of promotional tools used by Krishna Consciousness communities. These communities effectively tailor their communication strategies to meet individuals at different points in their spiritual journey. For instance, tools aimed at retaining existing audiences were more strongly correlated with the contemplation and preparation stages, while tools designed to raise the attention

of new audiences had a moderate impact even in the action and maintenance stages. This suggests that promotional efforts not only attract new followers but also play a crucial role in deepening the commitment of those already engaged with the religion.

Understanding these dynamics is essential for religious movements and organizations that seek to grow and maintain their communities. It also provides valuable insights for scholars interested in the broader implications of religious engagement on behavior change. The study highlights the need for further research to explore how different religious contexts might influence the applicability of the Transtheoretical Model and how promotional strategies can be optimized to support individuals at various stages of their spiritual development.

References

Bence, K. (2014). Appearance of marketing in religion—Someone, who admits it. (Master's thesis). Corvinus TDK és Szakdolgozat Gyűjtemény.

Bence-Kiss, K. (2021). Strategy set by faith: Analyzing the marketing concepts of communities devoted to Krishna consciousness in Europe. *Országos Doktori Tanács.* https://doktori.hu/index.php?menuid=193&lang=HU&vid=22565

Bharadiya, J. P. (2023). A tutorial on principal component analysis for dimensionality reduction in machine learning. *International Journal of Innovative Science and Research Technology, 8*(5), 2028–2032.

Crnic, A. (2007). New religions in "New Europe." *Journal of Church and State, 49*(3), 517–543. https://doi.org/10.1093/jcs/49.3.517

Finnegan, H. A., Daari, L., Jaiswal, A., Sinn, C. J., Ellis, K., Kallan, L., & Gallant, N. L. (2022). Changing care: Applying the transtheoretical model of change to embed equity, diversity, and inclusion in long-term care research in Canada. *Societies, 12*(3), 87.

ISKCON. (2024). Retrieved from https://centres.iskcondesiretree.com

Luzny, D. (2023). Hare Krishna in the Czech Republic after thirty years: Success or failure? *Interdisciplinary Journal for Religion and Transformation in Contemporary Society, 1*(aop), 1-18.

Malhotra, N. K., & Simon, J. (2009). *Marketingkutatás.* Budapest: Akadémiai Könyvkiadó.

Newcombe, N. (2017). Harnessing spatial thinking to support stem learning.

Prochaska, J. O., & DiClemente, C. C. (1983). Stages and processes of self-change of smoking: Toward an integrative model of change. *Journal of Consulting and Clinical Psychology, 51*, 390-395.

Prochaska, J. O., & Velicer, W. F. (1997). The transtheoretical model of health behavior change. American journal of health promotion, 12(1), 38-48.

Reynolds, A., & Placido, N. (2020). A comparison of free will, human agency, and the transtheoretical model. *Journal of Religion & Spirituality in Social Work: Social Thought, 39*(1), 62-72. https://doi.org/10.1080/15426432.2019.1700869

Sohn, A. (n.d.). Transtheoretical model as applied to Adventist health behavior change among university students. Prepared for The 30th International Faith and Learning Seminar, Korean Sahmyook University, Seoul, Korea, June 16-28, 20XX.

University of Maryland. (2020). The transtheoretical model of behavior change. Retrieved December 12, 2023, from https://habitslab.umbc.edu/the-model/

Vela, C., & Ortega, C. (2020). Adoption of change: A systematic review of the transtheoretical model. *Sport Exercise Medicine Open Journal, 6*(1), 27-38. https://doi.org/10.17140/SEMOJ-6-179

Wongkitrungrueng, A., & Juntongjin, P. (2022). The path of 'no' resistance to temptation: Lessons learned from active Buddhist consumers in Thailand. *Religions, 13*(742). https://doi.org/10.3390/rel13080742

https://doi.org/10.31410/ERAZ.2024.437

From Theory to Practice: Applying Marketing Concepts Across Industries in MBA Programs

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Abstract: *Teaching marketing to MBA students, particularly managers from diverse industries, can be greatly enhanced by co-creation with students. Standard teaching methods often fail to demonstrate how to apply theoretical concepts to real-world situations, especially in smaller or resource-limited companies. A study involving 30 MBA students working on real company scenarios revealed that knowledge transfer is more effective when participants co-create strategies and tactics using theoretical models alongside industry-specific examples. For example, some industries benefited from a customer-centric approach using the SAVE model instead of the traditional 4P marketing mix. Industry-specific elements are added to the marketing mix, like internal or sensory marketing, PR, or seasonality. This approach aids in comprehending marketing, showing that flexible, situational strategies enhance understanding and retention, particularly when supported by practical applications. The study suggests that co-creation is a valuable method that can benefit academics and students, enhancing the effectiveness of marketing education.*

1. INTRODUCTION

MBA students, particularly those from diverse industries, often struggle with marketing management because they need to apply it in dynamic and complex environments. These challenges, influenced by industry-specific circumstances and macroenvironmental changes, can impact business performance. The practical application of theoretical models and frameworks is difficult, as they may not seem adaptable to real-world situations across different businesses. Traditional methods of teaching marketing strategy lack a broad perspective, making it hard for students to apply these concepts in constrained or specific industry contexts.

Visual models can effectively facilitate marketing discussions in focus groups, enabling quick transfer of marketing thinking. Conceptual models help simulate scenarios, predict outcomes, and understand complex systems by visualizing variable impacts, guiding the formulation of strategies to address business challenges (Graham et al., 1992). They aid in analyzing environments, identifying strengths and weaknesses, and developing actions to exploit opportunities and mitigate threats. Using real-world company scenarios, these models help illustrate the adaptation of strategies and tactics across industries. Case study learning, supported by these models, enhances strategic thinking and knowledge retention (Graham et al., 1992), with professors and MBA students collaboratively creating educational content (Borba-Salvador et al., 2023).

Therefore, this research aims to answer the following research questions:
RQ1: Can marketing knowledge be more effectively transferred to diverse MBA participants through a co-creation process in collaboration with the participants?
RQ2: Can participants gain a broader perspective on marketing if they are presented with theoretical models alongside examples of their use in business scenarios from various industries?

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RQ3: Do participants see greater value in the models if presented with examples of their application in business scenarios from different industries?

The paper begins by exploring the co-creation of knowledge and the importance of student feedback. It then outlines the methodology, introducing a strategic and tactical marketing model for management education. Next, it details focus group work and, finally, discussions with 30 MBA students. The results are presented, followed by a discussion on research limitations and recommendations for future studies.

2. CO-CREATION OF KNOWLEDGE AND THE VALUE OF STUDENT FEEDBACK

Many authors discuss the advantages of collaboration and co-creation between business school professors and students (Jayaratne & Mort, 2011; Andersson & Balslev Clausen, 2018; Zarandi et al., 2022; Borba-Salvador et al., 2023). Andersson and Balslev Clausen (2018) and Borba-Salvador et al. (2023) emphasized that traditionally, educators have been seen as knowledge providers. Still, new teaching strategies require the co-creation of knowledge between students and educators, transforming learning into a collaborative process. Peer learning and co-creation of knowledge highlight that learning is not just individual but collective. Deep, shared learning is achieved through cooperation and shared responsibility, especially in Problem-Based Learning, which prioritizes learning over teaching and positions instructors as facilitators and resource persons (Andersson & Balslev Clausen, 2018). Engaging students as active co-creators in their university experience enhances innovation and improves teaching and learning (Zarandi et al., 2022). Students help advance education despite not being experts by contributing their perspectives and feedback. This collaboration benefits institutions by improving pedagogy, reputation, and brand loyalty while enhancing students' skills, critical thinking, and understanding. It fosters emotional connections between students and the institution and allows them to integrate their identities and beliefs into their learning (Zarandi et al., 2022).

Tsourela et al. (2015) also employed peer-to-peer and collaborative learning, where students co-create knowledge and meaning, introducing transformative learning. Smørvik and Vespestad (2020) applied marketing theories to teaching, emphasizing value co-creation. They argue that traditional passive classroom settings are shifting toward deeper learning through problem-solving, discussions, and interactive tasks, positively enhancing students' learning experiences. The experience of active learning during co-creation tends to increase students' motivation to engage in learning and professors' motivation to engage in teaching (Lubicz-Nawrocka & Owen, 2022). Finally, Jayaratne and Mort (2011) concluded that practitioners and educators are responsible for maintaining and advancing the learning community.

Co-creation of knowledge occurs when students provide feedback on theoretical concepts presented in class. They contribute to knowledge development by actively participating in evaluating, critiquing, and improving the content. This process allows students to express their opinions, ask questions, offer suggestions for improvement, and create a shared understanding of the material. The process becomes more interactive and effective by actively evaluating and shaping the presented content, fostering deeper understanding and engagement. This method, in which students provide feedback on theoretical marketing concepts through models of strategic and tactical marketing management presented in class, was used in this study, and a detailed description of the working method follows.

3. METHOD

The sample in this research was a convenience sample consisting of 30 participants from a strategic marketing course in an MBA program within an accredited higher education institution. Participation was voluntary, and students were assured that their involvement would not affect their grades. They were informed that the information and opinions shared in focus group interviews and discussions would contribute to developing future courses. Anonymity was ensured by assigning each student a number in the data presentation. The research was conducted in March 2024 in a classroom. Harrigan and Hulbert (2011) conducted similar qualitative research, and the results of this study are presented in the same manner as they did.

The research was divided into three phases:

- In the first phase, the students were presented with theoretical concepts related to strategic marketing management and corresponding tactical marketing decisions using the model.
- In the second phase, students worked in focus groups on scenarios from various companies.
- In the third phase, each group presented their solutions, followed by a group discussion.

Phase 1 – Presentation of Theoretical Concepts through Visual Model

Participants were introduced to a visual API (A – Analysis, P – Planning, I – Implementation) strategic and tactical marketing thinking model for management education to better convey the overall marketing mindset and theoretical marketing knowledge. The model summarizes the core principles and the interrelationships between the constructs, presented alongside verbal explanations of its components. The model elements were sourced from fundamental marketing textbooks ('introduction to marketing,' 'strategic marketing,' 'marketing management') that are widely used, similar to the work of Harrigan and Hulbert (2011).

The analysis within the model involves continuous primary and secondary market research, examining both the micro-environment (market, company, customers, competitors, suppliers, intermediaries, public) and the macro-environment using the LoNGPESTLE model (where Political, Economic, Social, Technological, Legal, and Environmental/Ecological factors are analyzed in Local, National, and Global contexts).

Planning refers to the strategic planning phases: defining the mission and vision, setting institutional goals, market segmentation and targeting, and determining strategies and strategic positioning. This phase may include tools such as SWOT (Strengths, Weaknesses, Opportunities, and Threats) analysis, positioning maps, and BCG (Boston Consulting Group) or GE (General Electric) growth-share matrices. The key questions addressed in this phase are: What are we doing? For whom are we doing it? And how will we achieve it?

Implementation involves the tactical planning phases: determining the marketing mix (4Ps – Product, Price, Place, and Promotion) or 7Ps (adding People, Physical Evidence, and Processes) in the case of service industries. The marketing mix may also include other crucial elements depending on the industry, as this phase addresses the question: Which elements need to be well-designed and executed for the strategy to succeed? Additionally, questions such as who will implement it, when, where, and how much will be spent are answered, culminating in an action plan and budgeting.

After presenting the various components and their interrelationships, where tactics follow strategy and analysis is conducted at the start and continuously due to constant potential environmental changes or goal shortfalls, the next phase demonstrates the application of these concepts through concrete examples.

Phase 2 – Focus Groups

In this research phase, 30 MBA participants were divided into four focus groups, with two groups consisting of seven participants and the other two groups consisting of eight participants. Each group was assigned a real-world scenario from various industries within the B2C market, tasked with developing a strategic and tactical framework to help the company achieve its goals. They were all provided with an identical template, outlining strategic and tactical guidelines, which they used to analyze the company they were studying. The task was to study the specific company and its mission/vision, examine and describe the key factors of the micro and macro environment that influence its operations, conduct a SWOT analysis, and complete the "market/product net," in which the cross-referencing of different market segments and their needs helps to identify the main target segments. Afterward, the group selected one of the proposed strategic models and wrote a positioning statement for the company. Finally, the task was to define and describe the elements of the marketing mix and the necessary activities, with the option to use the SAVE (Solutions-Access-Value-Education) model (Wani, 2013) instead of the 4P model if a highly customer-centric approach was deemed necessary for the business.

The professor supervised the work and posed questions to participants in all four groups, noted their responses, and acted as a moderator to guide the discussion. The entire process lasted two hours. After all the groups completed their tasks, the next phase followed.

Phase 3 – Group Discussion and Wrap-up

Each group presented its work and key conclusions, which lasted one hour and 15 minutes. The others listened and commented during a group discussion, with the professor acting as the moderator. This method of collecting feedback from students in focus groups characterized as an in-depth, open-ended group discussion where specific, predefined, and limited topics are explored, was also used by Roberts (2017), as it provides insights into collective opinions. Additionally, the approach used in this study can be considered an example of the action learning method (Tushman et al., 2007), as it combines theoretical knowledge with practical problem-solving through active participation followed by feedback, allowing for a deeper understanding and application of what is learned.

During the process, it was also important to moderate the discussion to ensure balanced participation across different students and groups. Otherwise, an individual student or part of the group might dominate and lead the discussion (Dollinger et al., 2018).

4. RESEARCH RESULTS

Qualitative data were collected during the research within each focus group, followed by the group discussion. During the discussion, participants concluded that strategy is equally important for all types and sizes of companies and that each must have a unique positioning. A key part of the discussion in each group focused on linking segmentation with the marketing mix, and they concluded that the marketing mix must be adapted to each situation, depending on the type of

business and the desired differentiation. The main findings are related to the differences in the marketing mix elements and are presented below.

4.1. Focus Group 1 – The Insurance Company Agram

At the start of the discussion, the group concluded that for the insurance company Agram, it would be more appropriate to use the SAVE model instead of the 4P model, expanded with three additional elements, as the business involves services provided by people, and the credibility of those people and the institution is important. The students also addressed the legal restrictions (macro environment) on advertising in this type of business. They initiated a discussion about the 'promotion' element, which, in their opinion, is not possible in its traditional form.

An interesting dialogue occurred between Student 2 and Student 6, where Student 2 stated that promotion could not be conducted within the marketing mix, while Student 6 remarked: *"We learned that marketing is not just paid advertising, so an unpaid element related to promotional activities could be introduced here."* In further discussion, aided by the professor's moderating questions, the group concluded that the marketing mix for the insurance company Agram should include, alongside 'promotion', the element of 'PR and public relations' and the element of 'internal marketing.'

4.2. Focus Group 2 – The Medical Clinic Bagatin

Since this is a service-oriented healthcare business, the focus group participants chose the SAVE model together with three additional elements for services instead of the classic service elements (7P) in the marketing mix. They also introduced a new element, 'relationship marketing,' for the following reason:

Student 11: *"In healthcare services, trust in doctors is crucial, and developing trust is a key factor. Therefore, it is necessary to work on relationships with patients."*

Student 14: *"Trust is the foundation for patient satisfaction, which will lead to loyalty to the clinic and/or doctor, and patients will either return or recommend the doctor to others."*

In the continuation of the discussion, another element emerged—'personalization'—for the following reason: Student 12: *"Private clinics should differentiate themselves by providing a more personal approach to each patient, and they should strive to create an individual path for everyone, as each person's health problem is different and specific."*

Finally, they commented on aspects that pointed to a new important element in healthcare services, 'sensory marketing':

Student 10: *"Many people are deterred from visiting the doctor due to the smell in clinics and unpleasant sounds. If this is addressed, the appointment cancellation rate could be reduced."*

4.3. Focus Group 3 – The Furniture and Home Goods Retailer IKEA

Despite dealing with the sale of physical products, the group participants concluded that the SAVE model, along with the additional 3Ps for services, would be beneficial in the case of IKEA. This is due to IKEA's competitive advantage through services, as noted in the following comments:

Student 20: *"IKEA also offers consulting services and is known for space-saving furniture. They need to educate people well to provide these additional services."*

Student 17: *"Important parts of their service include the processes to access products. They combine online orders with the ability to pick them up quickly in the store without needing to walk through the store or wait at the checkout."*

Student 21: *"Part of their image includes the store's amenities and atmosphere, from a good restaurant to well-placed, clean restrooms."*

Since the discussion highlighted another important element in the marketing mix, 'atmosphere' was added.

4.4. Focus Group 4 – The Hospitality and Tourism Company Maistra

Given that the business involves all marketing mix elements related to services, the students determined that the starting mix should be 7Ps. Additionally, they identified two crucial elements in the hospitality and tourism industry: 'seasonality' and 'partnership.' These were explained in the discussion as follows:

Student 25: *"There should be stronger partnerships with international travel agencies to bring in more tourists outside the peak tourist season."*

Student 28: *"But to extend the season in hotels, there need to be additional amenities that would attract tourists. For that, it would be necessary to research the desires of target groups and provide accordingly."*

Another important element emerged later in the discussion, 'performance/atmosphere,' emphasized by the following comment:

Student 24: *"In a hotel, the overall experience is crucial. It's not just about what is offered but how it is delivered. The experience can include serving food and drinks and the atmosphere in the hotel. For example, if there are loud young children, there are no romantic moments at dinner. It's important to clearly define the primary target groups and the atmosphere you want to achieve."*

Student 26 added: *"It's also important to properly train staff to deliver the expected level of performance."*

Finally, the group concluded that the SAVE model would be more appropriate for the hospitality and tourism company Maistra than the 4P model.

4.5. Group Discussion and Conclusion

The joint group discussion concluded that the presented theoretical model, with its strategic and tactical elements, can be applied to any company, large or small, and in any industry, with appropriate adaptations. The underlying principles of the model remain consistent, specifically the relationships between different parts of the model and the connections between strategic thinking and tactical decisions. Larger companies can utilize tools like the BCG or GE matrices. At the

same time, smaller, family-owned businesses might benefit from tools like SWOT analysis or positioning maps, which can be applied across all scenarios.

Student 19 described his experience working in the group and participating in the discussion: *"The logic connecting strategy and tactics is much clearer to me now. The examples helped with clarity, and everything seems simpler now. Without the examples, I wouldn't have fully understood many things."* Student 6 added: *"It seems like this applies to startups and large corporations. It's just a matter of the scope of work and the number of segments for which marketing mixes are developed."*

5. DISCUSSION

The research has shown that marketing strategy and the marketing mix need to be tailored to each business, company, and industry, a conclusion also reached by Constantinides (2006). In his study, additional elements of the mix, such as 'partnership,' 'performance/atmosphere,' 'PR,' or 'relationship marketing', were mentioned. Rudd and Mills (2008) similarly found that the marketing mix adapts to suit various industries. In service-oriented industries, additional components like 'packaging,' 'partnership,' 'programming,' 'positioning,' and 'people' enhance the marketing mix (Rudd & Mills, 2008).

Specifically, in Focus Group 1 of this study, due to the specifics of the insurance market, students introduced 'PR and public relations' into the marketing mix, considering that advertising is restricted by law. They also added the element of 'internal marketing' because it strengthens internal forces and takes care of influential individuals. When internal marketing is strong, external marketing is also strengthened, which aligns with the findings of Piercy and Morgan (1991).

In Focus Group 2, 'relationship marketing' was identified as an additional element of the marketing mix that needs to be specially designed in line with theoretical frameworks related to many service industries, such as healthcare or education (John & De Villiers, 2022), as highlighted during the group discussion. In healthcare, competitive advantages can also be achieved through good solutions in 'sensory marketing.'

Group 3 emphasized 'relationship marketing' and 'personalization,' often cited in other works on relationship marketing, where the term 'customization' is also mentioned (Constantinides, 2006). In retail, differentiation is often driven by 'atmosphere,' which Oduro and De Nisco (2024) found to be key, noting that it can involve colors, shapes, smells, temperature, and more.

Group 4, concerning the hospitality and tourism industry, identified 'performance/atmosphere,' 'seasonality,' and 'partnership' as crucial elements, findings that are also supported in Constantinides' (2006) study.

This research confirmed that co-creation enhances teaching effectiveness by engaging participants through their input, answering RQ1 by showing that marketing knowledge is better transferred through collaborative processes. Analyzing real business problems helps participants apply frameworks in diverse contexts, addressing environmental complexities and challenges (Graham et al., 1992). Participants also noted that marketing practice requires nuanced application of theory, as theoretical conclusions aren't always directly applicable (Veljković et al., 2024). Thus, RQ2 was answered, as theoretical models and industry examples broaden participants' marketing perspectives.

Jayaratne and Mort (2011) highlighted that effective marketing knowledge involves creative, customized application of information. The research supported this, showing that the model helps students grasp strategic marketing management more efficiently, aligning with Osuagwu's (2016) findings on the value of models. As participants appreciated examples of model application across industries, RQ3 was also addressed.

6. FUTURE RESEARCH DIRECTIONS

This study contributes to the marketing education literature by providing an example that can successfully supplement other teaching techniques and generate positive learning outcomes for students, offering them a broader perspective and the opportunity to enhance their understanding of strategic and tactical marketing. Future research could focus on using a different model as the foundation for learning and co-creation with students. Additionally, the research could be expanded by using different companies and industries as examples. Besides qualitative research, more extensive quantitative research could be conducted using a structured questionnaire with a larger sample.

7. CONCLUSION

Teaching methods should be adapted to students, and marketing education needs to be connected with current practices. Additionally, it is important to engage students through co-creation and to help them link theoretical perspectives with specific contexts (Borba-Salvador et al., 2023). Participants perceive greater benefit from acquired knowledge after group work on scenarios of companies from various industries, where theoretical concepts and frameworks are used. These concepts apply to all scenarios, provided adaptations suit the specific situation. Also, the discussion conducted in the research led to the following conclusions regarding strategic and tactical marketing plans:

- Both macro and micro environments significantly impact strategy and tactics.
- A company's size influences the overall marketing plan and the tools employed.
- For customer-centric business solutions, the SAVE model (Solutions-Access-Value-Education) is often more effective than the traditional 4P marketing mix (Product-Price-Place-Promotion).
- Some businesses can build their strategies around a single marketing mix element, such as 'relationship marketing,' if that element proves to be crucial for differentiation and, ultimately, for business success.
- Industry-specific factors may require a focus on tactical elements like 'sensory marketing,' 'internal marketing,' 'atmosphere,' 'PR,' 'seasonality,' and similar. Therefore, it is necessary to study the environment, consider customer needs, and expand the mix with the required elements.

If managers adopt a flexible approach, adapting strategic and tactical frameworks to specific situations, they can better absorb marketing concepts and apply MBA-acquired knowledge. This flexibility also helps small and medium-sized enterprises overcome resource constraints. The study's limitations include its reliance on a single professor's model and a convenience sample, which may affect perspectives. Despite this, the findings offer valuable insights for marketing academics, educators, and managers.

References

Andersson, V., & Balslev Clausen, H. (2018). Alternative Learning Experiences Co-creation of knowledge in new contexts. *Innovative Practice in Higher Education*, *3*(2), 65-80. ISSN: 2044-3315. Retrieved August 14, 2024, from https://journals.staffs.ac.uk/index.php/ipihe/article/view/75/120

Borba-Salvador, A., Bassi-Suter, M., & Forsdike, N. (2023). Contributing factors to marketing educators' teaching performance: insights from executive postgraduate programmes in Brazil, *RAUSP Management Journal*, *58*(4), 266-285. DOI: 10.1108/RAUSP-10-2022-0233

Constantinides, E. (2006). The Marketing Mix Revisited: Towards the 21st Century Marketing. *Journal of Marketing Management*, *22*(3–4), 407–438. https://doi.org/10.1362/026725706776861190

Dollinger, M., Lodge, J., & Coates, H. (2018). Co-creation in higher education: towards a conceptual model. *Journal of Marketing for Higher Education*, *28*(2), 210–231. https://doi.org/10.1080/08841241.2018.1466756

Graham, A. K., Morecroft, J. D. W., Senge, P. M., & Sterman, J. D. (1992). Model-supported case studies for management education. *European Journal of Operational Research*, *59*(1), 151-166. ISSN 0377-2217. https://doi.org/10.1016/0377-2217(92)90012-X

Harrigan, P., & Hulbert, B. (2011). How Can Marketing Academics Serve Marketing Practice? The New Marketing DNA as a Model for Marketing Education. *Journal of Marketing Education*, *33*(3), 253-272. https://doi.org/10.1177/0273475311420234

Jayaratne, M., & Mort, G. S. (2011). Communities of Practice Approach in Marketing Education and Executive Development. *Research Journal of Social Science & Management*, *1*(6), 191-199. ISSN: 2251-1571.

John, S. P., & De Villiers, R. (2022). Factors affecting the success of marketing in higher education: a relationship marketing perspective. *Journal of Marketing for Higher Education*, 1–20. https://doi.org/10.1080/08841241.2022.2116741

Lubicz-Nawrocka, T., & Owen, J. (2022). Curriculum Co-creation in a Postdigital World: Advancing Networked Learning and Engagement. *Postdigital Science and Education*, *4*, 793–813. https://doi.org/10.1007/s42438-022-00304-5

Oduro, S., & De Nisco, A. (2024). Beauty in the eyes of the beholder: a meta-analytic review of the effect of design atmospherics on shopping outcomes. *International Journal of Electronic Marketing and Retailing*, *15*(1), 107-137. https://doi.org/10.1504/IJEMR.2024.135529

Osuagwu, L. (2016). A Model of Strategic Marketing Decision Premises. *International Journal of Marketing Studies*, *8*(3), 145-153. DOI:10.5539/ijms.v8n3p145

Piercy, N., & Morgan, N. (1991). Internal marketing—The missing half of the marketing programme. *Long Range Planning*, *24*(2), 82-93. ISSN 0024-6301. https://doi.org/10.1016/0024-6301(91)90083-Z

Roberts, D. (2017). The engagement agenda, multimedia learning and the use of images in higher education lecturing: or, how to end death by PowerPoint. *Journal of Further and Higher Education*, *42*(7), 969–985. https://doi.org/10.1080/0309877X.2017.1332356

Rudd, D., & Mills, R. (2008). Expanding Marketing Principles For The Sale Of Higher Education. *Contemporary Issues in Education Research (CIER)*, *1*(3), 41–52. https://doi.org/10.19030/cier.v1i3.1193

Smørvik, K. K., & Vespestad, M. K. (2020). Bridging marketing and higher education: resource integration, co-creation and student learning. *Journal of Marketing for Higher Education*, *30*(2), 256–270. https://doi.org/10.1080/08841241.2020.1728465

Tsourela, M., Tarabanis, K., Fragidis, G., & Paschaloudis, D. (2015). Value co-creation in education scope methods and insights. *International Journal of Advance Research and Innovative Ideas in Education*, *1*(2), 160-171. e-ISSN:2395-4396. DOI:16.0415/IJARIIE-1159

Tushman, M. L., O'Reilly, C., Fenollosa, A., Kleinbaum, A. M., & McGrath, D. (2007). Relevance and Rigor: Executive Education as a Lever in Shaping Practice and Research. *Academy of Management Learning and Education*, *6*(3), 345-362. https://doi.org/10.5465/AMLE.2007.26361625

Veljković, S., Hristov Stančić, B., & Lazić, M. (2024). Značaj i uloga formalnog marketinškog obrazovanja: percepcija akademske i poslovne javnosti. *Marketing*, *54*(3), 177-188. ISSN 2334-8364. https://doi.org/10.5937/mkng2303177V

Wani, T. A. (2013). From 4Ps to SAVE: A Theoretical Analysis of Various Marketing Mix Models. *Business Sciences International Research Journal*, *1*(1). Available at SSRN: https://ssrn.com/abstract=2288578 or http://dx.doi.org/10.2139/ssrn.2288578

Zarandi, N., Soares, A., & Alves, H. (2022). Strategies, benefits and barriers– a systematic literature review of student co-creation in higher education. *Journal of Marketing for Higher Education*, *1*(25). https://doi.org/10.1080/08841241.2022.2134956

https://doi.org/10.31410/ERAZ.2024.447

Teachers' Emotional Intelligence and Conflict Management Strategies Implementation Impacting Educational Institution Reputation

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Abstract: *The research investigates the impact of teachers' emotional intelligence (EI) on constructive conflict management, identifies best practices, and examines the effect of conflict management strategies on the educational institution's reputation. A mixed methodology was employed for this research as 55 teachers' ESCQ-T (Emotional Skills and Competence Questionnaire for Teachers) was assessed, followed by semi-structured interviews with those with the highest EI. The study identified key practices these teachers use to manage conflicts effectively, fostering the integration-based conflict management strategy which implies active listening, empathy, and tailored communication approaches, mitigating the effects of cultural influences. The findings suggest that teachers with higher EI are better prepared to manage conflicts, leading to improved teacher-student relationships and a constructive classroom environment. The principal conclusion is that integrating EI training into teacher development programs could enhance conflict management skills, fostering a more conducive learning atmosphere and bolstering the reputation of educational institutions.*

1. INTRODUCTION

In the contemporary educational landscape, the role of emotional intelligence (EI) has gained significant attention, particularly in its application to conflict management within schools (Valente, 2019; Gómez-Leal et al., 2022). Current research focuses on the influence of teachers' EI on classroom dynamics, and conflict management strategy and emphasizes best practices in managing conflicts. Teachers with high emotional intelligence are better equipped to navigate the complexities of student behavior, fostering a conducive learning environment that not only enhances student outcomes but also elevates the institution's standing (Jennings & Greenberg, 2009; Gómez-Leal et al., 2022). Previous studies have established the correlation between EI and conflict resolution (Valente & Lourenço, 2020), yet there remains a gap in understanding how EI influences the managing strategy applied when dealing with conflict and how it impacts the reputation of educational institutions and mitigates the effects of cultural influences (such as high Power Distance cultural dimension manifesting in Romanian schools).

This study seeks to address this gap by exploring how teachers' emotional intelligence impacts their conflict management strategies and the subsequent effect the strategy has on the school reputation. By employing a quantitative and a qualitative methodology, including semi-structured interviews with teachers identified through the ESQC-T questionnaire as having high EI, this research aims to uncover the specific strategies these educators utilize. The findings underscore the necessity

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of integrating emotional intelligence training into teacher professional development programs to enhance conflict resolution skills, ultimately benefiting both student-teacher relationships and the school's reputation. The structure of this article is as follows: first, a review of the relevant literature on emotional intelligence and conflict management in educational settings; second, a detailed discussion of the research methodology; third, the presentation of key findings; and finally, an analysis of how these findings can inform practical recommendations for improving educational outcomes and institutional reputation.

2. LITERATURE REVIEW

2.1. Emotional Intelligence: Concept and Measurement

The concept of EI was studied by Peter Salovey and John D. Mayer and defined as "The ability to reason about emotions to improve thinking. This includes the skills to accurately perceive emotions, access and generate emotions in ways that aid thinking, understand emotions and emotional knowledge, and reflexively regulate emotions to promote emotional and intellectual development." (Mayer et al., 2004, p. 10). Daniel Goleman was also concerned with defining this concept, theorizing emotional intelligence as "The ability to recognize our feelings and those of others, to motivate ourselves, to manage emotions well in ourselves and our relationships" (Goleman, 1998) and presents it as a concept with 4 main domains (Boyatzis et al., 2000): 1. **Self-awareness** that involves: a) Recognizing and understanding one's own emotions, b) Conducting an accurate evaluation of oneself, c) Having confidence in oneself, 2. **Self-regulation** that is characterized by: a) The ability to control emotions, b) Being transparent, c) Adapting to changes, d) Being focused on goals, e) Taking initiative, f) Maintaining a positive outlook, 3. **Social awareness** that is demonstrated through: a) The capacity to empathize with others, b) Understanding the dynamics within organizations, c) Being service-oriented and 4. **Relationship management** that includes: a) Effectively managing relationships, b) Providing inspirational leadership, c) Exerting influence, d) Managing conflicts, e) Collaborating and working well within teams. Reuven Bar-On certifies that emotional intelligence can develop over time and one can increase its level through training (Bar-On, 2004). He considers emotional-social intelligence to be "A cross-section of inter-related emotional and social competences, skills and facilitators that determine how well we understand and express ourselves, understand and relate to others, and cope with daily demands, challenges and pressures".

Most models of emotional intelligence are composed of four fundamental areas: self-awareness, social awareness, self-management, and relationship management (Goleman, 2014). Emotional intelligence models have contributed significantly to the constitution and improvement of construct assessment tools. The most well-known psychometric tools are: a) EQ-i$^{2.0}$ and EQ360 Emotional Intelligence Tests designed by Reuven Bar-on, b) the TESI® Emotional Intelligence Test developed in 2006 by Marcia Hughes and James Terrel, c) the MSCEIT ™ Emotional Intelligence Test (Mayer – Salovey – Caruso), d) the EISA Emotional Intelligence Test designed by Steven Stein, Derek Mann and Peter Papadogiannis in 2009, e) Emotional Skills and Competence Questionnaire (ESCQ; Takšić, 2001).

2.2. The Nature of Conflicts and Role of Leaders in Educational Institutions

When a conflict situation escalates, the fear felt by the participants about the forces manifested by the opposing parties, but also the mistrust or inability to circumscribe the points of the dispute leads to a decrease in the efforts to reach an agreement (Mayer, 2012). At the same time, the tendency to resort to coercive methods restricts the chances of cooperation and prevents the achievement of

an agreement that is advantageous to all participants, thus characterizing conflicts of a destructive nature, which can easily get out of control and could not be resolved at the right time. Conversely, when individuals or groups recognize the problems they face and solve them when they are in opposition, conflicts can be considered beneficial (Jehn, 1997). They determine the increase of creativity, respectively of the productivity of individuals or groups/organizations, preventing plateaus or stagnation (Abiodun, 2014). In the specialized literature, over time, several theoretical models regarding conflict have been perfected, which ensure the possibility of knowing the causes but also the mechanisms that characterize conflict situations. The theoretical models of conflict can be grouped as follows: conflict processes (Pondy, 1967) which aim to establish all the events that describe a conflict situation, as well as the successive relationships between the distinct stages of a conflict, structural conflict models (Thomas, 1976) which determine the conditions that favor conflict and define how they affect conflictual behavior, and organizational conflict (Brown, 1983) which refer to the territories in which they are involved, where the confrontation takes place, when the parties involved are face to face, interacting. According to the opinion of the author Patrașcu (2017), the educational environment is characterized by various conflicts that derive from the educational activity (such as teaching, learning, or training), respectively from the tension that arises in the interactions between teachers and students, between the school and parents, but also between the school institution and other institutions or community. Among the many conflicts that arise at the educational level, there is also the sociocognitive one, which has the role of amplifying the interest that students show in knowledge. Therefore, teachers play the role of leaders in the relationship with their pupils or students, having the obligation to train students in a manner that is not only critical but also constructive, simultaneously demonstrating the ability to identify and act as correctly as possible in the face of challenges or conflicts. Taking into account the fact that the resolution of conflicts in the educational environment leads to achieving a state that is not only harmonious, but also in balance at the social level, conflict can be seen as an essential process to achieve a beneficial change. Therefore, the conflict is one with a positive, constructive nature, which has the role of substantiating the cohesion of the group and the efficiency of a leader's actions (Ţărnă, 2021). A typology of leader is outlined by the authors White and Lippitt (1960), according to which under the leadership style, leaders are classified into three categories: authoritarian leader: this type of leader does not explain or justify his choices, and his ways of evaluating remain unknown to the members of the group; democratic leader: every choice or decision is justified and explained in front of the group, the leader is a person characterized by an objective character, enjoying both criticism and encouragement; laisser-faire leader: this type of leader adopts a passive attitude, enjoying complete freedom, especially in terms of making a decision. Therefore, taking into account these three categories of leaders above, the following can be found: a. groups that are guided by an authoritarian leader are characterized either by an aggressive attitude or by a more apathetic behavior; b. groups that have a democratic leader register a high level of performance, which is maintained even if the leader leaves the group; c. groups that are led by a laisser-faire leader have an extremely low level of performance, and the resolution of conflict states is not influenced in any way by the presence or absence of the leader. In this sense, the leadership style of a democratic leader has the most positive effects on the conflict management process.

2.3. The Context of the Research and Worrying Statistics

This research started from the authors' observations on the educational environment in Romania, observations that were based on a series of statistics. Considering that the most violent manifestation of school conflicts is in the form of acts of violence and for the year 2021-2022, 9741 acts of violence were reported, 76% of children say that teachers scold them when they make mistakes, 55%

of teachers (from Bihor) consider that conflict resolution is the responsibility of school managers, teachers use conflict management mainly avoidance strategies (42%), followed by competition (38%), compromise (25%) and only 18% consider that conflict states in their schools have been managed through collaboration, 55% of teachers (from Bihor) consider that conflict resolution is the responsibility of school managers. Teachers use avoidance strategies (42%), followed by competition (38%), compromise (25%) in conflict management and only 18% consider that conflict states in their schools have been managed through collaboration. The conflict management styles defined by Rahim, integrative, dominating, obliging, avoiding and comprimising are perceived in different mannaer by its' subjects but the integrative one is viewed as the most appropriate as it is polite, prosocial and situational adaptive (Gross & Guerrero, 2000).

According to Hofstede Cultural Dimensions (Hofstede Insights, n.d.), Romania has a score of 90 for the dimension Power distance which refers to the extent to which individuals within a society acknowledge and accept that power is distributed unequally among its members. This dimension reflects a culture's attitude towards inequality. It is defined as the degree to which the less powerful members of institutions and organizations within a country anticipate and accept that power is not evenly distributed. Romania scores high on this dimension (with a score of 90), indicating that people in the country are comfortable with a hierarchical order where everyone has a specific place and needs no further justification. Based on these cultural influences, teachers are more likely to embrace a managing strategy based on domination, which has a lower resolution rate of the conflict that emerges in a teaching environment.

Also, Romania scores 90 on the dimension of uncertainty avoidance which reflects a strong preference for minimizing uncertainty and ambiguity. Countries with high Uncertainty Avoidance tend to adhere to strict codes of belief and behavior and are less tolerant of unconventional behaviors and ideas. In such cultures, there is an emotional reliance on rules (even when those rules may not be effective), with precision and punctuality being the norm. Innovation may face resistance, and security is a key motivator for individuals. In the context of handling conflicts in schools, the integrative strategy requires flexibility and adaptability, which contrasts with the rigidity typically associated with high Uncertainty Avoidance cultures.

3. METHODOLOGY

A mixed methodology was employed for this research. The research had 2 phases, first the deductive one measuring emotional intelligence using the established instrument- the ESCQ-T for emotional skills. This deductive part aimed to test the relationship between emotional intelligence and conflict management strategies among teachers. Data collection was done in February-June 2024 in North East part of Romania, mainly in 2 counties, Iasi and Botosani. In the case of 55 teachers-purposeful sample-teachers interested in long-life learning programs. EI was assessed with the Emotional Skills and Competence Questionnaire for Teachers and the respondents' conflict management style was also assessed. After confirming the respondent's interest, we arranged online interviews that we recorded. The qualitative part, 16 semi-structured interviews aimed to examine teachers' perception of the effect the applied conflict management style has over the school's reputation and identity best practices employed by high Emotional Intelligence teachers when dealing with conflict, their perception of the way conflicts are managed and conflict management strategies are used in their educational institution. The sample was selected based on two criteria. These were 1) teachers interested in life-long learning and continuous development, employed by high schools, and 2) teachers with high emotional intelligence, as measured by the self-reported ESCQ-T (Emotional Skills and Competence

Questionnaire for Teachers). Sixteen participants were selected based on two aforementioned criteria. The analysis focused on what helped teachers to register high emotional intelligence, being keen to reduce the occurrence of conflicts, and what mitigated the effects of cultural influences (such as high Power Distance cultural dimension). The authors prepared for each interview by conducting desk research and then reviewing our notes from previous interviews and others as well. This iterative process is essential to the constant comparison method, " in an iterative manner, through a back-and-forth" between theory and data and data with data (Spencer et al., 2013; Mello, 2021). We explained the ethics protocol and confidentiality and secured formal consent. All were happy to be recorded and only one respondent asked for anonymity. Nonetheless, we anonymized the data. Interviews typically lasted around 40 minutes. The open interview guide asked participants about their personal experiences and responses to situations. There were some ready-made questions and a semi-structured interview protocol. We stopped collecting data after perceiving that findings started to repeat and data supported the same conclusions (Saunders & Townsend, 2016). We analyzed 15 interviews and the transcripts gathered in a total of 375 pages. After collecting and transcribing the interviews, the coding was done to analyze the qualitative data from the interviews and integrate these findings with the quantitative data from the deductive phase. After first and second-order coding he practices teachers use to mitigate the effects of cultural influences on conflict management.

4. RESULTS AND DISCUSSIONS

One of the main approaches used in the field of sociology refers to the fact that the most relevant social process is conflict and the society consists of a multitude of social elements that are in continuous conflict. The challenge is not to eliminate the conflict but its management by the involved parties. Conflicts can be considered beneficial when individuals or groups acknowledge the problems they face and resolve them. According to Sabina Valente and Abílio Afonso Lourenço, teachers with better-developed emotional intelligence neglect the avoidance strategy when faced with a conflict situation (Valente & Lourenço, 2020).

With statistics stating the rise of the emergence of conflict in Educational Institutions, it is imperative to find a way to resolve them positively and rely on the benefits of the teachers' emotional intelligence. The research was triggered by the cultural context as Romania's score on the cultural dimension Power distance is 90, which translates into the fact that people with authority, in this context teachers, set tasks and expect them to be executed without too much discussion, we believe that research that can mitigate these statistics is appropriate and necessary in the sense of creating a database with information meant to help teachers interested in building a positive style conflict management.

Teachers with high scores at ESCQ-T use collaborative strategies that mitigate the effects of the Power Distance cultural dimension and are keen to reduce the occurrence of conflicts. Teachers who promote a collaborative strategy, have open and honest communication, encourage constructive feedback, and identify learning opportunities from tense situations to prevent similar conflicts in the future. Ten conflict management styles and strategies emerged in this study, including avoidance, compromise, teaching social skills, dispute resolution foundation, counseling, and accommodation. Teachers with high emotional intelligence use practices that mitigate the effects of the Power Distance cultural dimension and are keen to reduce the occurrence of conflicts. The coding was carried out using the NVIVO software. Descriptive codes were used, an open coding was carried out, identifying relevant codes and related themes, after which an axial coding was carried out, the following **table** centralizes the obtained data**:**

Table 1. Coding Themes (First and Second order)

	Themes	Response frequency	References
(Objective) Applied conflict management style		16	52
	(theme) Avoidance	6	10
	(theme) Compromise	6	8
	(theme) Mediate	6	6
	(theme) Reconcile (The relationship comes first)	8	8
	(theme) Cooperation	12	20
	(theme) IE Dimensions	16	52
(Objective) – Best practices		16	290
	(theme) Communication	16	94
	(theme) Cause analysis	16	94
	(theme) Stress relief techniques	16	62
	(theme) Constructive approaches	16	40
(Objective) Teachers' perception of how the school's reputation is influenced by the conflict management style applied by the school's teachers.		16	22
(theme) The school's reputation is negatively impacted		16	22

Source: Own processing

Analyzing the conflict management styles used by teachers with high emotional intelligence, the **cooperative style** is the most used, a style that involves attention directed both to the relationship and to the goal, although, most of the time, the objective of teachers with high emotional intelligence is the very relationship that must be created and maintained, it is the style in which the teacher searches, together with the student, solutions that satisfy both and the teacher use the entire arsenal of techniques, both native and acquired, carefully selected for each type of conflict in order to solve it. „*I don't think we realize when we do these things when we try to manage conflicts. We simply manage to rely, we use all the resources we have. I don't know how much I used the relationship, how much I used communication, how much I know about their problems, I don't know how much I take from each one I use everything we would like to know about the conflict, but how much I use, I use relationships, I don't know."*– SD. In conflict management, **reconciling** is also often used, when the teacher prioritizes especially the relationship he has with the student. Teachers choose to smooth out the conflict and prioritize the relationship in situations where maintaining a harmonious environment is perceived as more valuable than directly solving the cause of the conflict. This approach is frequently used in sensitive situations, where emotions are intense or when the relationship with the student is fragile and requires special attention so as not to be damaged. „*Sometimes, it is more important to maintain a good relationship with the student than to win a dispute. If a student is very upset, I prefer not to insist on the moment and to address the problem when everyone is calmer. This helps to maintain a positive environment in the classroom and build a relationship of trust.*" – SD. **Compromise** and **mediation** are frequently used conflict management styles. Mediation is used to better understand the emotions and perspectives of students involved in the conflict, which helps to find a fair solution and restore harmony in the classroom. This allows the teacher to perceive and understand the emotions of the students, which contributes to a more effective management of conflicts and the teacher can communicate openly and honestly with the students, helping them to express their points of view and find common solutions. „*We organized a session where each student was able to express their feelings and listen to the other's perspective.*" – ML. Compromise occurs in conflict situations that are not always described in black-and-white chromatics, and compromise allows for a flexible and adaptable approach. Teachers use compromise to manage complex situations where rigid solutions would not be adequate or effective. „*To see if you can immediately solve something that upsets him that you can agree with, that is, to be somehow a middle way. You have to find*

a middle ground." – GD. Teachers also use the **avoidance** style, but perceived only as a tactic to postpone a conflict, meant to allow the student's emotional state to be remedied. Regarding the **contribution of emotional intelligence** to conflict management, from the analysis of the interviews, we find evidence of the interviewees' high scores on this attribute and we can conclude that all interviewees place great emphasis on the correct and fruitful management of the relationship created between them and the students. All participants expressed their emotions in words and declared that they suppressed them in the sense of not displaying them when managing conflicts. At the same time, they immediately perceive the moods and emotions of the students and are always available to listen to them. Teachers manage their own emotions and are thus able to respond calmly and rationally in conflict situations, helping to avoid escalating conflicts. Emotional intelligence enhances the ability to understand and empathize with students' feelings, which facilitates more effective communication, students feel understood and listened to which leads to conflict resolution constructively. Analyzing the interviews, we find a predilection of the respondents towards the **active communication** component, which, in everyone's view, plays a crucial role in conflict management. It is important to maintain an open and honest relationship with students through communication, encouraging students to express their feelings and problems so that it is possible to identify the causes of conflicts and find appropriate solutions. Communication must be *assertive*, students must be encouraged to express their feelings (*verbalization of emotions*) in a way that does not offend others. *Active listening* is also recommended by most respondents, through which the teacher listens carefully to the students' points of view, without interrupting them, and shows them that he understands their concerns, emotions and needs. Communication can also be non-verbal, through the use of body language, such as eye contact and especially *smiling* and open gestures, to convey empathy and support, but written communication is also used if the student in question is an introvert. Through *empathy*, the teacher can understand what his student is going through and thus the conflict is not perceived as an affront to the teacher but comes to emphasize a suffering, a lack that the student is going through: „*For me, especially in the case of some children, empathy intervenes and I put myself in their shoes, well, if he does that, what should I do? Should I be one step ahead of him?* „-ML. A second component necessary in the effective management of conflicts is the **analysis of the causes** of the conflict, emphasizing the need to find out the starting point of the conflict because only by understanding and analyzing it can the teacher resolve the conflict. Sometimes, without this thorough analysis, it can be assumed that the spark has lit out of nowhere, but, according to respondents, there is always an unmet need behind it. Thus, the basis of conflict resolution, according to the majority of respondents, lies in the investigation of the causes: *„He has a problem beyond the conflict in the current conflict, that is, something behind him or a frustration, a problem at home, an accumulation of negative things. In general, conflicts do not appear as an outburst, there is no conflict from the moment, that is, everything is fine and suddenly they are very bad. „ – VA.* When the investigation of the causes requires a more thorough analysis, most of the respondents turn to the help of other people but are aware that, especially in rural areas, *thorough research of the children's background* and the introduction of *witnesses* into the equation is of particular importance. When initiating conflict management, absolutely all respondents resort first of all to *techniques to de-escalate* the situation and start by restoring the *state of calm* to themselves and the students, either by *removing the students from the conflict zone*, through *breathing exercises*, and they all resort to the so-called „time-out" or moments of calming. Some of the teachers take advantage of the fact that students *tend to copy the behavior of teachers* and adopt a calm attitude, and a low tone of voice with the result that the student in front of him will copy exactly the same behavior, some teachers also appeal to their *own experience* to better understand the nature of the conflict, they call for *tolerance* and teach their students to judge a situation from *different perspectives*. Used as techniques for detensioning but also for approaching and even solving a potential minor conflict, some teachers resort

to *humor* and *fine irony*: *„.. I ask the children to calm down, please take a deep breath and count to 10.* „ - LD „... *The moment a situation arises that I think would degenerate, I either become ironic or I make jokes and try to smooth out before the conflict arises.* „ – ML. In conflict management, all teachers emphasize the importance of a **constructive approach** to conflict achieved through various means. The most often mentioned and of overwhelming importance is the *insistence* on ending the conflict through a solution agreed by both sides. No conflict should be ignored because this approach certainly leads to the repetition of inappropriate behavior or, in more unfortunate cases, an accumulation of such small unresolved conflicts that lead to outbursts of a much greater vengeance than the accumulated conflicts. In order to create and maintain a favorable attitude on the part of a student, some teachers resort to *highlighting the student's qualities* to be used as a premise for positive behavior, the *benefits* attracted by the desirable behavior are also emphasized, and if it comes to interventions aimed at adjusting the behavior, the *measures taken should not be drastic*, the attention should not be directed towards the search for the culprits but rather towards the *search for solutions* and the attention should be drawn not to the individual but only *to the behavior manifested* by him: „*And always when I try to get his attention, I consider that you should not attack the person, but rather highlight the behavior and that the way he behaved today makes me feel sad, disappointed, happy, happy, so it's not about the person but about his behavior that we are trying to fix the child's behavior.* „ – SD. The perception of the interviewees on the word conflict was also observed. It was described either in terms of the causes among which are the misunderstandings, lack of communication, lack of patience and exaggerations manifested by teachers, or in terms of the consequences of the manifestation of the conflict, namely the appearance of the quarrel, manifestations of raising the voice, the appearance of the communication phenomenon. The vast majority of terms associated with the phenomenon of conflict have negative connotations, encountering only one positive association, namely the one in which a conflict generates communication. All the teachers interviewed are aware of the fact that yes, how teachers manage conflicts in schools affects the reputation of that school and especially if they are managed inappropriately and conflicts escalate, all these negative news have a greater capacity to go viral than positive ones have. So, improper conflict management greatly affects the school's reputation. „*Unresolved conflicts affect the atmosphere of the school and, implicitly, its reputation. Parents quickly learn about tensions and may choose to move their children to other schools*." – GD. The school's teachers opined that the Conflict Management Strategies that they employ are based on the nature, severity, and frequency of the socially deviant behaviour exhibited by the students. It has been found that there is a positive link between teachers' emotional intelligence and the adoption of an integration-based conflict management strategy. When a teacher uses this strategy, their main goal is to identify satisfactory solutions for themselves and the students. Consequently, in conflict situations, the teacher proposes alternatives, encourages new channels of communication and dialogue, makes concessions, takes responsibility, maximizes similarities between themselves and the student, and minimizes differences. Therefore, the integration strategy focuses on exchanging information in the classroom, ideal for effective conflict management. Teachers' emotional intelligence contributes to creating a favorable environment for learning and teaching, strengthening a positive relationship between student and teacher, and enhancing the school's reputation.

5. LIMITATIONS AND FUTURE RESEARCH DIRECTIONS

This research was accomplished through a small sample of quantitative and qualitative data collection and analysis methods. The major limitation of the research is the small sample, although purposeful one (teachers in high schools who are interested in continuous learning). Although starting with the penultimate interviewee the similarity of the answers was found, there is still a

small possibility that, by increasing the sample, we will obtain additional information. From the first scores obtained with the help of the ESCQ-T test, the respondent with no. 3 was not available for an interview so he was replaced by respondent no. 16. Gender division m/f of the sample – the result analyzed from the literature is maintained, however, which concludes that there is a strong and positive correlation between sex and the level of emotional intelligence.

The research should be expanded all over Romania. The findings are pertinent as they can be used to formulate policy interventions and aid in developing conflict management approaches geared towards effectively addressing conflicts in schools. A future direction is also to gather and analyze interviews with teachers who register low emotional intelligence and understand the limitations and barriers they encounter in personal and professional development.

6. CONCLUSION

The main conclusion is that teachers with high emotional intelligence use practices that mitigate the effects of the Power Distance cultural dimension and are keen to reduce the occurrence of conflicts. The integration strategy, ideal for effective conflict management, focuses on exchanging information in the classroom, active listening, empathy, and tailored communication approaches.

Teachers' emotional intelligence contributes to creating a favourable environment for learning and teaching, strengthening a positive relationship between student and teacher, and enhancing the school's reputation. In schools where teachers' perception of the way colleagues manage conflicts is that they are approached constructively, there are no events that could negatively affect the school's reputation.

References

Abiodun, A. R. (2014). Organizational conflicts: Causes, effects and remedies. *International journal of academic research in economics and management sciences*, *3*(6), 118.

Bar-On, R. (2004). The Bar-On Emotional Quotient Inventory (EQ-i): Rationale, description and summary of psychometric properties. In G. Geher (Ed.), *Measuring emotional intelligence: Common ground and controversy* (pp. 115-145). Nova Science Publishers.

Boyatzis, R. E., Goleman, D., & Rhee, K. S. (2000). Clustering competence in emotional intelligence: Insights from the Emotional Competence Inventory (ECI). In R. Bar-On & J. D. A. Parker (Eds.), *The handbook of emotional intelligence: Theory, development, assessment, and application at home, school, and in the workplace* (pp. 343-362). Jossey-Bass

Brown, D. R. (1983). *Managing conflict at organizational interfaces.* Addison-Wesley.

Goleman, D. (1998). *Working with emotional intelligence.* Bantam Books.

Goleman, D. (2014). *Emotional intelligence: Why it can matter more than IQ (10th Anniversary Edition).* Bantam Books.

Gómez-Leal, R., Holzer, A. A., Bradley, C., Fernández-Berrocal, P., & Patti, J. (2022). The relationship between emotional intelligence and leadership in school leaders: A systematic review. *Cambridge Journal of Education*, *52*(1), 1-21.

Gross, M. A., & Guerrero, L. K. (2000). „Managing Conflict Appropriately And Effectively: An Application Of The Competence Model To Rahim's Organizational Conflict Styles", International Journal of Conflict Management, Vol. 11 No. 3, pp. 200-226. https://doi.org/10.1108/eb022840

Hofstede Insights. (n.d.). Country comparison tool: Romania. Retrieved August 20, 2024, from https://www.hofstede-insights.com/country-comparison-tool?countries=romania

Jehn, K. A. (1997). A qualitative analysis of conflict types and dimensions in organizational groups. *Administrative Science Quarterly*, 530-557.

Jennings, P. A., & Greenberg, M. T. (2009). The prosocial classroom: Teacher social and emotional competence in relation to student and classroom outcomes. *Review of educational research*, *79*(1), 491-525.

Mayer, B. S. (2012). *The dynamics of conflict: A guide to engagement and intervention*. John Wiley & Sons.

Mayer, J. D., Salovey, P., & Caruso, D. R. (2004). TARGET ARTICLES:" emotional intelligence: Theory, findings, and Implications". *Psychological inquiry, 15*(3), 197-215.

Mello, P. A. (2021). Qualitative comparative analysis: An introduction to research design and application. Georgetown University Press.

Patrașcu, D. (2017). Managementul conflictului în sistemul educaţional. Chişinău: Reclama.

Pondy, L. R. (1967). A model of organizational conflict. *Administrative Science Quarterly, 12*(2), 296-320. https://doi.org/10.2307/2391553

Saunders, M. N. K., & Townsend, K. (2016). Reporting and Justifying the Number of Interview Participants in Organization and Workplace Research. *British Journal of Management, 27*(4), 836–852. doi:10.1111/1467-8551.12182

Spencer, L., Ritchie, J., Ormston, R., O'Connor, W., & Barnard, M. (2013). 10 Analysis: Principles And Processes. Qualitative research practice: A guide for social science students and researchers.

Takšić, V. (2001). "Upitnici emocionalne kompetentnosti (inteligencije). [Emotional competence (intelligence) questionnaires]," in Zbirka Psihologijskih Mjernih Instrumenata. [The Collection of Psychological Instruments], eds K. Lacković-Grgin, and Z. Penezić, (Zadar: Faculty of Philosophy in Zadar).

Ţărnă, E. (2021). *Rolul liderului în prevenirea şi rezolvarea conflictelor educaţionale,* În Probleme ale științelor socioumanistice și modernizării învățământului, pp. 132-136

Thomas, K. W. (1976). Conflict and conflict management. In M. D. Dunnette (Ed.), *Handbook of Industrial and Organizational Psychology* (pp. 889-935). Rand McNally.

Valente, S. (2019). Influence of emotional intelligence on conflict management in teacher-students relationship. Revista De Estudios E Investigación En Psicología Y Educación, 6(2), 101–113. https://doi.org/10.17979/reipe.2019.6.2.5786

Valente, S., & Lourenço, A. A. (2020). Conflict in the classroom: How teachers' emotional intelligence influences conflict management, Frontiers in education. Vol. 5. Frontiers Media SA, https://www.frontiersin.org/articles/10.3389/feduc.2020.00005/full

White, R. K., & Lippitt, R. (1960). Autocracy and democracy: An experimental inquiry. *Harper & Brothers*.

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Business Students' Attitudes Towards Peer Assessment: Insights from a 360-Degree Feedback Study

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Abstract: *This paper investigates the implementation and impact of peer assessments in university courses, focusing on business students at a Hungarian business university. Data from undergraduate courses taught in Hungarian and English from 2023 to 2024 were analyzed to explore students' engagement and perceptions of the peer evaluation process in presentation classes. Using numerical scales and qualitative feedback, the study aimed to understand the dynamics of co-evaluation, where students are both evaluators and recipients. The findings reveal that students value both giving and receiving feedback and recognize the importance of mastering performance appraisal techniques as essential soft skills. Integrating peer assessment throughout the university curriculum is suggested to enhance critical reflection and interpersonal skills, preparing students for the collaborative demands of the modern workplace.*

1. INTRODUCTION

Peer assessment has emerged as a crucial pedagogical strategy in higher education that emphasizes reciprocal interaction and feedback among students to enhance their learning experiences and academic outcomes. This paper provides a concise review of empirical studies on peer evaluation, focusing on its pedagogical benefits. Following this review, the paper presents findings from a small-scale study that examines peer assessment within the broader framework of 360-degree evaluation, concentrating specifically on peer feedback while excluding instructor and self-assessments. Through detailed analysis, this study investigates students' attitudes toward giving and receiving feedback, the types of feedback they provide, and the necessity of structured training to ensure effective peer assessment practices.

The 360-degree feedback mechanisms, as discussed by Edwards and Ewen (2019) and Fleenor et al. (2008, 2021), provide a multi-rater feedback system that encompasses various stakeholders, including peers, superiors and self-assessments. This comprehensive approach not only broadens the feedback landscape but also deepens the learners' understanding of their strengths and weaknesses from multiple perspectives. It has proved effective in enhancing transparency and trust among students and facilitating a more rounded development of skills. Such feedback systems are particularly valuable in promoting self-regulated learning and continuous personal development.

Empirical research highlights the value of peer assessment in enriching educational experiences and fostering a participatory learning environment. Studies like those by Sattler et al. (2020) articulate its effectiveness, presenting peer feedback as not only beneficial for learners but also for instructors as it provides insights into student understanding and engagement. Research findings

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also confirm that learning by reviewing others' work encourages critical thinking and reinforces content comprehension, making peer assessment an indispensable part of modern pedagogical strategies (Cho & MacArthur, 2011; Jiang et al., 2022). This method has been shown to bridge the gap between theoretical knowledge and practical application, enabling students to experience the relevance of their learning firsthand.

Wisniewski et al. (2020) detail how feedback serves as a powerful tool in learning and propose a model that maximizes its effectiveness by focusing on the feed-up, feedback and feed-forward. Gielen et al. (2020) extend this discussion by suggesting improvements in feedback design to enhance peer feedback's impact on learning. The integration of structured feedback within educational systems can lead to a substantial uplift in academic performance which aligns closely with the goals of competency-based education models. These models emphasize skills mastery, adaptability and the critical role of feedback in achieving high educational standards.

The studies by Sande and Godino-Llorente (2014) and Cheong et al. (2022) demonstrate that peer assessments, when effectively implemented, can significantly elevate student performance more than traditional assessment methods. This effectiveness stems from the active engagement and responsibility students take in evaluating each other's work, which not only enhances their evaluative skills but also deepens their understanding of the subject matter. The reciprocity of peer assessment encourages a higher level of attentiveness and participation, which are crucial for learning enhancement and academic success.

Incorporating peer and self-assessments into the curriculum, as noted by Bozkurt (2020) and Yan et al. (2022), facilitates a reflective learning process where students evaluate their learning processes and outcomes critically. This reflective practice cultivates higher-order thinking skills, including analysis, synthesis and evaluation, which are essential for academic and professional success. The iterative process of giving and receiving feedback not only sharpens students' intellectual abilities but also builds a supportive learning community that values constructive criticism and continuous improvement.

According to Fang et al. (2021), collaborative peer assessment tasks significantly enhance the quality of self-evaluations by fostering a reflective learning environment. These activities encourage students to think critically about their work and how they can improve it, based on the feedback received from peers. Such collaborative environments support the development of key interpersonal skills and the ability to engage constructively with diverse perspectives. This not only aids in academic growth but also prepares students for professional environments where teamwork and feedback are integral.

Simonsmeier et al. (2020) highlight the necessity of thorough training in peer assessment techniques to maximize their effectiveness. Such training should not only focus on the mechanics of giving and receiving feedback but also on understanding the criteria for effective evaluation and the ethical considerations involved. Proper training ensures that peer assessments are conducted with integrity and respect, fostering an environment of trust and constructive criticism. Educators must therefore prioritize these training modules to equip students with the necessary skills to benefit fully from peer assessment methodologies.

Huisman et al. (2020) discuss the development of a questionnaire designed to assess higher education students' beliefs about peer feedback. This questionnaire was validated through exploratory

and confirmatory studies, which confirmed four key scales: students' valuation of peer feedback as an instructional method, their confidence in the quality and helpfulness of the feedback they provide and receive, and the importance they attribute to peer feedback skills. The study demonstrated the utility and reliability of the questionnaire for both research and practical application in educational settings. Huisman et al. (2020) highlight the importance of understanding students' perceptions of peer feedback to improve educational practices and support peer feedback as a critical learning tool in higher education.

The literature review has established that peer assessment is a critical component of contemporary education which contributes significantly to enhanced learning outcomes, better performance and the development of critical thinking and self-evaluation skills. The discussed studies not only highlight the importance of structured feedback systems but also the essential role of training in the effective implementation of peer assessments.

Building on the findings of previous research, this study aims to explore three key questions: What are the key factors in the feedback given by business students in peer assessments? How do business undergraduate students perceive the value of peer assessment in presentation courses? How do students' perceptions of the usefulness and effectiveness of peer evaluation vary, and what factors contribute to these perceptions? These questions are designed to uncover the subtleties of students' attitudes towards peer assessment, the nature of the feedback exchanged and the broader implications for their personal and academic growth.

2. METHODS

The study employed a mixed-methodology approach to examine the attitudes and engagement of undergraduate business students toward peer assessment within a prominent business university in Hungary. The research involved 98 undergraduates enrolled in business-related courses, specifically targeting presentation classes.

The investigation focused on three main areas related to peer assessment: first, quantitatively assessing students' presentation skills using standardized scales, second, conducting a qualitative analysis of written feedback to understand depth and sentiment and third, measuring students' attitudes towards peer assessment through a mixed-method survey approach. For the quantitative investigation, numerical scales with analytic descriptors were utilized by students to assess various dimensions of presentation skills, including clarity, engagement, content accuracy and overall effectiveness. This structured quantitative investigation facilitated the collection of standardized data essential for identifying patterns in peer evaluation across the academic years 2023-2024. In the qualitative analysis, a content analysis of 1,258 written feedback texts was conducted. This involved examining the texts for recurring themes, the emotional tone of sentiments expressed, and the depth of the constructive criticism provided. This rigorous qualitative analysis was crucial for gaining deeper insights into how students formulate their evaluations and how they react to the feedback received. Additionally, the research design included a survey to capture students' attitudes toward the peer evaluation process. This survey featured Likert-scale items to quantitatively measure students' satisfaction and perceived value of peer assessment, together with open-ended questions for qualitative insights that allowed for detailed personal reflections and suggestions for improvement.

3. RESULTS AND DISCUSSION

In analyzing the written evaluations, it could be observed that the topics highlighted were aligned with the quantitative criteria, emphasizing multiple aspects that are crucial for the effective delivery of the presentation in question. The following key areas of focus could be identified:

1. Theme and Content: Students prioritized the relevance and interest of the presentation's topic, underscoring its importance in engaging the audience.
2. Presentation Style: Effective presentations were noted for their dynamic delivery as opposed to monotone or rambling styles. Elements such as eye contact, gestures, tone of voice, and pacing were mentioned to determine the presenter's engagement level and clarity.
3. Illustrations and Slides: The quality of slides and visual presentation was another focal point, with effective use of pictures and illustrations enhancing comprehension and interest.
4. Vocabulary: In this field, the focus was on the richness and variety of vocabulary, the correct use of foreign expressions, and the mention of language errors.
5. General Impression: Confidence, preparedness, and the ability to maintain audience interest formed the basis of the general impression.

Additional aspects mentioned included "Interactivity", particularly how well the presenter engaged with the audience and responded to questions; "Time Management", focusing on adherence to allocated time and handling of any overruns or gaps; and "Technical Implementation", which involved the management of technical equipment and troubleshooting during the presentation.

In general, the analysis showed that the evaluations were mainly positive in tone. Most of the feedback commended the speakers' meticulous preparation, their engaging presentation style, and the interesting topics are chosen, e.g. "It was a very topical subject, and I learned a lot of things that were not interesting before and I really liked the way he presented it." or "It was a good performance although I found the speech a little difficult to understand at times." However, the document also included constructive criticism, which highlighted potential areas for improvement such as avoiding monotony, maintaining eye contact and paying attention to technical details, e.g. "What I can suggest is that if you are already confident in a performance, try to work on gesticulation, move around and fill the space."

The perceived value of peer evaluation is shown in Figure 1 and Figure 2. The data in Figure 1 indicates that most students find peer review beneficial, with 35 categorizing it as "very useful" and 55 seeing it as "quite useful," demonstrating a strong appreciation for its value in the feedback process. On the other hand, a minority view it less favourably: 6 participants rated it as "less useful," while only 2 considered it "not useful." The data suggests that peer review is generally regarded as a valuable contribution to the work or learning process of the participants.

Figure 2 illustrates the responses of the students on their perceptions of evaluating peer presentations, categorized into five aspects: "I liked that I could also evaluate," "interesting," "challenging," "unusual," and "not so important". Students were given the option to rank three aspects about evaluating peer presentations out of these choices. The most favoured sentiment was the opportunity to evaluate others, with 40 respondents ranking it first, and with 17 ranking it second. The aspect "interesting" was also highly favoured, receiving 22 first-place, 9 second-place, and 21 third-place rankings. "Challenging" was the third most ranked sentiment at first place by 19 participants and at second by 10. "Unusual" garnered less interest, with being ranked in both first and second place by 14, and third by 8 students. The aspect deemed least valuable was "not so important," with four

first-place selections, one second-place selection, and one third-place selection. The results reflect a generally positive reception of peer evaluation, with a clear preference for active involvement and the intriguing nature of the task.

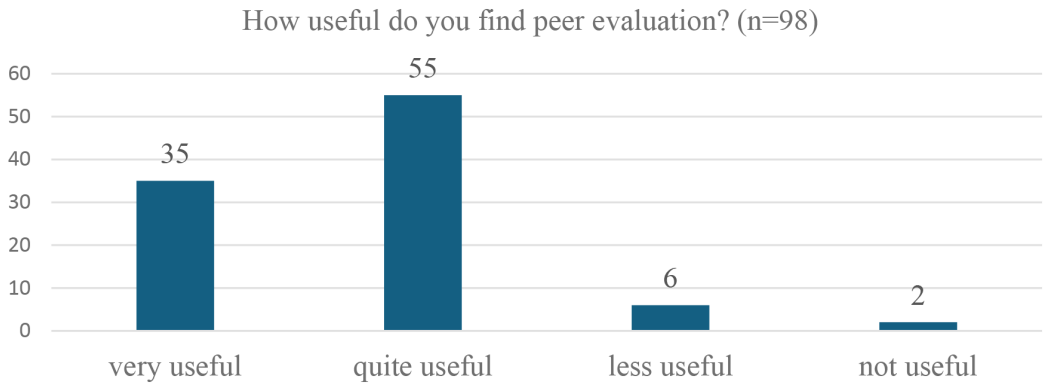


Figure 1. Usefulness of peer assessment

Source: Own research

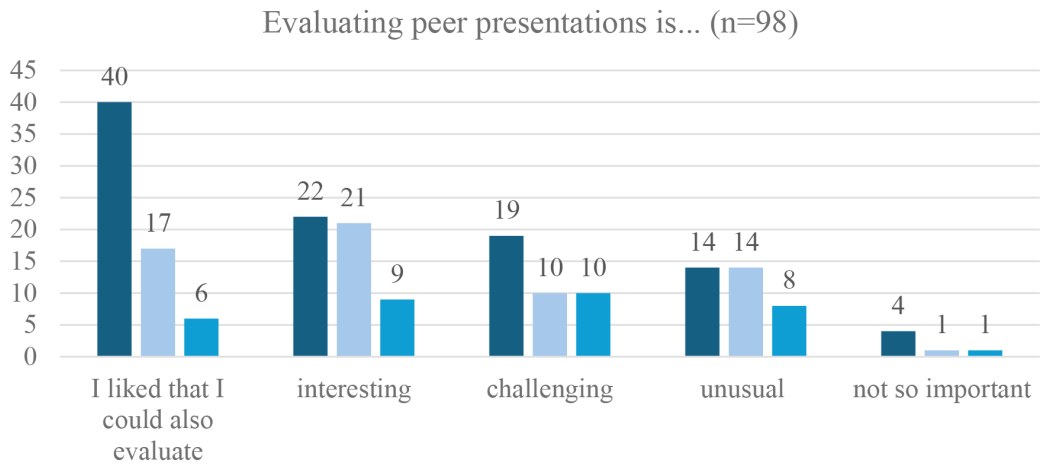


Figure 2. Perception of peer assessment

Source: Own research

In an open-ended question, students were invited to provide their thoughts on additional factors that they consider when evaluating the performance of their peers. Most participants indicated that the evaluation process assisted them in a more comprehensive understanding of their peers' work and in developing their own critical thinking abilities. The more frequent thoughts and topics that arise in this context were:

1. Overall impression and experiences: Many students expressed that they felt positive about receiving constructive feedback and found the evaluation system to be beneficial. A number of respondents indicated that the evaluation process had a unifying effect on the group and contributed to the formation of a sense of community.
2. Positive evaluation: The feedback indicated a positive evaluation, with particular emphasis on the importance of empathy and justice. The students expressed appreciation for the clear and beautiful presentations, and they were gratified to see that their work was appreciated by others.
3. Negative evaluations and challenges: Some participants reported difficulties during the evaluation process. These difficulties included concerns about offending others and scoring too harshly or too leniently. Additionally, some participants found the mandatory text feedback challenging.

4. Suggestions and problems: Students proposed the introduction of additional evaluation criteria and more detailed feedback options. Some students expressed a preference for live evaluation.

The overall tone was positive, with students expressing appreciation for the value of feedback. Criticisms and suggestions were also constructive in nature and aimed at enhancing the system. Overall, participants perceived the evaluation process as beneficial and supportive, which facilitated their personal growth and strengthened group cohesion, as illustrated by the following examples:

"It helped us to improve our ability to formulate a sound critique."

"It's very good to be able to evaluate each other's performance and it strengthens the group community, so in a word, I think it's absolutely constructive."

"I think it's one of the most useful pieces of feedback we can get."

"I think it's a very fair system and I haven't seen anybody abusing that right. I hope everyone gets what they deserve."

The research has provided valuable insights into several aspects of peer assessment. Concerning the first research question—What are the key factors in the feedback given by business students in peer assessments?—the findings indicate that students prioritize thematic relevance, dynamic presentation style and the effectiveness of visual aids. These elements are seen as crucial to engaging the audience and delivering successful presentations. In response to the second research question—How do business undergraduate students perceive the value of peer assessment in presentation courses?—the research reveals a strong appreciation of the fairness and constructive nature of the feedback. Students value peer assessment for its role in enhancing their personal and academic development, a finding consistent with the research by Double et al. (2019), which also highlights the positive impact of peer assessment on academic growth and emphasizes the importance of empathy and fairness in assessment. Addressing the third research question—How do students' perceptions of the usefulness and effectiveness of peer evaluation vary, and what factors contribute to these perceptions?—the study found a generally positive attitude among students. A significant majority of students find peer evaluation very or fairly useful, strongly influenced by their active involvement in the evaluation process. This finding aligns with the research of Yan et al. (2023), which also highlights how active participation in peer assessment contributes to more favourable perceptions of its usefulness and effectiveness. The positive reception supports the research question exploring the factors contributing to these perceptions, highlighting the importance of engagement and the opportunity to participate in peer evaluation.

Overall, the research confirms that peer assessment is an invaluable pedagogical tool that enhances learning outcomes by developing critical evaluation skills and strengthening community bonds among students.

4. FUTURE RESEARCH DIRECTIONS

While peer assessment is widely studied in various educational fields, there remains a notable research gap within the context of business education. This gap indicates a potential for significant contributions to the existing body of research to explore how peer assessment techniques can be tailored to fit the unique needs of business education. Future studies could investigate how these

methods impact specific business skills such as strategic thinking, problem-solving, and leadership, which are crucial for business students. Addressing this gap could provide valuable insights into effective pedagogical strategies that cater specifically to the needs of business education.

Additionally, to fully comprehend the potential of 360-degree evaluations, future research should also explore the other two aspects of this comprehensive feedback model: instructor assessments and self-assessments. While peer assessment provides valuable peer-to-peer insights, integrating instructor feedback and self-reflection could offer a more holistic view of student performance and developmental needs. Investigating these components could enhance understanding of their interplay and collective impact on student learning outcomes. Such studies would not only broaden the scope of research but also deepen the understanding of 360-degree feedback systems as a multifaceted tool for enhancing educational practices in business studies. This holistic approach could lead to the development of more robust, integrated feedback systems that support the development of essential business competences.

5. CONCLUSION

The mixed-methods approach using both quantitative and qualitative data collection allowed the study to thoroughly assess the effectiveness and reception of peer assessment within the business education context. By evaluating peer assessments at key points in the courses investigated, the study aimed to provide detailed insights into the development of students' evaluative skills and their educational impact. The combination of content analysis and attitudinal surveys enriched the understanding of the dynamics of peer assessment in this specific educational setting. The results demonstrated that students recognize the significant value of feedback skills, viewing peer evaluation as a crucial element in their personal development. The students adopt a serious and positive approach to peer feedback, demonstrating an understanding of its impact on learning and self-improvement. The overall response to peer feedback is notably positive, accompanied by constructive criticism. This further enriches the learning experience and emphasizes the importance of feedback in educational settings. Despite its proven benefits, the need for more targeted research in business education settings presents a fertile ground for future academic inquiries. By closing these gaps, educators can refine peer assessment practices to better serve educational objectives and student needs in business disciplines.

References

Bozkurt, F. (2020). Teacher candidates' views on self and peer assessment as a tool for student development. *Australian Journal of Teacher Education (Online)*, *45*(1), 47-60.

Cheong, C. M., Luo, N., Zhu, X., Lu, Q., & Wei, W. (2022). Self-assessment complements peer assessment for undergraduate students in an academic writing task. *Assessment & Evaluation in Higher Education*, *48*(1), 135–148. https://doi.org/10.1080/02602938.2022.2069225

Cho, K., & MacArthur, C. (2011). Learning by reviewing. *Journal of Educational Psychology*, 112(1), 17-30. https://doi.org/10.1037/edu0000369

Double, K. S., McGrane, J. A., & Hopfenbeck, T. N. (2019). The impact of peer assessment on Academic Performance: A meta-analysis of Control Group Studies. *Educational Psychology Review*, *32*(2), 481–509. https://doi.org/10.1007/s10648-019-09510-3

Edwards, M., R. & Ewen, A. J. (2019). 360 Degree Feedback: Theory and Practice. Springer. https://doi.org/10.1007/978-3-030-20917-5

Fang, J.-W., Chang, S.-C., Hwang, G.-J., & Yang, G. (2021). An online collaborative peer-assessment approach to strengthening pre-service teachers' digital content development competence and

higher-order thinking tendency. *Educational Technology Research and Development*, *69*(2), 1155–1181. https://doi.org/10.1007/s11423-021-09990-7

Fleenor, J. W., Taylor, S., & Chappelow, C. (2008). Leveraging the impact of 360-degree feedback. Pfeiffer, an Imprint of Wiley. https://doi.org/10.1002/9781118256107

Fleenor, J. W., Taylor, S., & Chappelow, C. (2021). Leveraging 360-Degree Feedback for Leadership Development in Higher Education. *Journal of Leadership Education*, *20*(1), 112-128. https://doi.org/10.12806/V20/I1/R8

Gielen, S., Peeters, E., Dochy, F., Onghena, P., & Struyven, K. (2020). Improving the effectiveness of peer feedback for learning. *Learning and Instruction, 35*, 101-112. https://doi.org/10.1016/j.learninstruc.2014.10.003

Huisman, B., Saab, N., Van Driel, J., & Van Den Broek, P. (2020). A questionnaire to assess students' beliefs about peer-feedback. *Innovations in Education and Teaching International*, *57*(3), 328–338. https://doi.org/10.1080/14703297.2019.1630294

Jiang, J.-P., Hu, J.-Y., Zhang, Y.-B., & Yin, X.-C. (2022). Fostering College students' critical thinking skills through peer assessment in the Knowledge Building Community. *Interactive Learning Environments*, *31*(10), 6480–6496. https://doi.org/10.1080/10494820.2022.2039949

Sande, J. C., & Godino-Llorente, J. I. (2014). Peer Assessment and Self-assessment: Effective Learning Tools in Higher Education. *International Journal of Engineering, 30*, 711-721.

Sattler, S., Haring, M., & Rath, S. (2020). Peer feedback in higher education: A systematic literature review. *Assessment & Evaluation in Higher Education,* 45(8), 1119-1137. https://doi.org/10.1080/02602938.2020.1724873

Simonsmeier, B. A., Peiffer, H., Flaig, M., & Schneider, M. (2020). Training vital for effective peer assessment. *Educational Psychology Review*, 32(2), 425-456. https://doi.org/10.1007/s10648-019-09506-5

Wisniewski, B., Zierer, K., & Hattie, J. (2020). The power of feedback revisited: A meta-analysis of educational feedback research. *Frontiers in Psychology,* 11, 3087. https://doi.org/10.3389/fpsyg.2020.03087

Yan, Z., Lao, H., Panadero, E., Fernández-Castilla, B., Yang, L., & Yang, M. (2022). Effects of self-assessment and peer-assessment interventions on academic performance: A meta-analysis. *Educational Research Review, 37*, 100484. https://doi.org/10.1016/j.edurev.2022.100484

Yan, Z., Panadero, E., Wang, X., & Zhan, Y. (2023). A systematic review on students' perceptions of self-assessment: Usefulness and factors influencing implementation. *Educational Psychology Review*, *35*(3), 81. https://doi.org/10.1007/s10648-023-09799-1

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Assessing Students' Knowledge Through e-Learning Platforms

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Knowledge;
Skills;
Financial control;
Web-based tests;
e-Learning platforms;
Moodle

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Abstract: *In this report, an attempt is made to examine issues of discussion related to the assessment of student's knowledge and skills in the field of Accounting in general, and in „Financial Control" course in particular. The issue of measuring students' knowledge and skills is a very important issue that has always caused controversy and discussion among professionals working in the education system. It is so because one of the most important indicators of the quality of education is students' performance expressed through the grades that teachers give to students. It is quite understandable that it is in the interest of all members of society and especially employers that students' grades correspond to the maximum extent possible to the knowledge and skills acquired at the university. This issue has not been given enough attention recently, which is why when students get employed it is often found that their knowledge and skills gained at the university do not meet the requirements of the employers.*

The object of study in this report is the possibilities for assessing students' knowledge and skills through the use of web-based computer tests consisting of both practical tasks and different types of test questions, allowing a comprehensive assessment of knowledge and skills acquired at the university. The report outlines the advantages and disadvantages of the different types of test questions used to assess students' knowledge and skills. Emphasis is placed on the search for opportunities through the use of computer tests to achieve an objective assessment of student's knowledge and skills in the field of Accounting.

1. INTRODUCTION

The training of higher education specialists in the field of Accounting and Finance has recently undergone significant changes. These changes are dictated by the constantly changing economy, the emergence of new reporting units, new approaches to reporting, control, and analysis of business activities, introduction of new courses (e.g. Audit, Management Accounting), introduction and implementation of international accounting standards, etc.

All this created the need for the application of new approaches and methods of teaching, the introduction of new forms of study (e.g. distance learning), and the COVID-19 pandemic situation during the last year has accelerated the introduction and widespread use of e-learning platforms.

In light of the above, the purpose of this study is to examine students' theoretical knowledge and practical skills in "Financial Control", Program "Accounting and Auditing", University of Economics-Varna.

The interest in this topic is driven by the fact that in the last semester, due to the pandemic situation, students studied entirely in an electronic environment, through e-courses in the Moodle platform, which is another challenge for both students and teachers assessing their knowledge and skills.

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2. RESEARCH METHODOLOGY

The interest in this topic is further fueled by the fact that, in recent years, e-learning courses (on the Moodle platform) have been increasingly used in student education, which represents a further challenge for both students and teachers in assessing their knowledge and skills.

Distance learning issues have been studied by many researchers since the 1970s (Peters, 1983; Moore, 1973; Holmberg, 1983; Keegan, 1993; Garrison, 2000). According to Peters (1983), the emergence of distance education is associated with the period of industrialization, when the need for the availability of large numbers of highly skilled professionals arose. In fact, this period marked the beginning of the massification of education, when it began to change from elitist (accessible to a small number of people) to mass (accessible to more people).

One of the most characteristic features of distance education is the physical distance between the teacher and the learner. The existence of distance between the learner and the teacher is seen as one of the positive aspects of this form of education, as it enables the learner to acquire new skills such as: greater decision-making independence, autonomy and independence, which will allow them to adapt more easily to a real work environment when they enter the labor market (Holmberg, 1983; Moore, 1973).

In the vast majority of research currently devoted to distance education, the latter is seen as a contemporary form of learning, despite the presence of distance between the teacher and the learner (Peters, 1983) and a practical lack of communication between learners. Moreover. Garrison (2000) believes that the lack of physical contact (in an auditorium) between the learner and the teacher can be compensated by developing appropriate interactive learning materials based on modern information and communication technologies and by creating an appropriate communicative environment, both between the teacher and the learners and between the learners themselves.

In the modern stage, different forms and methods are used to assess students' knowledge and skills, such as oral answers, written tests, colloquia, control papers, etc. Each of these forms and methods has its advantages and disadvantages, so in many cases, a combination of them is used to obtain a picture of the level of student's knowledge and skills. Since the end of the last century, testing has been added to these forms of assessment. With the development of information and communication technologies, the use of tests has increased. Due to the presence of many positive aspects, this method finds wide application in the assessment of knowledge and skills through the use of e-learning platforms such as Moodle. Unlike the traditional methods of knowledge assessment mentioned above, it is the test form of assessment that is characterized by the presence of scientifically based assessment criteria (Wilson, 2005).

One of the main prerequisites for the widespread use of the test form of knowledge assessment is the development of information technology and the increasing number of students. By using different types of test questions, different types of student knowledge and skills can be assessed. In this sense, the American psychologist Benjamin Bloom (Bloom et al., 1956) developed and proposed a detailed classification of educational objectives: (a) knowledge - memorization of knowledge; (b) understanding - acquisition of skills, the learner to understand the acquired knowledge; (c) application - acquisition of skills, the learner to put the acquired knowledge into practice; (d) analysis - acquisition of skills, the learner to analyses the acquired knowledge; (e) synthesis - acquisition of skills, the learner to develop new ideas based on the acquired knowledge; and (f) evaluation - acquisition of skills, the learner to argue for a decision or own position on a particular issue.

Tests of the following types can be generated programmatically: true/false, multiple choice, missing word, numerical, open-ended (essay type), etc. In the first type of question, the student has to answer whether a statement is true or false; in the second, he/she has to choose the correct answer among several alternatives; in the third, he/she has to fill in the missing word in a given place in the sentence correctly among several indicated; in the fourth, he/she has to perform certain calculations and indicate a specific answer; and in the fifth, he/she has to answer a short theoretical question in writing.

Test assessment has entered Bulgarian education relatively quickly as a well-established method in Western educational systems for assessing students' knowledge and skills. The reason for its introduction is its advantages, the most important of which are the following (Cohen & Swerdlik, 2009):

- Simplicity - the use of computer technology makes it possible to reduce the routine work involved in developing and checking examination papers;
- Time-saving - the computer-based test allows a significant number of students to be tested and assessed in a short period;
- Objectivity of the assessment - the test questions generated by the software allow all students to be placed under the same conditions, to solve a test with the same level of difficulty, which excludes the possibility of subjectivism on the part of the teacher.

The testing system used in Bulgaria to assess knowledge, including the use of computer-based tests, is rather mechanical and has many shortcomings, many of which manifest themselves in practice. The most important of these are:

- Assessing knowledge using computer-based tests involves a different type of learning than the way students prepare by developing questions, solving problems or case studies;
- Quizzes require a textbook (preferably electronic) that clearly states the answer to the question;
- Only students' reproductive knowledge, such as listing facts, defining concepts, reproducing formulae, etc., can be assessed through computer-based tests with multiple-choice and true/false questions. This type of assessment does not allow us to check students' productive knowledge (understanding of facts, use of concepts, understanding of principles) and the extent to which students are able to apply what they have learned in practice. For this purpose, it is necessary to develop examination tests, including other types of questions, such as open-ended (essay type), numerical questions, etc.

The focus of this study was:

- To check the extent to which students have mastered the theoretical knowledge taught;
- To check whether students are able to make sense of facts, define concepts and principles specific to the discipline being studied;
- To check whether students have acquired practical skills and can apply the theoretical knowledge they have acquired to solve practical problems.

The need to include case studies in the form of numerical questions as well as test questions of different types was driven by the fact that different types of questions can test different types of student knowledge. For example, multiple-choice questions, which require students to select the correct answer from several alternatives, can test students' reproductive knowledge. In this way, students' ability to list facts, define concepts, reproduce formulae, etc. can be tested.

Students' productive knowledge, i.e. the extent to which they are able to make sense of facts, understand and interpret concepts and principles, can be tested through open-ended questions to which students have to give a specific answer. To this end, short theoretical questions should be

formulated from the material studied, which students can answer freely on the Moodle platform. The problem with this type of question is that the student's answers should be evaluated by the teaching team, which should assign a certain number of points to each theoretical question based on the completeness of the answer given. This type of question allows the teaching team to check how well the students have mastered the technical terminology and how fluently they can interpret the underlying theoretical propositions.

Students' practical skills, i.e. the extent to which they can apply the theoretical knowledge they have acquired, can be tested by including practical case studies (e.g. in the form of numerical questions) in the exam version.

Regarding the possibility of using computer-based tests to assess student's knowledge and skills, it should be noted that the assessment team needs to have an electronically based learning platform. Before proceeding with the implementation of a computer-based test to assess knowledge and skills, the teaching team should adopt a certain approach, specifying in advance the type of student knowledge to be tested: theoretical, practical, or a combination of both. Only after a certain concept has been adopted and the type of knowledge to be tested and assessed has been specified, it is possible to determine the type of questions to be included in the electronically based examination to test the student's knowledge and skills. Our argumentation will be based on the Moodle platform, as one of the most common platforms for e-learning courses in Bulgaria, which also allows to conducting e-learning exams by including exam tasks and different types of exam questions.

The fact that accounting, which also has a control function, originated as a purely practical activity, and that only a few centuries later the first attempts were made to clarify its logic and principles theoretically, shows that in the study of Accounting and Auditing (or other similarly named specialties), in addition to theoretical knowledge, practical skills should be acquired, aimed at the possibility of applying the acquired theoretical knowledge in practice. This circumstance makes it necessary to include modules with practical tasks in the development of examination options for assessing the knowledge and skills of students in the discipline of Financial Control. In this way, it will be possible to assess the extent to which students are able to apply the theoretical knowledge they have acquired to real-life practice.

These requirements can be fully realized through the capabilities of the Moodle platform. It allows for the development of exam versions with case studies to be solved by the students and re-submitted to the lecturer for assessment via the platform. It is also possible to create an electronic computer-based test with different types of questions to verify the theoretical knowledge acquired during the training. The latter can be checked by including different types of questions such as true/false, missing word, multiple choice, etc. Considering the specificity of the study material of the Financial Control discipline, which is practice-oriented, we believe that in order to test the theoretical knowledge of the students of this discipline, the test should include questions of the "true/false" type and questions of the "multiple choice" type.

It is the practical training in the discipline of Financial Control that requires the highest relative share in the structure of the evaluation of students' knowledge and skills, in order to assess the students' ability to solve practical problems. Secondly, students' ability to understand basic concepts and interpret basic theoretical concepts should be assessed. Thirdly, their ability to list facts, define concepts, reproduce formulae, etc. should be assessed.

3. RESULTS AND DISCUSSION

The study was carried out on the basis of the results obtained in the examination of the discipline Financial Control by all the students who appeared (43 people). The examination test was combined and contained three types of questions:

a) multiple-choice questions (46 items), where students must choose the correct answer from four alternatives given;
b) true/false questions (20 questions), where students have to indicate whether the statement is true or false;
c) numerical questions (7 questions), which are practical cases to test the students' ability to apply the theoretical knowledge acquired during the semester.

The different types of questions have different relative weights in determining the final grade, as different questions assess different types of student knowledge. Numerical questions have the highest weighting (5 points for a correct answer). Each correct answer to true/false questions is worth 2 points and each correct answer to multiple-choice questions is worth 1 point. No points are deducted if students do not answer a question or if the answer to a question is incorrect. This is the reason why the total number of points exceeds 100, as the Moodle platform recalculates the number of points each student receives to 100 based on the number of correct and incorrect answers given to each question type, and the different number of points the correct answer to each question is worth.

The reliability of the test has been checked using the internal consistency index by calculating Cronbach's coefficient. The α coefficient was proposed by the American scientist Lee Cronbach in 1951 and its application makes it possible to determine the contribution of each question to the overall reliability of the test. Test-retest reliability represents the stability of measurement results, i.e. the possibility of obtaining similar results in a repeated test under similar conditions. The internal consistency of a test also expresses the relationship between each of the questions and the overall result obtained, indicating the extent to which the individual questions do not contradict each other. The internal consistency coefficient of the test (calculated based on the statistical methodology embedded in the Moodle platform) is 74.96%. The value obtained gives us a reason to define the test as reliable since it is generally accepted that in order to define a test as reliable based on this coefficient, its value must exceed 70%. Of course, there are specialists (Boateng et al., 2018) who recommend a higher range of Cronbah's coefficient (85-90%) for greater certainty, but other factors, such as the number of questions included in the test, must be taken into account when determining reliability.

The value of the standard error should also be considered when analyzing the results obtained by students. Its determination is based on the idea that the result achieved in solving the test is due to the student's knowledge and skills as well as a certain amount of luck. The standard error can be used to eliminate the influence of luck. The value of the standard error (determined on the basis of the statistical methodology embedded in the Moodle platform) is 6.8%. This means that if the average student pass rate is 58.25%, then with a standard error of 6.8%, the actual student pass rate is in the range 51.45-61.21%.

The results obtained from the different components of the test variant are shown in Tables 1,2 and 3.

In the first part of the examination - solving practical problems - 7 examination cases were included in the form of numerical questions, based on the material studied during the semester. As can be

seen from the data presented in Table 1, only 6 students (13.95% of all students) failed the numerical (practical) questions by not answering any of the numerical questions correctly. The majority of students (28 students or 65.12% of all students) scored between 6 and 20 points, which can be considered a very good result. Nine students (20.93%) scored up to 5 points, which means that they answered only one of the numerical (practical) questions correctly and their result can be considered unsatisfactory. This means that about 1/3 of the students (34.88%) have not acquired sufficient skills to apply the theoretical knowledge they have acquired in solving practical situations. Unfortunately, none of the students answered the 7 numerical questions correctly, but it can still be concluded that the students have, to a large extent, acquired the necessary skills to be able to apply theoretical knowledge in real practice during their studies at university.

Table 1. Results obtained by solving the numerical (practical) questions

No.	Points obtained by solving numerical (practical) questions	Number of students	Performance level (%)
1	0	6	13.95
2	1-5	9	20.93
3	6-10	10	23.26
4	11-15	11	25.58
5	16-20	7	16.28
6	21-25	0	0
Total		43	100.00

Source: Own research

Table 2. Test results obtained (true/false questions)

No.	Test scores	Number of students	Performance level (%)
1	0-10	1	2.33
2	11-20	13	30.23
3	21-30	23	53.49
4	31-40	6	13.95
Total		43	100.00

Source: Own research

Table 3. Test results obtained (multiple choice questions)

No.	Test scores	Number of students	Performance level (%)
1	0-10	0	0
2	11-20	4	9.30
3	21-30	16	37.21
4	31-40	22	51.16
3	41-46	1	2.33
Total		43	100.00

Source: Own research

When analyzing the results, it should also be taken into account that some of the numerical questions were slightly different from those solved in the seminar sessions during the semester, which may have further hindered some of the students.

The true/false questions contained specific statements to test the extent to which the students had mastered the specific terminology and conceptual apparatus of the discipline of financial control. The literature suggests that these are some of the easiest questions to answer, as there is a 50% chance that a student will answer correctly even if he/she does not know the correct answer. When analyzing the data from Table 2, it can be seen that the majority of students (23 students,

representing 53.495% of the total population) scored in the range of 21-30 points, which indicates that these students have a very good theoretical background and a significant mastery of the specific concepts and terminology of the discipline. It is noteworthy that 6 students (13.95%) scored in the range of 31-40 points, which indicates that these students have an extremely good theoretical background in the discipline.

The multiple-choice questions were formulated based on the material studied during the semester. These questions were designed to test the students' general theoretical background in the discipline of Financial Control, and the results of the test showed that this type of question did not cause any difficulty for the students. This can be supported by the fact that practically no student scored less than 10 points on this type of question. From the data presented in Table 3, it can be seen that the highest score, in the range of 31-40 marks, was obtained by 22 students, or 51.16% of all those tested, 16 students (or 37.21%) obtained a score in the range of 21-30 marks, which can also be considered as a very good result. There were no students who scored less than 10 points and only 4 students (9.30%) can be considered as not theoretically prepared as they scored in the range of 11-20 points, which can be considered as unsatisfactory. It is also noteworthy that only one student (2.33%) scored in the range of 41-46 marks, which is close to the maximum. This can be considered as quite normal, considering that the discipline of Financial Control can be defined as one of the disciplines that form the image of the discipline of Accounting and Auditing, which is characterized by specific terminology and issues, which implies that students make maximum efforts to master it.

An analysis of the results obtained in the Financial Control exam shows that the students have largely mastered the theoretical knowledge taught and have the necessary practical skills to apply their knowledge in practice. The data show that about 30% of the students (7 students who obtained the highest score in the numerical questions; 6 students who obtained the highest score in the true/false questions and 1 student who obtained the highest score in the multiple choice questions) possess critical thinking skills and can propose alternative solutions in non-standard practical situations. The latter is a very good testimony to the learning of the discipline.

4. CONCLUSION

As shown in the results from the examination in "Financial Control" students have largely acquired the theoretical knowledge and have the necessary practical skills to apply their knowledge in practice. The data show that nearly 22% of the students have critical thinking skills and can offer alternative solutions in non-standard practical situations. It is a strong attestation of the training in the respective course.

At the same time, the results from the examination show that upon completion of their training in "Financial Control" course, a large part of the students do not have systematic knowledge of the studied issues. Knowledge is used independently, and most students are not able to apply knowledge in some courses, such as "Financial Accounting", "Theory of Control" and "Financial Control" when solving specific practical tasks.

When solving practical tasks, students easily deal with those similar to the tasks solved during the semester and those that require direct application of the provisions of the current legislation. With regard to practical tasks that require creative thinking and the application of a set of knowledge from various disciplines, students have difficulties in finding the best solution.

To minimize these weak points, it is appropriate to introduce more elements of training in the educational process, which should be mainly practical. During the semester, students should be assigned independent coursework and homework to be discussed with the teacher during the last hours of the semester. This, as well as the regular meetings with business representatives, will make university education relevant to practical needs.

Students should be encouraged to do internships in a real work environment during their studies. It is useful for students to participate in at least two internship programs during their studies, and they should avail of the opportunities provided from the internship programs and projects funded by the European Union. This, in turn, will improve students' practical skills and enable them to more easily adapt to the employers' requirements in real-life concepts.

References

Bloom, B. S., Englehart, M. D., Furst, E. J., Hill, W. H., & Krathwohl, D. R. (1956). *Taxonomy of educational objectives: Handbook I, cognitive domain*. New York, NY: Longman.

Boateng, G. O., Neilands, T. B., Frongillo, E. A., Melgar-Quiñonez, H. R., & Young, S. L. (2018). Best practices for developing and validating scales for health, social, and behavioral research: A primer. *Frontiers in Public Health, 6*, 149. https://doi.org/10.3389/fpubh.2018.00149

Cohen, R., & Swerdlik, M. (2009). *Psychological testing and measurement* (7th ed.). Boston, MA: McGraw-Hill Higher Education.

Garrison, R. (2000). Theoretical challenges for distance education in the 21st century: A shift from structural to transactional issues. *The International Review of Research in Open and Distributed Learning, 1*(1). https://doi.org/10.19173/irrodl.v1i1.2

Holmberg, B. (1983). Guided didactic conversation in distance education. In D. Sewart & B. Holmberg (Eds.), *Distance education: International perspectives* (pp. 114–122). London, UK: Croom Helm.

Keegan, D. (1993). Reintegration of the teaching acts. In D. Keegan (Ed.), *Theoretical principles of distance education* (pp. 113–134). London, UK: Routledge.

Moore, M. (1973). Toward a theory of independent learning and teaching. *The Journal of Higher Education, 44*(9), 661–679. https://doi.org/10.1080/00221546.1973.11776906

Peters, O. (1983). Distance teaching and industrial production: A comparative interpretation in outline. In D. Sewart, D. Keegan, & B. Holmberg (Eds.), *Distance education: International perspectives* (pp. 95–113). London, UK: Croom Helm.

Wilson, M. (2005). *Constructing measures: An item response modeling approach*. Mahwah, NJ: Lawrence Erlbaum Associates.

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From Students' Personal Transformation to Sustainable Development in Higher Education

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Abstract: *This paper highlights the link between the development of sustainable higher education and subjective change in student needs and expectations. Based on the research findings presented in this paper, while the debate on how universities should offer sustainable development to students continues, students' needs are undergoing changes that promote sustainable higher education development. Nowadays, students are changing their perception of themselves, and their development in individual and social contexts, and as a result, they are changing their understanding of university. Material conditions are pushed to the background, as well as the need for student initiatives and events. Students put the ability of universities to accept, understand and provide for their personal and professional development first. More than ever, students critically evaluate the quality of education based on their understanding of how education should meet their individual developmental needs and the actual education they receive.*

1. INTRODUCTION

The Global Goals for Sustainable Development have set higher education many important tasks. Understanding the important functions that higher education performs in relation to individual development, and therefore to society as a whole, has shown that today more than ever the individual, personal context must be taken into account if we are to achieve change in the whole. Individual knowledge and motivation for action, the personal understanding of the meaning of the steps towards achieving the common goal, turns out to be that specific individual context on the development of which the fulfilment of the whole depends. Thus, higher education, which today has the task of integrating the idea of sustainability (Idoiaga Mondragon et al., 2023, p. 2), should introduce the principles of sustainability in the strategies of higher education institutions (Žalėnienė & Pereira, 2021, p. 99), to fulfill its task at all levels of education (González-Pérez & Ramírez-Montoya, 2022, p. 1493) and in all elements of education from the organization of the learning process and teaching methods to the relationship between students and teachers and the way students feel in higher education. By expanding its commitment to student development, higher education today is moving beyond its formerly core purpose of providing the scientific and practical knowledge for successful professional development.

At the beginning of the 21st century, Europe joined forces in creating unified standards and guidelines for quality assurance in higher education, which Muhamedbegović et al. (2015) called „a unifying momentum for progress" (p. 1). As a result, international reflection on the problems in higher education and the possibilities for improving its quality is intensifying. In 2005, the first common framework of standards and guidelines for quality assurance in European higher education (ESG) emerged. It introduced uniform criteria for quality assurance in European higher education. In 2014, the European Quality Assurance Framework (EQAF) was launched. The Bologna Follow-up

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Group (BFUG) approved a revised version of the ESG, and in May 2015 the Bologna Process Ministerial Meeting formally adopted the revised standards and guidelines.

One of the relatively new elements in the evaluation of the quality of higher education is the participation of students in the evaluation process and the discussion of mechanisms to improve its condition. Students‘ satisfaction with the curricula and the atmosphere in the higher education institution has become an essential element of education monitoring. For the first time, in generations, education has turned its attention to the fact that the student and their need for education is the real user of the service, and the successful development of the student affects the well-being of all. Attention to the needs of students has intensified. The degree of student satisfaction with the learning process and the atmosphere of the higher education institution as a whole has taken an important place in the study of the quality of education provided by higher education institutions.

This article presents the results of a survey of Bulgarian students‘ opinions on the importance of certain indicators used to assess the quality of higher education. The study was conducted in 2023, with 44 (30%) students from Technical University who study social sciences. They represent 30% of all first, second, third and fourth year students studying social sciences. The students were selected to participate using the respondent method.

The study shows a process of transformation of student criteria of quality of higher education institutions as a whole. Among the 74 quality indicators derived from multiple international studies, students place first an indicator related to the degree of acceptance and respect they feel in the higher education institution. The importance of the treatment they receive, present in many studies to date but rarely brought to the top, indicates a dynamic in students‘ values. Students perceive higher education as an integrated part of their overall development, rather than a distanced and only focused on professional manifestations part of their lives.

The transformation of students‘ perception of higher education found in this study coincides with the concept of sustainable education, which today, more than ever, focuses the learning process on each student‘s ability to reflect on and realize himself as a person who, through his potential, decisions and actions, influences the environment around him.

2. TRANSFORMATION OF STUDENT QUALITY CRITERIA FOR HIGHER EDUCATION

The development of the understanding that individual development today, influences the development of the whole tomorrow, and increases the commitment to one‘s own development and responsibility to the development of the whole. This new construct in understanding the meaning of development increases the requirements for universities, which have the functions to develop, guide and unfold the potential of their students. Education, as Mattos et al. (2023) put it has a „noble mission of, with its practices, informing, training, and transforming those with whom it comes into contact“ (p.1). Achieving this in the context of accelerated global change processes reinforces the need to transform higher education into sustainable higher education (Kocot et al., 2024). But how to achieve this today, when the focus is already on sustainable development, is a question that fills our contemporary research and analysis of practices more or less achieving this new goal.

It is now widely believed that the behaviour of students in higher education shows a growing disinterest in the learning process, a decline in motivation to learn and a decline in academic achievement. This change is more often associated with a loss of interest in their development and disinterest

in education in general, and less often with a gap between what students seek in education and what it provides. Indeed, the behaviour of students in many higher education institutions shows a loss of interest and low motivation for academic achievement, but is this really due to a decline in interest in the development and higher education as providing this?

This article, like other articles, joins its research findings to the idea that the observed student behavior is not due to a change in interest in higher education. Rather, what we are witnessing today is a transformation in students' understanding of the place of higher education in the context of their individual development and a disconnect between their perceived need for development and how universities provide for that need. And this is not about ‚consumer demand'. This is about a shift in focus from higher education as a tool for professional fulfilment to an increased individual awareness of the real role of education in personal development and hence in the whole societal context.

Highly relevant research such as that of Ashwin et al. (2023) today shows that students are personally engaged with the knowledge they acquire and the role that education plays in their future development (pp. 1-12). Ashwin et al. (2023) also talk about how students are transformed through their engagement with knowledge (pp. 15-28). Their research shows that two-thirds of students show a personal commitment to the knowledge they are studying and a clear sense of the role it will play in their future lives (p. 27). Beaty et al. (1997) promote knowledge of the different purposes for which students enter university (p. 74) and the understanding that this determines their orientation to learning and their patterns of behaviour. And if students use a complex combination of reasons in their choice of higher education, say Beaty et al. (1997), it is ultimately in their individual contexts that education achieves their individual goals (p. 86). Beaty et al. (1997) argue that students' orientations determine their perceptions and behaviors in the learning process (p. 86). Students' disinterest or increased passiveness in the learning process is a reaction to a mismatch in the pace of development of higher education compared to the pace of change in students' views toward the role of education in their development. When students do not understand the link between academic knowledge and their personal development project, they do not value the education they receive and lose a sense of the path they are on (Ashwin et al., 2023, p. 26). Case et al. (2018) also remind us that university education does not only influence graduates' opportunities to find jobs and achieve better living conditions. University education is part of a student's developmental pathway and engagement with the world around them.

In most cases, the adaptation of higher education institutions to the needs of students is seen as a process of adapting services to the needs of users. And this raises the question of whether it is the needs of students that should determine the direction of higher education and where this will lead? The view of this report is - that addressing the current state of higher education needs creates real opportunities for sustainable education and overall sustainable development.

This study joins research on contemporary higher education students' expectations of learning conditions and educational outcomes in preparing them for a sustainable future. It starts from the understanding that the contemporary context and the quest for sustainable development increase students' criticality towards the education they receive. Increased levels of understanding of personal engagement and participation in global development processes, (no matter at what level they take place), influence the criteria for quality assurance of education. For example, this study shows an increase in the importance of how students feel about university, even putting this criterion first above all other criteria. There is an increase in the criticality of the knowledge they receive and

the extent to which it is directly related to their future career. There is an increased requirement for teaching methods to support the understanding of theoretical knowledge and the acquisition of skills for future employment. There is a growing need for prior access to curricula and study programmes so that students can choose the universities and courses that best match their needs. The focus shifts from relationships with colleagues to relationships with teachers.

Table 1. Criteria for assessing the quality of education in the higher education institution with the highest score

N	Criteria	Score on a scale from 0 to 7
1	It is important for students' education whether they feel accepted at the university	6,78
2	It is important that the knowledge I gain at university is useful for my development as a specialist in the field I am studying	6,77
3	It is important that teaching methods help students learn practical skills	6,76
4	It is important for students' education that they have access to the curricula for each subject	6,76
5	Having access to information about the exam schedule is important for training	6,75
6	It is important that the curricula are adequate to the specialty I am studying	6,74
7	Access to information about the timetable is important for studies	6,73
8	Relationships between students and lecturers are important	6,71
9	It is important that the curriculum in which I attend includes subjects, the study of which provide them with the necessary knowledge for future good professional realization.	6,71
10	It is important that teaching methods help students to grasp the material well	6,67

Source: Own research

On the other hand, the study shows a decline in the need for students to join student clubs, initiatives, events, scientific forums and projects. There is also a decline in the evaluation of the importance of the material conditions provided by the university - including the conditions in lecture halls and laboratories.

Table 2. Criteria for assessing the quality of education in the higher education institution with the lowest score

N	Criteria	Score on a scale from 0 to 7
1	It is important whether the studies provide opportunities to join student clubs	5,49
2	It is important whether students have the opportunity to get involved in student initiatives during their studies	5,51
3	It is important for students' learning that they have access to information about complaints procedures	5,67
4	For studies, access to information on international mobility opportunities is important	5,76
5	It is important whether the course provides opportunities for students to get involved in university or faculty projects	5,81
6	The availability of access to information about scientific forums for students is important for learning	5,85
7	Laboratory conditions in general are important for student learning	5,93
8	The temperature in the classrooms and laboratories is important for the education of students (to be warm in winter and cool on hot days)	5,93
9	Classroom conditions in general are important for student learning	5,95
10	Important for learning is the availability of access to information about events held at the University	5,95

Source: Own research

Many studies have shown that student development depends on student well-being in the institution and student well-being is determined by various conditions that students identify as significant. Research by Tripon et al. (2023) shows that the way students perceive the state of their learning environment varies with the way they feel about the learning process. An improved environment predicts a higher level of well-being. Developing a motivating and supportive environment where students receive objective and fair evaluations for their efforts increases their health and academic achievement (Tripon et al., 2023). When the university environment responds effectively to students' needs, it enhances the quality of their education (Kocot et al., 2024).

If this is the case and the university has an aspiration to improve the quality of education of its students, then its interest in their needs increases.

The needs of students are dynamic. If yesterday, in many places around the world, they focused on material conditions and student initiatives, today their attention is focused on the relationship with their tutors and the knowledge they receive. Closely linked to their idea of gaining knowledge, they bring up all the indicators related to the acquisition of knowledge as important for themselves.

3. DISCUSSION

Today, we are witnessing a shift in students' needs and understandings of effective education. Having integrated the concept of sustainable development into their values, students are moving their criteria away from the material conditions of learning without distancing themselves from them definitively. At the same time, they reinforce the emphasis on the usefulness of knowledge and its direct link to their future fulfilment.

In a survey conducted in 2023 at the Technical University of Bulgaria among students studying social sciences, the 10 indicators that received the highest scores for relevance in education were related to whether the knowledge they receive at the university is useful for their development as professional; whether the curricula offered by the university are adequate for their specialty; whether it contains courses that would help them develop competencies in the specialty they have chosen in their career path; whether the teaching methods used by teachers help in the acquisition of practical skills and theoretical knowledge (Table 1). These and several other criteria directly aimed at their development as professionals are headed by one specific and obviously very important criterion in the minds of students. This is the criterion of the students - do they feel accepted in the university.

Placing such a criterion first among 74 other criteria directly related to the educational process and professional development shows something very important. Students are bringing the idea of professional training closer to the personal process of self-actualisation than before. They introduce criteria from the closest relationships with significant adults among the criteria for joining an educational environment. The association between the relationship of a child and their teacher with the child's relationship with their parent was noted as early as 2007 by Hughes and Kwok (2007), who found that the closer this association, the higher the achievement of students would be in subsequent years (p. 39). Similar to the principle of building relationships with significant adults in the family and with teachers in primary school, students choose whether or not to accept education depending on their perception of how the educational environment accepts and respects them.

This rise in the criterion - do they feel accepted at the university in the first place among all other criteria is confirmed in other studies. A study by Wei and Ramalu (2011), for example, shows that

students in Malaysia also value immaterial services more highly than material ones at university. Among all non-material conditions, their students also rank empathy and responsiveness of faculty and administrative staff highest among other satisfaction measures (p. 9). In 2009, Thompson (2009) wrote that the effectiveness of teaching and learning is directly related to students' perception of the attitude that the environment has towards them and the presence of respect. The relationship between responsiveness and students' learning satisfaction has also been found in the studies of Crompton and Mackay (1989), Parasuraman et al. (1991), Johnson et al. (2001), Ham (2003), Holdford and Patkar (2003), Kang and James (2004), Usman (2010), Sohail and Shaikh (2004).

The quality of relationships between people who share common spaces and relationships are critical elements of the issue of sustainability and according to Howarth (2012). A sustainable future, he believes, will be a reality when we succeed in building the kinds of institutions that support the necessary social conditions through which future generations will be able to define and achieve their conception of the good life (p. 38). Dabija et al.'s (2023) research shows that university sustainability is directly related to student loyalty; and that universities should increase their efforts to create a sustainable academic environment and continuously examine the factors influencing student loyalty (pp. 1858-1876).

The key importance of responsiveness, acceptance and respect is also identified by Meador (2023). Meador (2023) draws our attention to the fact that respect for students goes beyond the function of one-way treatment. Respect for the student predicts the development of the student's ability to treat those with whom they interact with respect (p. 1). What students demand from their teachers is not simply a desire for good treatment. It attracts a relationship of mutual respect that has a continuing influence on all their subsequent interactions. The importance of students' interactions with their professors and even with university administrative staff is confirmed in Chatterjee's (2011) research. She emphasizes the importance of how the interaction between academic and administrative staff, and the ability to provide open communication and support to motivate their students to develop their subordinate potential (Chatterjee, 2011, pp. 978-993).

Thompson's (2018) research shows that „showing respect is a central or dominant element of the ethics of care and a vital contributor to sustainable teacher-student and student-student relationships" (p. 58). Thompson (2018) draws our attention to the fact that teachers' respect for their students predicts students' respect for their teachers (p. 58). The established pattern of respect for the other, while not a primary goal of learning in a particular subject area, appears to be an essential component of developing sustainable relationships with others.

The result of this study very much confirms the research of Thompson (2015), which shows that it is not the conditions of the macro-environment that determine the quality of the educational process, but the management of relationships within them (p. 3). Contemporary students leave material conditions to the side in determining the quality of education they receive. They put respect and acceptance first. By demanding it, they change the style of attitude of the higher education institution that seeks to meet the needs of its students. By stimulating teachers to a relationship of respect, students create an environment in which, as they study their major, they learn from their teachers the mutual respect that they will give a few years later to the people with whom they will work. Students seem to promote the development of an environment that transforms attitudes into relationships and involves them in decision-making. If this is one of the main pillars of sustainability today, it seems that integrated into the minds of students and carried over from the responsive relationship with their parents, it is being externalized into the educational relationship.

The pursuit of this extrapolation from the personal into all other forms of relationships ensures their affirmation in all relationships and continuation in future relationships. Therefore, such research shows not just the students' desire to be respected and accepted by their professors. It shows the contemporary principles of sustainability integrated into their consciousness, which they require to be applied in educational relationships.

4. FUTURE RESEARCH DIRECTIONS

This study shows trends of changing student values that seem to integrate the values of the concept of sustainable development. Moreover. This change seems to be driving another change - that of the university. As long as the higher education institution has the aspiration to meet the needs of its students, its change will depend on the change of the students and their values. I think this study and others like it point to a very interesting trend that can be followed up in future research. As we think about how to integrate the ideas of sustainability into the minds of students through higher education, it seems that already integrated into their minds, these principles are changing higher education. By forcing us to change, students make higher education sustainable.

5. CONCLUSION

The study shows that the ideas of sustainable development enter into the minds of students and through it they make the university join the ideas of sustainable education. Changed, the higher education environment provides not only professional knowledge but overall personal growth. Stimulated by students to provide responsiveness, the university environment forms relationships of mutual understanding with a high likelihood of continuation in future professional interactions. Thus, the organization of the university environment not only influences student well-being but simultaneously teaches a pattern of relating to others.

The university's overall engagement with the needs of students teaches students a commitment to those they will work with within their companies in the future. Consideration of students' needs develops in students the ability to understand relevant the needs of those with whom they will work in the future. Improving the environment as a result of understanding the needs of the students in it, teaches students the need to improve the environment when people need it. Learning through direct demonstration of commitment to students over many years in their lives, develops their abilities to be emotionally responsive to people's needs, to be concerned about their well-being, to participate in improving the conditions for their achievement, and to feel satisfaction in the opportunity to participate in this.

References

Ashwin, P., Goldschneider, B., Agrawal, A., & Smit, R. (2023). Beyond the dichotomy of students-as-consumers and personal transformation: what students want from their degrees and their engagement with knowledge. *Studies in Higher Education*, 1–12. https://doi.org/10.1080/03075079.2023.2267589

Beaty, L., Gibbs, G., & Morgan, A. (1997). Learning orientations and study contracts. The experience of learning, 2, 72-88.

Case, J., Marshall, D., McKenna, S., & Mogashana, D. (2018). Going to University: The Influence of Higher Education on the Lives of Young South Africans. Cape Town: African Minds. DOI: 10.47622/9781928331698

Chatterjee, A. (2011). Sustainability in Higher Education Through Student Satisfaction and Retention. *Managing in Turbulent Times-Business Ecosystem & Macro Perspectives*, 978-993.

Crompton, J. L., & Mackay, K. J. (1989). Users' perceptions of the relative importance of service quality dimensions in selected public recreation programs. *Leisure Sciences,* 11(4), 367–375. https://doi.org/10.1080/01490408909512233

Dabija, D.-C., Campian, V., Stanca, L., & Tiron-Tudor, A. (2023). Generating students' loyalty towards the sustainable university during the later COVID-19 pandemic. *International Journal of Sustainability in Higher Education, 24(8)*, 1858-1876. https://doi.org/10.1108/IJSHE-11-2022-0372

González-Pérez, L. I., & Ramírez-Montoya, M. S. (2022). Components of Education 4.0 in 21st century skills frameworks: systematic review. *Sustainability*, 14(3), p.1493. https://doi.org/10.3390/su14031493

Ham, C. L. (2003). *Service quality, customer satisfaction, and customer behavioral intentions in higher education.* Nova Southeastern University.

Holdford, D., & Patkar, A. (2003). Identification of the service quality dimensions of pharmaceutical education. *American Journal of Pharmaceutical Education*, 67(40): 1-11. DOI: 10.5688/aj6704108

Howarth, R. B. (2012). Sustainability, well-being, and economic growth. *Minding Nature*, 5(2), 32-39.

Hughes, J., & Kwok, M. (2007). Influence of Student-Teacher and Parent-Teacher Relationships on Lower Achieving Readers' Engagement and Achievement in the Primary Grades. *J Educ Psychol*. 99(1), 39-51. doi: 10.1037/0022-0663.99.1.39

Idoiaga Mondragon, N., Yarritu, I., Saez de Cámara, E., Beloki, N., & Vozmediano, L. (2023). The challenge of education for sustainability in higher education: key themes and competences within the University of the Basque Country. *Frontiers in Psychology,* 14:1158636, 1-12, doi: 10.3389/fpsyg.2023.1158636

Johnson, M., Gustafsson, A., Andreassen, T., Lervik, L., & Cha, J. (2001). The evolution and future of national customer satisfaction index models. *Journal of Economic Psychology*, 22(2): 217-245. https://doi.org/10.1016/S0167-4870(01)00030-7

Kang, G., & James, J. (2004). Service quality dimensions: an examination of Grönroos's service quality model. *Managing Service Quality: An International Journal,* 14(4), 266-277. https://doi.org/10.1108/09604520410546806

Kocot, M., Kwasek, A., Mathea, G., Kandefer, K., & Soboń, D. (2024). Students' Expectations Regarding the Achievement of Educational Outcomes in Terms of Knowledge, Practical Skills, and Social Competencies as Determinants of Sustainable Education. *Sustainability* 16(3):1263. https://doi.org/10.3390/su16031263

Mattos, L., Leonardo, F., Alexandre, M., & Pereira, R. (2023). Effectiveness and Sustainability Indicators in Higher Education Management. *Sustainability* 15(1):298. https://doi.org/10.3390/su15010298

Meador, D. (2023). Why Respecting Students Is Essential for Teacher Effectiveness. Retrieved from https://www.thoughtco.com/respecting-students-is-essential-for-boosting-effectiveness-3194682

Muhamedbegović, B., Dzanic, E., & Dedić, E. (2015). New Standards and Guidelines for Quality Assurance in the European Higher Education Area Unifying Impetus for Advancements. *SSRN Electronic Journal.* http://dx.doi.org/10.2139/ssrn.2721582

Parasuraman, A., Berry, L. L., & Zeithaml, V. A. (1991). Refinement and Reassessment of the SERVQUAL scale. *Journal of Retailing*, 67 (4), 57-67.

Sohail, S. M., & Shaikh, N. M. (2004). Quest for excellence in business education: a study of student impressions of service quality. *International Journal of Educational Management*, 18(1), 58-65. https://doi.org/10.1108/09513540410512163

Thompson, C. (2015). *Locating the epicentre of effective (educational) leadership in the 21st century.* Publisher: Caribbean Leadership Re-Imagination Initiative.

Thompson, C. S. (2009). Towards solutions: Fundamentals of transformational leadership in a postmodern era. Mandeville: Northern Caribbean University Press, 2009.

Thompson, C. S. (2018). The Construct of 'Respect' in Teacher-Student Relationships: Exploring Dimensions of Ethics of Care and Sustainable Development. *Journal of Leadership Education 17(3)*, pp. 42-60. https://doi.org/10.12806/V17/I3/R3

Tripon, C., Gonța, I., & Bulgac, A. (2023). Nurturing Minds and Sustainability: An Exploration of Educational Interactions and Their Impact on Student Well-Being and Assessment in a Sustainable University. *Sustainability.* 15(12), 9349. https://doi.org/10.3390/su15129349

Usman, A. (2010). The Impact of Service Quality on Students' Satisfaction in Higher Education Institutes of Punjab. Journal of Management and Research, 2(2): 440-445. http://hdl.handle.net/10419/183749

Wei, C. C., & Ramalu, S. (2011). Students Satisfaction towards the University: Does Service Quality Matters? *International Journal of Education* 3(2):E15 DOI: 10.5296/ije.v3i2.1065

Žalėnienė, I., & Pereira, P. (2021). Higher Education For Sustainability: A Global Perspective. *Geography and Sustainability, 2(2),* 99-106 https://doi.org/10.1016/j.geosus.2021.05.001

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Management Model of the Virtual University – Quantitative Research on the Processes Dimension

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Virtual education;
Processes dimension

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Abstract: *Management in the virtual university (VU) entails a series of interventions that the management team can use to anticipate, organize, coordinate, and control each structural dimension, starting with specific educational processes, human resources, technical resources, support services, and organizational structure. The paper aims to provide an overview of the particularities of decision-making projected on VU's processes dimension, which involves online teaching-learning-evaluation, interaction and communication, and the design and development of online courses. The survey findings indicate that managing a VU significantly depends on managerial actions such as planning and organizing online educational processes. The research results on processes highlight the most important managerial actions: prioritizing the actions of the staff involved in the online teaching-learning-evaluation processes in close correlation with a clear definition of their roles, tasks, and responsibilities is crucial. This study aids traditional university management in integrating online approaches and organizing courses in a flexible online environment under the umbrella of the VU model.*

1. INTRODUCTION

Romanian universities face several primary challenges: their goal is to draw in a large number of both domestic and foreign students; they strive for modernity, adaptability, and continuous modifications to the educational process to align with societal shifts; they develop educational programs that equip students with skills easily adaptable to the demands of the job market; they ensure quick access to current online learning resources; they foster collaboration and support through the use of online information and communication technologies; and both internationalization and academic performance are on the rise. This study addresses these needs and seeks a practical solution to assist decision-makers in Romanian universities. As a result, it is essential to provide fresh information by looking into and evaluating data related to these problems.

A solution to these challenges and needs for universities are new opportunities offered by the virtual university model, many of which allow traditional universities to expand their coverage and increase the flexibility of the educational offer. These universities offered a kind of non-face-to-face instruction based on distance learning that makes use of multimedia technologies (digital tools, virtual spaces, and platforms) to cover a range of educational levels and, ultimately, to improve the value of human life and the freedom to pursue lifelong learning (Cajahuanca-Loli et al., 2023). This means that the whole set of support activities from academic activities: education and research to administrative and economic are carried out with the immediate support of the ITC (Information and Communication Technology).

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2. A THEORETICAL FRAMEWORK FOR MANAGING VIRTUAL UNIVERSITIES

This paper builds upon the research initiated in a preview work, which established the conceptual model of management regarding virtual university (VU) (Comșa Viorica, 2024).

Researchers know VU as a system that lacks a physical building and serves as a model of a real university in the virtual space (Beilin et al., 2021). It provides all its services and programs to learners in an integrated manner through the Internet, while also offering flexibility in terms of course choice, entry requirements, learning media and approaches, as well as time and place of study (Ibrahim & Dahlan, 2016; European University Association, 2021). From other perspectives, it is referred to as an organization with a role structure that involves people interacting in processes to provide education in a virtual environment, with the help of technological resources, to those who are interested: students and learners whose main objective is to offer virtual education (Comșa & Verzea, 2022). In this research, virtual education refers to the combined use of ICT (Information Communication Technologies) to deliver information for both education and training, specifically academic activities, and the manifestation of support communities, encompassing administrative, economic, human resources, relational, and organizational aspects (Comsa et al., 2021; Safieddine et al., 2017; Griff, 2015; Adam et al., 2017).

In the context of this organization, VU, which is specifically focused on providing virtual education, *the Main Processes are*: Online teaching - learning - evaluation; Online feedback; Online communication and interaction; Design and development of the online programs/courses structure; and Online research (Comșa Viorica, 2024).

Managing a VU requires strategic planning, robust technology, and, at the same time, a very good knowledge, adoption, and manifestation of the generally accepted Functions of management: *PLANNING, ORGANIZING, LEADING, AND CONTROLLING*. These functions collaborate in the creation, execution, and realization of an organization's organizational goals, such as VU, which is summarized in Table 1.

Table 1. The managerial process functions regarding Virtual University (VU)

Management process	Explanations	Dimension of VU
Planning	• It involves setting goals, policies, and objectives, as well as expected results, summarizing administrative tasks and preparatory actions that involve direct engagement in virtual education.	• PROCESSES • HUMAN RESOURCES • ORGANISATIONAL STRUCTURE • SUPPORT SERVICE • ITC RESOURCES
Organizing	• It involves assembling resources (human, financial, and informational) and performing activities related to the VU's structural and procedural organization.	
Leading	• It entails helping VU members complete tasks, understanding organizational policies, and communicating with academic staff members about their motivation and performance.	
Controlling	• It explains how to use control functions to reduce inefficiencies and ensure that virtual education - related activities are carried out in a way that is compatible with scheduled operations	

Source: Comșa (2024)

In other words, management of VU refers to managerial action above on all five conceptual virtual university dimension knows as *Processes*, *Human resources*, *Organizational structure*, *Support service*, *ICT resources*, beginning with *planning* and concluding with *controlling*. This means

that it begins with the preparation of virtual education related activities and concludes with an assessment of all actions taken to ensure virtual education (VE) operations.

Human resource refers to: administrative teaching staff with a leadership function; outsourced and own teaching and research staff; auxiliary teaching staff; administrative staff (Comșa & Verzea, 2022). *Support Services* pertains to: online educational services and online administrative services. *Organizational Structure* refers to: specialized structures: centres/departments and virtual university's internal and external relationships. *Technological Resource* refer to: IT Infrastructure. Figure 1 presents all five dimensions of the Model of Virtual University (MUV). (Comșa, 2024)

2.1. Research Model

To understand these managerial actions, a framework model for the management of the VU has been constructed, as summarized in Figure 1 below.

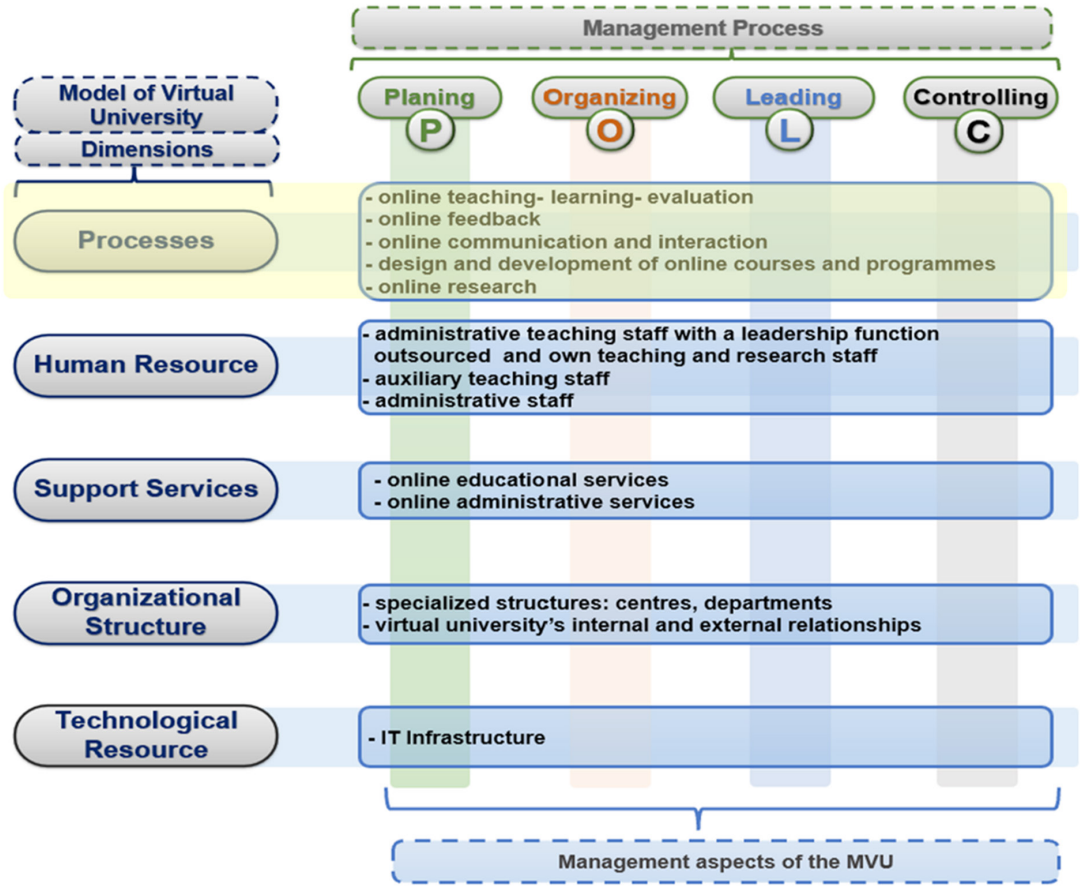


Figure 1. The research model for the management of virtual universities

Source: Own research

This research model was designed to understand the importance of the university management process for the organizational model of the virtual university, to grasp survey participants' perceptions on this aspect and to provide a new management model. The research for this paper only focuses on the *Process Dimension*, which is highlighted in the figure above. The research model framing research questions to be investigated, contributes to investigate the specific management aspects of *PLANNING, ORGANIZING, LEADING AND CONTROLLING* regarding the main components of the VU Processes.

2.2. Research Methodology Applied in the Analysis of the Processes Dimension

In order to determine the importance level of the management process for a virtual university, the main research technique chosen was the online opinion survey, and the instrument used was the questionnaire (Kittur, 2023). This instrument contains a series of questions (a total of 65 questions) and mental measures given to a group of people as part of a survey to obtain statistical information about the group (Wrench et al., 2008). The survey aims to gather data from a representative sample, enabling generalization to the population from which the respondents originate. During the survey, the researchers collected data by asking questions to describe, compare, or explain attitudes or behaviors regarding the population in question (Eletra S. Gilchrist & Sheldon, 2012).

The empirical data were collected from 195 respondents: of whom 55.2% are undergraduate, graduate, and doctorate students and 44.8% are teaching and research staff, administrative staff, and staff without leadership positions. The questionnaire was distributed to 400 respondents who worked at the 8 romanian universities, contacting them via the email addresses of the universities, by phone, and through the personal email addresses of teaching and research staff, as well as administrative personnel from these institutions. The management aspects related to the *Processes Dimension* were derived from the analysis of responses to the 10 questions in one of the seven sections of the corresponding questionnaire. In this section, the questions were at the interval or ordinal level, assuming an equal distance between data points, such as Likert differential scales. The section on the respondent's socio-demographic data also employed ordinal questions to establish rank orders (Tran, 2024).

The questionnaire used a traditional scale to ask respondents how important or unimportant a certain aspect of the research is. It was a 6-point scale that ranged from „extremely important" to „not all important." For the evaluation of the management aspects specific to the *Processes Dimension* a score has been assigned to each response option. The option „Extremely important" received 6 points, while the option „not all important" received 1 point. The maximum score is 1170, while the minimum is 195. This scoring served to provide a ranking for the investigated aspects. Descriptive statistics were used as an analysis method for data processing in Microsoft Excel. Frequency tables, distributions, percentages, and graphical presentations were used for the quantitative and qualitative analysis of the data.

3. QUANTITATIVE ANALYSIS OF MANAGEMENT PROCESS WITHIN THE PROCESSES DIMENSION OF A VIRTUAL UNIVERSITY

In the body of this chapter, the results of the quantitative analyses regarding *Processes Dimension* are presented.

An initial step in data processing was to identify and evaluate, based on importance and impact, the processes necessary to ensure the provision of virtual education.

Figure 2 summarizes the obtained results. The analysis of the data regarding the importance of various processes in virtual education reveals the perceptions of survey participants, and the relationship between these processes indicates:

1. Process acceptance in the virtual education system: all components are considered to have at least a high level of importance, with a significant number of respondents rating them as "important" or "very important." This indicates a recognition of the fact that each process plays a vital role in the virtual educational system, and the success of virtual education may depend on the effective integration of all these elements.

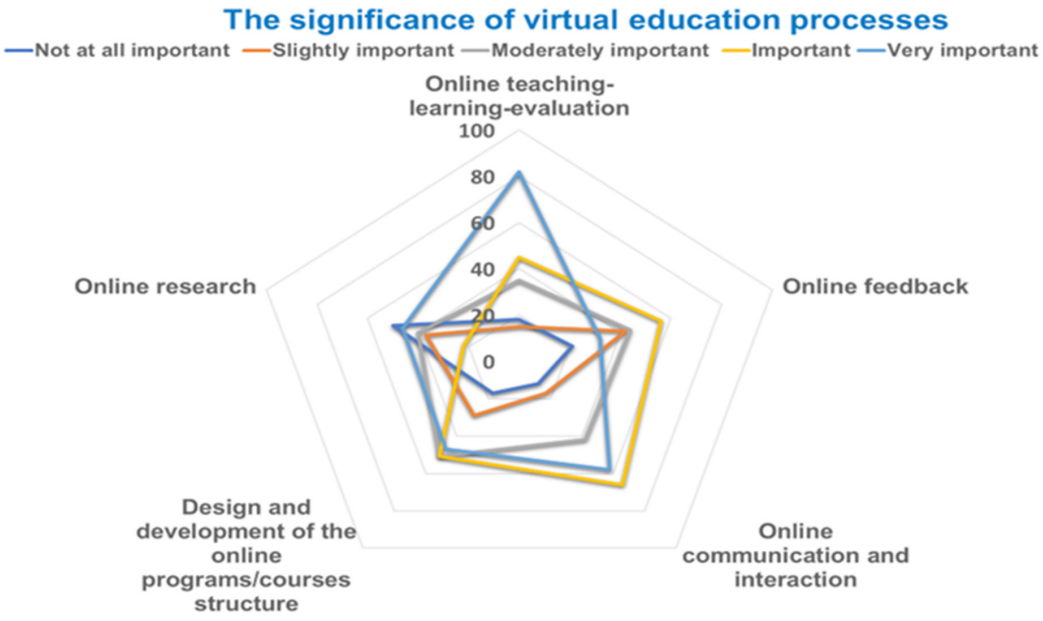


Figure 2. Evaluating the processes required to guarantee the delivery of virtual education

Source: Own research

2. "**Online teaching-learning-evaluation**" and "**Online communication and interaction**" received the most significant responses when it came to the virtual educational system's process prioritization. This highlights the critical importance of the ability of administrative staff, faculty, and students to access and oversee the educational process in an online setting. In the virtual learning environment and beyond, "online communication and interaction" is crucial. Given the high scores in this category, it appears that participants believe that effective learning requires two-way communication between instructors and students in addition to among other participants (e.g., administrative personnel).
3. Feedback: The "**Online feedback**" process is a crucial component of effective learning in the virtual educational process, serving as a complement to the previous process. The high values in this category indicate that participants value the purpose of this process, which is to provide a perspective to both actors in the educational process, thereby assisting them in improving their performance.
4. The design and development of the online education system: The high score for "**Designing and developing the structure of online programs**," which was rated as "important," highlights the importance of maintaining and enforcing the technological design of courses and programs. This is crucial for supporting the other processes of virtual education.
5. The integration of the "**Online research**" process, despite being regarded as "very important" by fewer respondents, still reflects a high level of appreciation among respondents, indicating an increased capacity within the academic community of students and faculty to conduct research in the online environment. In the current context, where physical access to libraries and laboratories may be limited, online research becomes a key tool in continuing academic activities.
6. The responses in the "not all important" and "slightly important" categories suggest that some respondents may overlook or consider the mentioned processes irrelevant, indicating a slightly negative attitude towards all processes specific to online education.

The second step in the *Processes Dimensions* analysis focused on identifying the most important management aspects that characterize these specific processes in the MVU. This aimed to understand and highlight the academic community's perception of the importance of the managerial process

projected onto one of the dimensions of MUV. Thus, the analysis focused on the importance of the elements that characterize the *PLANNING, ORGANIZING, LEADING*, and *CONTROLLING* of specific processes in VE.

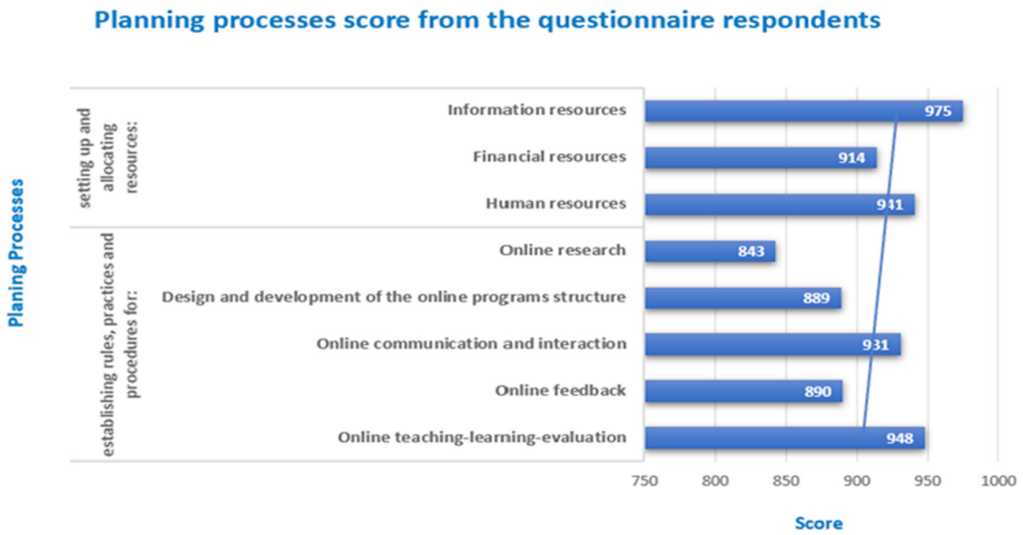


Figure 3. Evaluation of *Planning Processes.* The distribution of responses.
Source: Own processing; Own calculations

The data in Figure 3, which displays the total scores respondents gave to various management issues related to virtual education, can teach us some important lessons about how people think and value things. This is a qualitative analysis of the *Processes Planning* above.

The management aspect of [*Establishing and allocating informational resources*] which received a maximum score of 975 points, in conjunction with the aspect of [*Establishing and allocating human resources*] with a high score of 941 points, highlights the significance of prioritizing the planning of informational resources closely linked to human resources. This underscores the importance of focusing on the primary directions of action for online courses and programs. With a score of 933 points, the aspect regarding [*Establishing and formulating objectives for online teaching-learning-evaluation*] suggests that respondents value the necessity of defining objectives for the most important process specific to virtual education.

The aspect of [*Establishing rules, practices, and procedures for online teaching-learning evaluation*] received a score of 948 points, indicating that respondents place a high priority on developing specific procedures for virtual education.

The findings show that the academic community unanimously agrees on the critical importance of the initial phases of virtual education delivery. The planning of the allocation of informational resources is a predictive endeavor to support any activities and specific actions related to the process of virtual education, and the design and development of objectives, rules, practices, and procedures for online teaching-learning assessment are of essential importance and a valuable tool for decision-makers in universities interested in providing virtual education.

According to the opinions provided by the academic community from the 8 Romanian university centers (students, teaching staff, and administrative personnel with and without decision-making roles), the main managerial actions that can be undertaken regarding the *Organizing Processes* are outlined in the Figure 4.

The data analysis emphasizes the importance of fulfilling management aspects in the organization of processes for virtual education, particularly in Romanian universities, with a focus on specific actions and activities to facilitate online course and program delivery:

a) The clear delineation of the roles, tasks, and responsibilities of the staff involved in online teaching-learning evaluation processes, online feedback transmission, research, communication, and online interactivity, as well as the design and development of the structure of online programs, is crucial. For all five components of the virtual education process, the investigated aspect received a total of 289 "extremely important" and 291 "very important" ratings.

b) Depending on the field of study, profile, and specialization, respondents regarded the organization of the virtual educational process as "extremely important," garnering a total of 255 responses, with 262 expressing the same level of importance. The responses in the "unimportant" and "slightly important" categories for the points investigated above have scores that are almost insignificant compared to the others; this reinforces the necessity and importance given to the organization stage, specifically the management process for a VU.

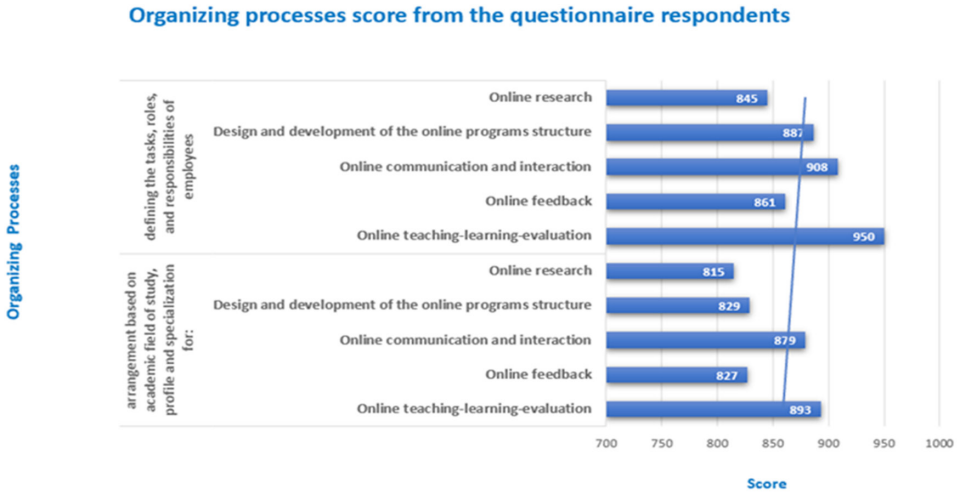


Figure 4. Evaluation of *Organizing Processes*. The distribution of responses

Source: Own processing, Own calculations

Figure 4, which displays the total scores that respondents gave to different management aspects of virtual education, leads to new and important conclusions about how they see and value these things. The aspect pursued regarding [*The defining the roles, responsibilities, and distinct tasks for the personnel involved in online teaching-learning-evaluation*] with a total of 950 points underscores a significant appreciation for the careful organization of the tasks of those involved in ensuring online teaching-learning-evaluation.

The aspect regarding [*The organization of activities based on the field of study, profile, and specialization of online teaching-learning-evaluation*] with a score of 893 points suggests a high level of importance attributed to the necessity of organizing the most crucial process specific to virtual education, depending either on the field of study or on the specialization within the profile.

The findings suggest that the academic community's perspective underscores the critical importance of organizing processes that bolster the effort to deliver virtual education. As a result, the academic community views the organization of auxiliary teaching activities as the most crucial step in establishing processes specific to virtual education. In *Organizing Processes* necessary to make virtual courses and programs available to interested parties, it is essential to prioritize the

actions of the staff involved in the online teaching-learning-evaluation processes, in correlation with a clear definition of their roles, tasks, and responsibilities.

The stage of statistical analysis regarding *Leading Processes* presents the opinions and perceptions of students, teaching staff, and administrative personnel, both with and without decision-making roles, from the 8 Rumanian state universities, from Iasi, Bucharest, Cluj-Napoca, and Timisoara, regarding other managerial actions that can facilitate virtual education.

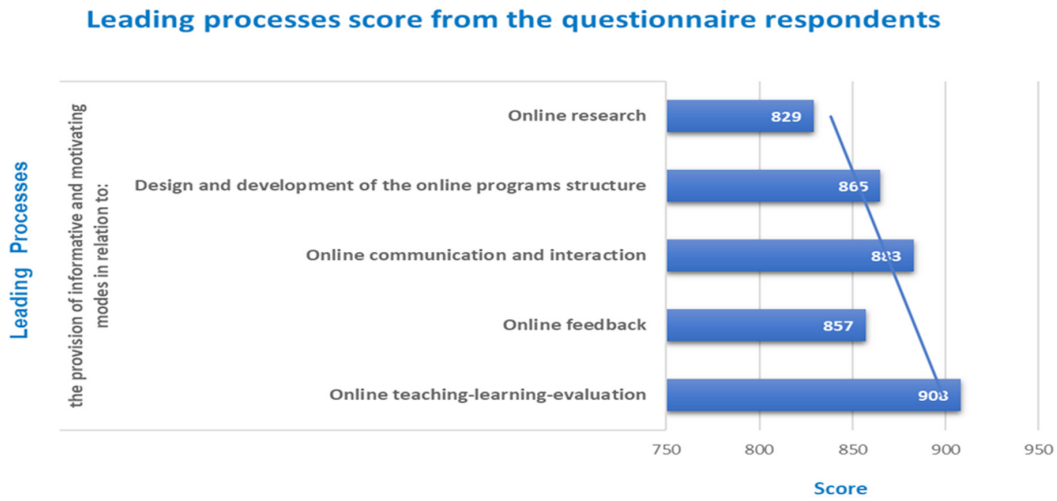


Figure 5. Evaluation of *Leading Processes.* The distribution of responses.
Source: Own processing; Own calculations

According to the respondents' opinions, *leading all processes* necessary for providing virtual courses or programs from universities is another effort deemed "extremely important."

Figure 5 shows the respondents' opinions regarding the most important managerial action to support the coordination of educational processes. The aspect in question, regarding [*Individual or collective information and motivation related to online teaching-learning-evaluation*], was evaluated with 908 points, suggesting that there should be an increased interest in coordinating the efforts of those involved in online teaching-learning-evaluation.

In conclusion, *Leading*, another managerial action on *Processes*, is crucial because it directs all management team efforts, from information and communication to collective and individual motivation, towards achieving the goals related to universities' provision of virtual education.

The academic community at eight Romanian university centres believes that managerial action, from the end of the decision-making process about the *Processes Dimension*, concentrates on their control, leading to the following conclusion: - the *control* of activities and actions concentrated *on all five processes* that support virtual education should be an absolute priority, as it is considered an essential element of the management process for a virtual university, having been assessed as "extremely important."

The management aspect related to [*The actions of evaluation, verification, and the adoption of corrective measures regarding online teaching-learning-evaluation*], which received a total score of 930 points according to dates from Figure 6, demonstrates that preventing dysfunctions, verifying, and evaluating the specific online teaching-learning-evaluation process in accordance with certain methodologies and standards, is an essential action that must be considered in providing virtual education.

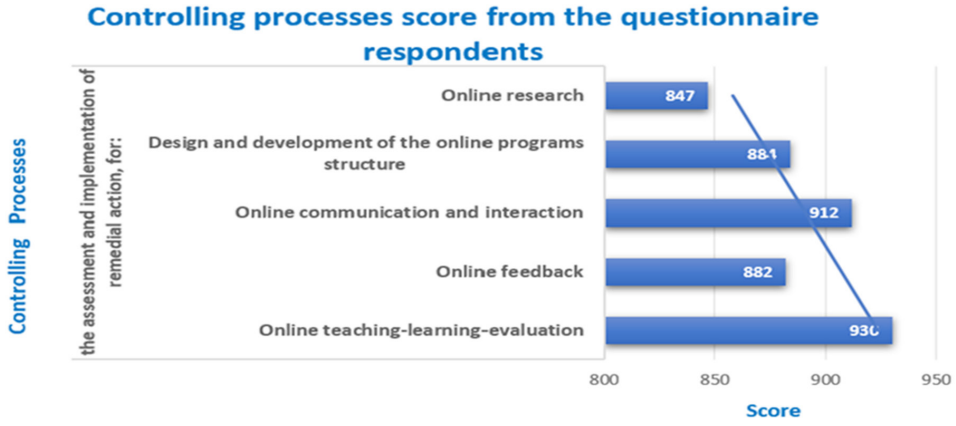


Figure 6. Evaluation of *Controlling Processes.* The distribution of responses.

Source: Own processing; Own calculations

Nevertheless, all respondents agreed that a comprehensive system for monitoring and evaluating all processes is necessary and extremely important. This is because it aims to prevent and assess the outcomes of those involved's efforts to provide courses and virtual programs.

The paragraphs above describe the analysis and evaluation stage of the *Processes Dimension,* which highlights the key components that define the *PLANNING, ORGANIZATION, LEADING,* and *CONTROL of particular processes* in virtual education. The process of interpreting the respondents' results yields these findings. Therefore, to complete this interpretation of the investigated dimension, the most valued aspects that define the management process were considered based on the five component elements that define processes and which received the highest scores or appreciation from the respondents.

Figure 7 below provides a succinct presentation of the conclusions derived from the descriptive statistical analysis of this dimension of the management model for a VU.

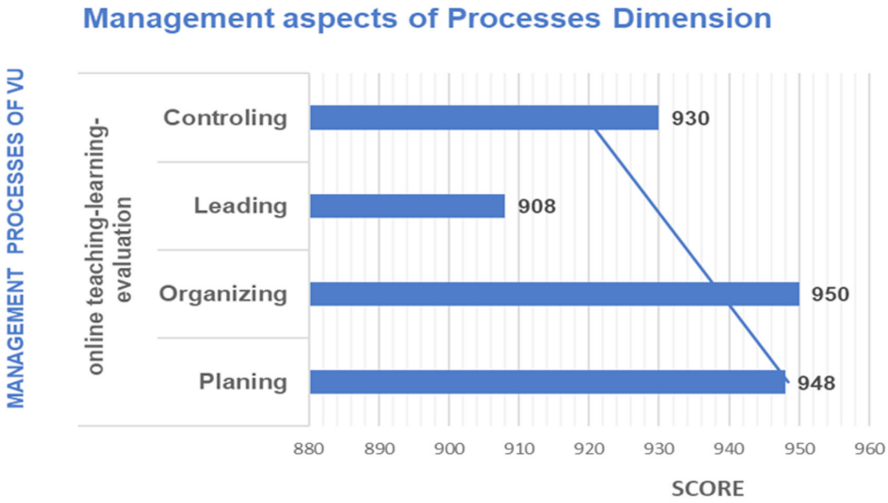


Figure 7. Evaluation of *Processes Dimension*. The distribution of responses.

Source: Own processing; Own calculations

The aspect that characterizes *Planning Processes*, specifically regarding [*The establishment of rules, practices, and procedures related to online teaching-learning-evaluation*], was evaluated by respondents as "extremely important" and received a total score of 948 points.

The aspect that highlights the *Organizing Processes*, specifically regarding [*Roles, responsibilities, and distinct tasks for the staff involved in online teaching-learning-evaluation*], was evaluated by respondents as "extremely important" and also received the highest score of 950 points.

The management aspect concerning *Leading Processes*, indicated by [*Individual or collective information and motivation regarding online teaching-learning-evaluation*], with the lowest score of 908 points, was rated by respondents as "extremely important."

The aspect indicating *Controlling Processes*, regarding [*The actions of evaluation, verification, and adoption of corrective measures related to online teaching-learning-evaluation*], although evaluated by a small number of respondents as "extremely important," received a score of 930 points.

Data analysis suggests that the management process, which addresses *PLANNING*, *ORGANIZING*, *LEADING,* and *CONTROLLING*, particularly the **Online teaching-learning-evaluation process,** should receive maximum importance in the context of academic activities conducted in a virtual university organizational format, using only tools specific to online interactions.

Supporting the entire set of actions in the management process, which ensures the quality and effectiveness of virtual education delivery in universities, requires increased attention to the necessity of *Organizing Processes*; more specifically, prioritizing the actions of the staff involved in the online teaching-learning-evaluation process in close correlation with a clear definition of their roles, tasks, and responsibilities.

Similarly, in this managerial process that focuses on the *Processes Dimension*, it's crucial to remember the following: - according to the data from Figure 3, respondents evaluated the necessity and importance of planning the *allocation of informational resources* with a score of 975 points. These resources are considered integral and vital parts of a virtual environment that ensures the provision of online educational services.

4. FUTURE RESEARCH DIRECTIONS

In this study, the aspects of the *Management Process*—Planning, Organizing, Leading, and Controlling—for MUV are analysed within a single Dimension: *Processes*. In the future, the authors plan to extend the quantitative analysis of the management process to the other four dimensions—*Human Resources, Organizational Structure, Support Service*, and Technological *Resources*—to provide comprehensive insights into all aspects integrated into the research model presented in Figure 1. Accordingly, the study will aim to create a heatmap illustrating the most significant correlations and distributions of the data obtained, highlighting managerial decisions related to the provision of virtual education at a traditional university in Romania.

5. CONCLUSION

The purpose of this research was to understand how higher education institutions (HEIs) from Romania can migrate physical education and administrative work into a virtual environment specific to the virtual university organizational model. Simultaneously, it aims was to identify the most pertinent management decisions that a university's management team or a faculty within it can implement to enhance information and knowledge management, starting from the identification among the academic community of the most important specific processes.

Quantitative and qualitative research highlights how ***respondents*** perceive the various processes of virtual education as closely interconnected, with a balanced weight, and they ***particularly value online teaching-learning-evaluation as the most important and relevant process specific to virtual education***.

The survey findings indicate that the *ORGANIZING AND PLANNING OF ONLINE EDUCATIONAL PROCESSES* ***are managerial actions that significantly impact managing a virtual university model and should be considered***. Therefore, decision-makers should pay special attention to setting distinct roles, responsibilities, and tasks for each staff member involved in teaching, learning, and evaluation online, as well as establishing the rules, practices, and procedures for all educational processes.

References

Adam, I. O., Effah, J., & Boateng, R. (2017). Virtualisation of an administrative work environment in higher education: Managing information in a developing country university. *Journal of Enterprise Information Management, 30*(5), 723-747. https://doi.org/10.1108/jeim-06-2016-0119

Beilin, M. V., Soina, I. Y., Dyachenko, Y. A., & Semenova, Y. A. (2021). Virtual University As a Horizon of Higher Education Modernization. KnE Social Sciences. https://doi.org/10.18502/kss.v5i2.8382

Cajahuanca-Loli, M. D. R., Palacios-Sánchez, J. M., Ponce-Yactayo, D. L., Medina-Uribe, J. C., Ura-Coyla, M. U., & Chicana-Becerra, R. A. (2023). Strategic management of virtual education for quality of learning in university students, Covid-19, Peru.

Comșa, V. (2024). How Should a Virtual University Be Managed? A Theoretical Approach. Proceedings of the International Conference on Business Excellence, 18(1), 1372-1384. https://doi.org/10.2478/picbe-2024-0113

Comșa, V., & Verzea, I. (2022). Management challenges for the romanian HEI's in transitioning towards a model of virtual university. *The 18th Romanian Textiles and Leather Conference, CORTEP'2022, 17-19 Noiembrie 2022, Iasi, Romania,, Open Access, Sciendo,* https://doi.org/10.2478/9788367405133

Comsa, V., Verzea, I., & Chaib, R. (2021). From traditional to a new model of the higher education. Case study: the virtual university. eLearning and Software for Education, 361-373. https://doi.org/10.12753/2066-026x-21-046

European University Association. (2021). Universities without walls: EUA's vision for Europe's universities in 2030. https://www.eua.eu/publications/positions/universities-without-walls-eua-s-vision-for-europe-s-universities-in-2030.html

Gilchrist, E. S., & Sheldon, P. (2012). Exploring Organizational Cultures through Virtual Survey Research. Virtual Work and Human Interaction Research, 176-191. https://doi.org/10.4018/978-1-4666-0963-1.ch011

Griff, R. (2015). *A Guide to Virtual Universities for Policy-Makers,* ISBN 978-1-894975. https://www.academia.edu/19125010/A_Guide_to_Virtual_Universities_for_Policy_Makers

Ibrahim, J., & Dahlan, A. R. A. (2016). Designing business models options for "University of the Future". 2016 4th IEEE International Colloquium on Information Science and Technology (CiSt), 600-603. https://doi.org/10.1109/cist.2016.7804956

Kittur, J. (2023). Conducting Quantitative Research Study: A Step-by-Step Process. *Journal of Engineering Education Transformations, 36*(4), 100-112. https://doi.org/10.16920/jeet/2023/v36i4/23120

Safieddine, F., Ismail, R., Kulakli, A., & Ismail, R. F. (2017, April). E-universities: Reflective analysis into technological trends. Paper presented at the 15th IADIS International Conference e-Society, Budapest, Hungary. https://www.researchgate.net/publication/315853521_E-universities_Reflective_Analysis_into_Technological_Trends

Tran, A. (2024). *40+ Best Likert Scale Examples*. Retrieved from https://ahaslides.com/ro/blog/likert-scale-examples/

Wrench, J. S., Thomas-Maddox, C., Richmond, V. P., & McCroskey, J. C. (2008). Quantitative research methods for communication: A hands-on approach. Oxford University Press, Inc..

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https://doi.org/10.31410/ERAZ.2024.495

Education of School Pedagogues for Sustainable Development – A Case Study in the Republic of Serbia*

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Sustainable development;
School pedagogues;
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Abstract: *Education for sustainable development is a very current field and there are lots of research on the importance of this strategy. The paper analyzes the concept and shows the ways of educating school pedagogues for sustainable development in the Republic of Serbia. The main goal of the introduction and work of the service of school pedagogues is the application of modern theoretical and practical knowledge from pedagogy in the improvement of educational practice through 11 areas that include: planning and programming of educational work; implementation of the teaching and educational process; monitoring and evaluation of school work; improvement of educational work and cooperation with teachers; work and cooperation with students; cooperation with parents; research of educational practice; work in professional institute; cooperation with professional institutions, the local community and professional development; documentation management; preparation for work. School pedagogues are obliged to include jobs from all fields in their annual work program. The results of this research show that within these areas education for sustainable development permeates, but that there is no separate area. The research is focused on the question of how we can encourage the actors of the educational process and the Ministry of Education, Science and Technological Development of the Republic of Serbia about the importance of education for sustainable development.*

1. INTRODUCTION

In science, there are many definitions of sustainable development. However, there is no single and generally accepted definition of the concept of sustainable development. The definition of sustainable development (World Commission on Environment and Development, 1987) is most often cited as sustainable development is development that meets the needs of the present, without questioning the ability of future generations to meet their own needs.

The etymology of the term "sustainable development" comes from the word "sustainable", which refers to the ability to support or maintain something, and the word "development", which means the process of growth or progress. Sustainable comes from the Latin word "sustinere", which means "to hold, support". This word is associated with the idea of maintaining balance and resources for future generations. The development comes from the Latin word "evolutio", which means "to develop". In the context of sustainable development, it means the process of improving society, economy and ecology. The combination of these concepts emphasizes the need for development that does not compromise the ability of future generations to meet their own needs.

Education for sustainable development is a concept created as a response to the challenges of the development of modern society. It is one of the key mechanisms that should enable development

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[2] The researh is part of the blog by Jelena Maksimović, published on https://blog.filfak.ni.ac.rs/teme/pedagogija/item/360-izazovi-skolskog-pedagoga-u-21-veku-podrucje-rada-i-svest-o-promenama-u-vaspitno-obrazovnom-sistemu

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that meets the needs of the present without jeopardizing the ability of future generations to meet their needs (World Commission on Environment and Development, 1987).

Sustainability refers to a development model that fulfills current needs while ensuring that future generations can meet theirs. This comprehensive approach takes into account the social, environmental, and economic consequences of present-day actions and decisions (Enel, 2023).

Education for sustainable development is an important aspect of the life and work of all actors in education: teachers, parents, students, school principal, professional associates. Education should give young people competences with which they can act in solving challenges in new century. Education must be transformative to empower people to act in the direction of changes as well as to resist those unwanted changes. Teachers, pedagogues, and all actors of the educational system are at a turning point. This paper aims to research the areas of school pedagogues work that concern education for sustainable development.

2. WORK AREAS OF SCHOOL PEDAGOGUES IN THE FUNCTION OF EDUCATION FOR SUSTAINABLE DEVELOPMENT

The challenges of the school pedagogue in the 21st century are numerous, and the areas of his work rest on a distinct awareness of constant changes in the educational system. Trnavac (2007) determined in his research that pedagogues mostly deal with the following triad: work with students, work with teachers and work with parents. The specificity of the work of a school pedagogue can be illustrated by the presentation of the areas of work of a school pedagogue found in the *Final proposal of the work program of a school pedagogue in primary and secondary schools* (Zlatić, 2021): Planning and programming of educational work: 2-4 hours per week; Realization of the teaching and educational process: 1-3 hours per week; Monitoring and evaluation of school work: 1-3 hours per week; Improvement of educational work and cooperation with teachers: 5-7 hours per week; Work and cooperation with students: 7-9 hours a week; Cooperation with parents: 1-3 hours per week; Research of educational practice: 2-4 hours per week; Work in state bodies: 1-3 hours per week; Cooperation with professional institutions, the local community and professional development: 0.5-1.5 hours per week; Document management: 0.5-1.5 hours per week; Preparation for work: 10 hours per week.

School pedagogues are required to include tasks from all 11 areas in their annual work program. Which jobs from each of these areas they will favor and how much time they will plan for which of these areas depends on the pedagogues themselves, the conditions in which they work, the environment in which they work, the students, on what will be their priority for that school year. In doing so, they must bear in mind that the time they plan for a particular area must be within the limits of the time specified for each of the 11 areas. So, for example, for the first area, Planning and programming of educational work, the pedagogue can determine in his Annual Program at least 2, and at most 4 hours, and so on until the last area, Preparation for work, where we foresee 10 hours a week. Such a solution provides the necessary autonomy for school pedagogues and schools because they work in different conditions, and at the same time, the necessary complexity and comprehensiveness of the issues on which the school pedagogue works are ensured (Zlatić, 2021). Through the system of university education of future pedagogues, students are prepared for permanent participation in the planning and programming of school work, for the organization of educational and other activities in it, for analytical and research activities in the function of improving educational practice, as well as for the performance of all previously presented areas work performed by a pedagogue who is employed at the school.

Planning and programming of the work of the school as a whole or of individual educational activities represents the basic and initial stage in the general concern of the pedagogue about the school where he works. Through plans and programs, first of all, he takes care of the general function of the school, as well as its development. The answer to the question of what is done at school can be found in the plans, programs and work preparations of all subjects, for all programs and all types of activities. Trnavac (1993) talks about the direct work of a school pedagogue on planning as direct involvement in the creation of his work plan and program and those programs for which he is responsible for implementation. The school pedagogue has the following duties in this area (Regulations on the program of all forms of work of professional associates, 2012): Participation in the development of the educational plan of the self-evaluator and the development plan of the institution; Participation in the development of the annual work plan of the institution and its individual parts; Preparation of annual and monthly work plans of pedagogues; Participation in the preparation of an individual educational plan for students; Participation in innovative types of teaching planning and other forms of educational work; Participation in the selection and proposals of department heads; Participation in the selection and conception of various extracurricular and extracurricular activities; Assisting teachers in the development of plans for supplementary work, additional work, practical classes and sections, and the like. Trnavac (1993) emphasizes that there are four groups of work of a school pedagogue in this area: Basics of planning and programming (to collect laws, norms, regulations, instructions, curricula and programs); Annual school work plans and programs (as a whole and by segments); Planning, programming and preparation of immediate educational work; Creation of own work plan and program. Participation in the planning and programming of educational work is one of the most important tasks of a school pedagogue, because it contributes to the planned and organized realization of the plan and program of the school's educational work, and at the same time, it is an opportunity to modernize and rationalize the educational practice.

Monitoring, measurement and evaluation are the three fundamental categories of a single process that forms the essential basis of the modern organization of school work. Most authors define evaluation as a way to get feedback on the achievement of the goal of educational work (Hebib, 1997, p. 165-179; Jurić, 2004; Trnavac, 1993). Trnavac (1993) claims that if the feedback system is good (monitoring, measurement, evaluation), it will cause positive changes in the behavior of all participants in educational work. He further points out that the basic meaning of evaluation is feedback, and its function is to improve the educational work of the school. It can be said that evaluation is immanent in the process of education and that it is a prerequisite for the continuity of educational work (Hebib, 1997). Like his closest colleagues in the work (teachers), the school pedagogue must confirm his ability to meaningfully use the pedagogical theory in practice, to check, confirm and supplement it, because this creates the conditions for its constant change and improvement (Kopas-Vukašinović & Maksimović, 2011). There are no limits in the application of evaluation because any procedure, flow, process, or result can be evaluated.

Monitoring and evaluating the work of teachers implies (Trnavac, 1993): Monitoring and evaluating the preparation of teachers for educational work; Monitoring and evaluating the organization of the educational process; monitoring and evaluating of professional development of teachers in their work; monitoring and evaluating the quality of the cooperation between teachers and students' parents; Public-professional performances and procedures, techniques and instruments for self-evaluation of teachers in the educational process. Trnavac (1993) means monitoring and evaluating the results achieved by students: Monitoring students in teaching (knowledge tests, check-lists, graphs of student achievements, etc.); Monitoring and evaluating the content of student

activities in free time; Monitoring and evaluation of students' attitudes towards their duties (guard on duty, occasional duties in the class community, etc.); Evaluation of students in the realization of social service tasks; Monitoring and evaluation of interests, moral attitudes and values; Evaluation of social behavior and adaptation of students and procedures and instruments of self-evaluation of students.

The basis of cooperation between school pedagogues and teachers is mutual influence due to the achievement of common goals. They should jointly prepare, implement, analyze and evaluate the work, but also jointly find solutions to achieve better results. In the daily work of a school pedagogue, pedagogic-instructional work is not something separate and special and takes place simultaneously and as part of all other activities. When we talk about pedagogic-instructional work, Hebib (1997) means the field of work of pedagogues whose main purpose is pedagogical, i.e. professional teaching of teachers so that they perform their work better. Trnavac (1993) defines this term as helping and instructing in solving various difficulties and problems in educational work and jointly finding solutions to improve that relationship.

The work of a school pedagogue in the field of improving educational work and cooperation with teachers includes the following (Regulations on the program of all forms of work of professional associates, 2012; Zlatić, 2021): Specifying and operationalizing the goals and tasks of educational work and, in accordance with them, selecting appropriate content , forms, methods and means of educational work; Help in designing lessons with as much active teaching, cooperative forms of teaching, individualized and differentiated teaching as possible; Initiating the improvement of teaching work from the process of transferring knowledge to the learning process; Providing assistance in the professional development of teachers and their participation in seminars, i.e. accredited programs; Examining the causes of problems that arise in educational work; Instructing teachers to use professional literature in order to modernize the teaching process; Cooperation with teachers for the creation of didactic materials, collection and use of materials; Monitoring the method of keeping teachers' pedagogical documentation; Cooperation and assistance to department heads in quality performance of this role, etc. In the very phase of teaching planning, the pedagogue can instructively direct teachers to basic examples of good planning, to an adequate choice of forms of work and teaching methods, as well as to orientation towards individual differences and age characteristics of students (Stamatović, 2005). The successful cooperation of pedagogues and teachers will result in the adoption of effective conclusions by teachers, with the unobtrusive help of pedagogues, in resolving a pedagogical problem.

The pedagogue in the school, in cooperation with the students, helps them to better understand and get to know themselves, to assess their possibilities, to harmonize their wishes and desires with others, to solve their problems, and to change their behavior. The work of a school pedagogue with students is primarily reflected in the provision of support and assistance in various forms of student work at school. Apart from the problems, the pedagogue is an important support for students in the ups and downs of their work. The educational process of teachers and students, as well as pedagogues, goes through certain stages: the first is related to study, then pedagogical guidance and pedagogical counseling. The pedagogue focuses on the child who is in the role of a student and monitors his behavior, relationship with other children, changes that occur at school, and family. Based on the results collected by the pedagogue in his work with the students, the director and the school administration can more relevantly look at the general situation in the school and prepare for better systems of leadership and management of the educational process and the school (Simić, 2012). The basic fields of work of pedagogues with students include: getting

to know the position of children in the conditions of their development, examination of readiness and maturity for inclusion in individual schooling programs, monitoring of their overall development, especially progress in school work and learning, and pedagogical-instructional, i.e. advisory educational work with students (Trnavac, 1993).

The areas of school pedagogue work in this area presented in the Regulations on the program of all forms of work of professional associates (2012) are: Examining a child enrolled in elementary school; Monitoring of children's development and progress; Monitoring student workload (content, time, scope and type and method of engagement of the child or student); Creating optimal conditions for the individual development of the child or student and providing help and support; Identifying and working to eliminate pedagogical causes of problems in learning and behavior; Analyzing proposals and suggestions of students for improving the work of the school and helping in their implementation; Participation in enhanced educational work for a student who violates the rules of behavior at school or does not comply with the decisions of the director and school authorities, is unjustifiably absent from classes for five hours, or whose behavior endangers others in exercising their rights. The school pedagogue can help students indirectly and directly, indirectly by creating favorable conditions for the normal development of children at school, and directly by helping them with advice.

Advisory educational work, in a certain way, is carried out by everyone who educates children and youth - parents, educators, teachers, school principals, mass media, etc. However, the advisory educational work performed by the school pedagogue has an institutionalized form, planned and programmed and methodically considered. Counseling is not a lecture but a form of direct communication. For the school, the most important thing is counseling for the purpose of educational activities, which the school pedagogue deals with (Simić, 2012). Student counseling does not only apply to students who have learning and behavioral problems, but also to students who are gifted, who have special aptitudes and interests, and who want to express their creativity.

Family and school are two basic factors of education. These are two institutions that are jointly interested in the student's development and progress, so it is important to emphasize that their constant cooperation is necessary. It is realized through various forms, from individual consultations, parent meetings, and organized work of parents through the school's Parents' Council, by involving parents in extracurricular activities of the school (actions, forums, sections...) and the like. Working with parents, the school pedagogue programs organizes, undertakes, monitors and evaluates all those activities that will favorably affect the overall development of the child (student) and the work of the school (Trnavac, 1993). In direct work with parents, advisory work dominates, and in indirect work, all those activities in which others participate, that is, teachers, school management, department heads, and influence the behavior and involvement of parents and families in raising children. The pedagogue achieves cooperation with parents through pedagogically organized work. Forms of work are mostly individual and group. Individual cooperation with parents involves informing parents about student development, pedagogical instructions and advice for overcoming the problems that have arisen. The pedagogue can organize thematic parent meetings for groups of parents, parents of one class or one class. These parent meetings also aim to educate parents and are realized in the form of forums, courses, seminars and workshops. Another form of cooperation between pedagogues and parents is the formation of counseling centers for parents (Stamatović, 2005). For the development of interpersonal communication between pedagogues and parents, the first contact is very important, because it is then that mutual action occurs. Both sides should take care of the impression they will leave, if it is positive it will inspire the will for further cooperation, i.e. interaction.

In the system of modern upbringing and education, the role and importance of analytical and research work of pedagogues is emphasized. At the same time, analytical work means the analysis of general conditions for the implementation of educational work and the analysis of the results of the implemented educational process, and research work is the realization of the so-called small studies of school practice and participation in the implementation of research organized and carried out by scientific and research institutions (Hebib & Matović, 2012). Therefore, the analytical-research work of pedagogues, in the conditions of school work, should not be identified with scientific-research work, in terms of norms, levels and strict control of conditions. It is about analyzes and research in relatively modest, school conditions, but which must be professionally and scientifically based (Trnavac, 1993).

As a professional associate in the school, the pedagogue is the bearer of projects that are implemented in schools. These projects thematically cover a wide area of activity, in relation to teachers, students, parents and the wider social community. It can be concluded that the professionalism of pedagogues in the modern school system implies the research of educational practice, in the function of its improvement (Kopas-Vukašinović & Maksimović, 2011). When determining the research problem, the school pedagogue, in addition to taking into account the existing situation in practice, must inevitably use relevant theoretical knowledge. The pedagogue most often discovers potential research problems through his work. Other participants in the educational process (students, teachers, parents, principals, etc.) can also encourage and indicate questions that should be the subject of research. In these researches, respondents can be participants in the educational process, e.g. students, teachers, teachers, parents, principals, representatives of the local community, etc. However, respondents in these researches can also be textbooks, teaching contents, educational activities, etc. The research conducted by the pedagogue in the school is not undertaken to generalize the obtained results from the sample to the population. The main reason for this is contained in the fact that the purpose of this research is to help the pedagogue in solving the specific problems he encounters in his work at school (Hebib & Matović, 2012). In this area, the pedagogue performs the following types of work (Zlatić, 2021): Research and review of the general conditions for conducting educational work in the school; Research of existing educational practice and specific problems and needs of the school; Participation in testing the level and quality of student knowledge; Research on the workload of students with school duties; Research of practical application in teaching practice of knowledge and skills acquired at many seminars and educational programs, etc. It could be concluded that the school pedagogue cannot successfully fulfill his role in the school without systematic and continuous analytical-research work. Therefore, analytical-research work could be understood not only as one area of work of a school pedagogue, but as an approach and starting point in performing the role of a professional associate in the school. A complete pedagogue must have the desire, will and ability to constantly improve and change his educational practice through research work. Also, he needs to be able to recognize problems in the school that he can investigate.

The work of pedagogues in state bodies includes the areas of work of school pedagogues in this area, which are presented in the Regulations on the program of all forms of work of professional associates (2012). It is about the following: Participation in the work of the educational, teacher's council, that is, the pedagogical council (by issuing announcements, providing information about the results of analyses, reviews, research and other activities of importance for educational work and strengthening of teacher competencies); Participating in the work of teams, councils, assets and commissions at the level of the institution that are formed to achieve a specific task, program or project; Participation in the work of the pedagogical collegium, pedagogical councils and

professional assets for development planning and development of the preschool, school program, that is, the program of educational work; Proposing measures to improve the work of state bodies of the institution.

Cooperation with professional institutions, the local community and the professional training of pedagogues is aimed at ensuring continuity in monitoring and guiding the development of students. At the same time, the school pedagogue cooperates with professional associates of preschool institutions, secondary schools and other elementary schools. This cooperation is intended for the exchange of experiences, solving problems related to the transfer of students from one school to another, ensuring continuity when including students in various forms of individualized work, free and social activities, etc. Also, the participation of pedagogues is significant in the development of professional training for teachers and other professional associates of the school. His participation is reflected, first of all, in proposing topics that serve the purpose of improving and modernizing educational practices. The job of a school pedagogue in this area of work is as follows (Regulations on the program of all forms of work of professional associates, 2012; Zlatić, 2021): Cooperation with educational, health, social, scientific, cultural and other institutions that contribute to the achievement of the goals and tasks of educational work; Cooperation with secondary schools; Creation of the concept of the plan and program of professional development of teachers and professional associates in the school; Work on own professional development; Participation in mentoring work with interns and their introduction to work; Establishing cooperation with the local community and realization of joint works and actions; Active participation in the work of professional associations, authorities and organizations. The pedagogue develops professionally in the following way: by following professional literature and periodicals, by following information of importance for education and upbringing on the Internet; by participating in the activities of the professional association (Pedagogical Society of Serbia) and at the Republic Section of Pedagogues and Psychologists of Serbia, attending accredited seminars, participating in congresses, conferences, forums, designing and implementing accredited seminars, attending expert meetings, exchanging experience and cooperating with other pedagogues and experts associates in education (Regulations on the program of all forms of work of professional associates, 2012).

Pedagogues, as well as other professional associates of the school, keep pedagogical documentation about their work. In addition to the documentation of his work, the school pedagogue must have insight into the pedagogical documentation that is maintained in the school and contribute to its improvement. The work of a school pedagogue in the field of documentation includes the following (Zlatić, 2021): Documentation of their work: work plans and programs (annual-global and monthly-operational), work diary, files on work with students who require special work, documentation on research work performed, examinations performed, reports, etc.; Participation in the improvement of school pedagogical documentation, especially that related to planning and monitoring the implementation of the school's work program, as well as documentation on the professional development of school employees; Keeping records and documentation on consultation with students, teachers and parents; Keeping records and documentation about projects that are implemented in the school, or are related to the school.

Jurić (2004) divides the documentation kept at the school into documentation created at the school (internal documentation) and documentation whose content is related to the school but originates from external institutions and persons who cooperate with the school (external documentation). The first group of documents includes all areas of the school's work, and in particular: plans and reports on the school's work, teaching, class councils, duty hours, timetables and class schedules,

cooperation with students' parents, free activities, professional information and counseling, student works and more. The second group of documents consists of: laws, regulations of government bodies, reports on supervision and inspection of the school, notes on students with a special informative view on the health of students and other documents that were created outside the school. Good pedagogical documentation enables the pedagogue to comply with some elementary principles of his work. These principles are: economy, rationality, efficiency in work, objectivity, truthfulness, transparency, individual approach to the student and the teacher, etc. (Trnavac, 1993). Pedagogical documentation is important in the work of a school pedagogue, for the reason that through it he can easily see the origin, past and development of a phenomenon. Also, he can compare specific data, phenomena or students. This documentation enables the pedagogue to detect problems on time and to take corrective pedagogical measures. That is why the pedagogue must keep documentation of both his work and the work of the school every day.

Preparation for work refers to the pedagogue's working time at school, which amounts to forty hours per week, with thirty hours devoted to the realization of planned program tasks, and ten hours to preparations. The tasks of the school teacher in this field are (Trnavac, 1993): Preparation and planning of work with students, teachers and parents; Preparation and planning of analyzes and announcements; Preparation and planning of lectures for students, teachers and parents; Preparation and planning of materials for individual expressions and making of instruments; Preparing and planning visits to classes; Preparing and planning the introduction of innovations in the educational process; Monitoring and studying the necessary professional literature; Preparation and agreement with other professional associates, teams, and professional institutions on joint tasks and activities in and outside the school. This area is no less important than the others. This is precisely why the most time is allocated for the performance of work in this area of work, which can also be an indicator of the importance of this area of work for a pedagogue working in a school.

Education for sustainable development empowers actors of the educational system with the knowledge, skills, values, attitudes and behaviors to live in a way that is good for the environment, economy, and society that encourages people to make smart, responsible choices that help create a better future for everyone (UNESCO, n.d.).

These areas are interconnected and together contribute to sustainable development at the global level.

3. CONCLUSION

Orr (2004, 2005) argued that the world needs people who live well in their places to make the world both habitable and humane and that the main challenge for education is to help learners make their minds fit for life on Earth. Capra (2002) continues to expand the scope of that theory by establishing a framework in which we can understand and solve some of the most important issues of our time (…) posits that in order to sustain life, the principles underlying our social institutions must be consistent with the broader organization of nature. In modern education, the competencies of teachers and pedagogues for sustainable development are becoming more and more important. These competencies enable them to effectively transfer values and knowledge about sustainability to students, thus encouraging responsible behavior towards the environment and society. The role of pedagogues in promoting sustainable development is crucial in shaping the awareness and behavior of future generations. The pedagogue faces the challenge of integrating the principles of sustainability into the educational process, which not only enriches teaching but also encourages the development of critical thinking and active citizenship in students.

At the end, we can conclude that all the mentioned aspects of action and the complex field of work of a school pedagogue are precisely based on a deep awareness of the necessity of constant changes in the educational system in order for new generations of students to be included in contemporary social trends and experience the necessary innovations as an authentic expression of his time.

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References

Capra, F. (2002). *The Hidden Connections—A Science for Sustainable Living*. London: Flamingo.

Enel. (2023, June). Three pillars of sustainability. Enel. https://www.enel.com/company/stories/articles/2023/06/three-pillars-sustainability

Hebib, E. (1997). Pedagog kao saradnik u vrednovanju rada nastavnika; u M. Pešić i sar. (prir.): *Pedagogija u akciji – metodološki priručnik* (165-179). Beograd: Institut za pedagogiju i andragogiju.

Hebib, E., & Matović, N. (2012). Istraživački rad školskog pedagoga. *Nastava i vaspitanje*, 61(1), 67-82.

Jurić, V. (2004). *Metodika rada školskog pedagoga*. Zagreb: Školska knjiga.

Kopas-Vukašinović, E., & Maksimović, J. (2011). Diplomski radovi studenata pedagogije i njihove profesionalne kompetencije. *Nastava i vaspitanje*, 60(4), 688-702.

Orr, D. (2004). *Education, the Environment and the Human Prospect*. Washington: DC: Island Press.

Orr, D. (2005). *Ecological Literacy: Educating Our Children for a Sustainable World.* San Francisco, CA: Sierra Club Books.

Regulations on the program of all forms of work of professional associates. (2012). Pravilnik o programu svih oblika rada stručnih saradnika. Beograd: Službeni glasnik. Правилник-о-програму-свих-облика-рада-стручних-сарадника.pdf

Simić, M. (2012). Uloga pedagoga i nastavnika u školskom vaspitno-obrazovnom sistemu. *Baština*, 32, 197-207.

Stamatović, J. (2005). Uloga školskog pedagoga u unapređivanju vaspitnog rada škole. *Nastava i vaspitanje*, 54(2), 288-294.

Trnavac, N. (1993). *Pedagog u školi*. Beograd: Učiteljski fakultet.

Trnavac, N. (2007). Šta i kako rade školski pedagozi u Srbiji? *Nastava i vaspitanje*, 56(1), 88-103.

UNESCO. (n.d.). Education for sustainable development. UNESCO. https://www.unesco.org/en/sustainable-development/education

World Commission on Environment and Development. (1987). *Our Common Future*, Oxford: University Press.

Zlatić, Lj. (2021). *Konačan predlog programa rada školskog pedagoga u osnovnoj i srednjoj školi*. https://starisajt.pedagog.rs/javna%20rasprava%20predlog%20rada.php

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How to Apply AI in Sustainability Research Project

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Abstract: *The paper outlines conceptual ideas for the application of AI in sustainability research projects. As integration of AI in research is still in its early stages AI is announced to have significant potential in research processes. Although the authors consider that AI should not be used for its own sake. AI can automate tasks, recognize topics, and identify emerging trends which can significantly improve research efficiency and accuracy. However, challenges such as data bias and ethical considerations must be addressed. In conclusion, the implementation of AI in sustainability research projects requires a collaborative approach between human intellect and AI capabilities and "Garbage in, Garbage out" (GIGO) has to be remembered in the application of AI tools.*

1. INTRODUCTION

As a more conceptual-driven and theory-attracted researcher the main question of "how to apply AI" cannot be answered straightforwardly. Using AI in research does not have to be for the sake of AI itself. Wagner et al. (2022) have objectivity to familiarize researchers with trends in using AI in different stages of the research process, mainly literature review. They concluded that the theme of AI in research is in its early stage of development. And it is proposed a research agenda for AI-based literature reviews (AILRs). It is confirmed also by Lund and Wang (2023) that further research ought to be conducted to fully understand how AI can be effectively applied in research (Lund & Wang, 2023). In conceptual-based articles, the issue with AI is a matter of upper sophistication as these papers exclude the already known and predefined structure of scientific research. Empirical findings are a significant base but also field works and other observations can be taken into consideration. The conceptual paper merely stands for the author's creativity and other intellectual skills. Without a doubt, artificial help can have a valuable contribution.

The current paper will outline how AI can be applied to recognize topics and ideas. Because, specifically for conceptual papers, argument ideas cannot be derived from traditional data but require the author to assimilate and combinate any kind of evidence from already developed concepts and theories (Hirschheim, 2008).

2. AI DEVELOPMENT IN ACADEMIC RESEARCH

The relentless pursuit of innovation in AI has led to the development of advanced models with sophisticated language capabilities, transforming academic practices fundamentally (Kenwright, 2024). AI-driven tools now enhance processes like literature reviews, manuscript preparation, and reference management, simplifying academic research while allowing researchers to focus on deeper exploration and innovation within their fields (Thompson et al., 2023).

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AI's natural language processing (NLP) capabilities enable swift, comprehensive literature reviews, highlighting trends, research gaps, and thematic connections (Roberts, 2023). These tools uncover hidden patterns within vast datasets, identifying new research avenues and forecasting developments in various disciplines. Additionally, machine learning algorithms power personalized research recommendations by analyzing individual preferences and past work, suggesting relevant articles, conferences, and collaborators to foster interdisciplinary innovation (Khabib, 2022). Semantic search features deliver precise, context-aware results, while AI-generated knowledge graphs illustrate complex relationships between concepts, providing a holistic understanding of research areas (Mohammed et al., 2023).

The exponential growth of research publications has reshaped academia, with platforms like Scopus and Web of Science evidencing this surge. This information overload makes staying updated on developments increasingly challenging, as filtering through extensive datasets for impactful research becomes more difficult. Traditional approaches, such as manual searches or keyword-based methods, often fall short. Variations in terminology can exclude relevant studies in keyword searches, while manual methods struggle with the sheer volume of research outputs. The integration of AI into academic workflows marks a transformative shift, unlocking new opportunities for exploration and discovery (Chen et al., 2020). By utilizing AI's potential, researchers can advance their endeavors, blending human creativity with technological innovation to redefine knowledge creation.

Despite the advantages, the widespread use of AI tools introduces potential risks. Reviewers and editors must remain vigilant to ensure these tools do not compromise scientific integrity (Jaiswal & Arun, 2021). Balancing the benefits of AI with the need to preserve rigorous scientific discourse is essential. Responsible use requires careful oversight to maintain the quality and reliability of academic work in the face of rapid technological progress (Garbuio & Lin, 2021). Moreover, ethical challenges such as data privacy, algorithmic biases, and transparency must be addressed to ensure equitable and trustworthy use of AI in academic research.

3. DRAFTING APPLICATIONS OF AI IN THE SUSTAINABILITY RESEARCH PROJECT

Looking for topics and ideas is a broadly managed challenge. As Hoffman and Hancock (2017) note, AI significantly enhances the process of search, leveraging capabilities to combine texts through extensive databases using specific keywords and questions, thereby identifying pertinent articles more accurately than traditional search methods. Moreover, AI streamlines the research process by summarizing key findings and extracting crucial evidence and concepts from the empirical findings, which is a time-saving effort.

Beyond that, AI analyzes large datasets of research articles to identify emerging trends and future directions within specific disciplines (Duymaz & Tekin, 2024). This trend analysis is pivotal for researchers aiming to stay ahead of the curve and identify under-explored areas or potential literature gaps. AI also plays a crucial role in uncovering hidden connections and fostering interdisciplinary collaboration by linking disparate research topics.

AI's capability extends to aiding researchers in understanding complex concepts through the analysis of a wide array of articles on a given topic (Donmez et al., 2023). This aids in forming a comprehensive view of various interpretations and related concepts within a field. AI can further assist in formulating research questions and hypotheses by identifying unexplored or conflicting areas of research, potentially sparking new avenues for innovative research (Ginting et al., 2023).

Additionally, AI enhances the discoverability of research and cohesive knowledge organization. Some initial steps of how to apply AI in recognition of topics and ideas for my conceptual paper are:

(i) Define my Research Focus:
- Brainstorm Broadly: Before diving into the AI, spend some time brainstorming potential research areas or questions. Write down anything that sparks your interest within your field.
- Refine and Narrow: Once there is a broad list, choose a specific area or question you'd like to explore further. This provides a starting point for the AI tool and ensures that the research will stay focused.

(ii) Select the Right AI Tool:
- Considering the Needs: Different AI content generators have varying strengths (Table 1).

(iii) Craft a Tailored Prompt:
- Start with Background: Briefly introduce your chosen research area or question.
- Specify my Request: Clearly state how the AI can assist.

(iv) Analyze and evaluate the AI Outputs:
- Relevance Assessment: Carefully evaluate whether the generated ideas or topics align with your initial research focus.
- Accuracy Check: Do not blindly accept information, especially empirical findings from quantitative papers.
- Completeness Understanding: Recognize that AI outputs are a starting point, not a finished product. Have to be conducted further research to develop strong arguments, linkages and evidence.

(v) Leverage AI for Deeper Exploration:
- Targeted Analysis: Once a list of potential topics is ready, the AI tool can delve deeper into specific areas.
- Refine Research Question: With AI research questions might become more refined or even shift direction entirely. This is a natural part of the research process.

(vi) Maintain a Critical and Curious Mind.

Table 1. Potential AI tools

AI Tool	Category	Specific Uses
Scholarcy	Literature Review & Knowledge Management	Summarizes & extracts key information, identifies figures & tables, recognizes concepts, citation management
Scite	Literature Review & Citation Management	Analyzes articles, checks citation accuracy, visualizes citation landscape, suggests citation formats
Research Rabbit	Literature Review & Discovery	Research paper discovery & organization, categorized collections ("research Spotify")
Elicit	Literature Review & Trend Analysis	Analyzes articles to identify research gaps, trends, and connections between topics
Consensus	Literature Review & Knowledge Synthesis	Compiling information from research & peer-reviewed articles offers a comprehensive understanding of a topic
OpenRead	Reading & Comprehension	Interactive platform for engaging with academic formats, Q&A systems, "Paper Espresso" for faster literature reviews
ChatGPT	Large Language Models (LLMs) for Creative Exploration & Brainstorming	Generates different creative text formats to brainstorm research ideas and explore diverse angles within your study area.
Gemini	Large Language Models (LLMs) for Creative Exploration & Brainstorming	Offers strong text generation and integrates with Google Scholar for research-oriented brainstorming.

Source: Own research

All in all, for my sustainability research projects AI still looks dim. "Garbage in, Garbage out" (GIGO) has to be remembered in the application of the aforementioned AI tools. AI requires serious self-reflection.

4. FUTURE RESEARCH DIRECTIONS

The future of AI in sustainability research holds transformative potential, set to revolutionize discovery and innovation. A major focus will be enhancing the accuracy and transparency of AI models used to identify research topics and ideas. By improving the explainability of AI-generated insights, researchers will develop greater trust in the technology while gaining a deeper understanding of the reasoning behind its recommendations (Liu et al., 2021).

As AI technology advances, it will likely lead to the creation of specialized tools tailored to the unique demands of various disciplines. These tools will integrate domain-specific knowledge to provide researchers with precise and effective support. For example, legal researchers could benefit from AI systems designed to analyze legal documents, while biologists could use AI to unravel complex protein structures. The scope for such tailored solutions is virtually limitless.

Rather than replacing researchers, AI is poised to foster a collaborative dynamic where human and machine intelligence complement one another. While AI excels at processing large datasets and uncovering patterns, researchers will continue to apply critical thinking to interpret results, pose meaningful research questions, and devise innovative solutions. This integration of AI into research workflows will create a more comprehensive and efficient research experience, empowering researchers to achieve greater outcomes. The future of research, therefore, lies in the synergy between human intuition and AI's vast capabilities.

5. CONCLUSION

AI in sustainability research presents a valuable opportunity to explore, synthesize, and address global challenges. By automating time-consuming tasks such as literature reviews and data extraction, AI allows researchers to dedicate more time to complex analysis and creative problem-solving. AI-powered tools excel at analyzing large datasets with greater accuracy and depth than traditional methods, resulting in more comprehensive and insightful research outcomes (Chen et al., 2020).

One of AI's greatest strengths lies in its ability to uncover hidden patterns and relationships within data, leading to the identification of new research questions, unexplored areas, and innovative solutions (Golan et al., 2023). However, the effectiveness of these tools depends significantly on the quality and representativeness of the data used to train them. Biases in training data can influence AI outputs, potentially resulting in skewed findings or overlooked opportunities (Lund & Wang, 2023).

While AI can significantly enhance sustainability research, researchers must approach its use with caution and balance. They should remain critical of AI outputs and mindful of limitations, such as the potential for bias and the need for high-quality data. Additionally, access to advanced AI tools remains a challenge for researchers at institutions with limited resources, posing a barrier to equitable participation in sustainability research.

References

Chen, L., Chen, P., & Lin, Z. (2020). Artificial intelligence in education: A review. IEEE Access: Practical Innovations, *Open Solutions, 8*, 75264-75278. doi:10.1109/ACCESS.2020.2988510

Donmez, i., Sahin, I., & Gulen, S. (2023). Conducting academic research with the AI interface ChatGPT: Challenges and opportunities. *Journal of STEAM Education, 6*(2), 101-118.

Duymaz, Y. K., & Tekin, A. M. (2024). Harnessing artificial intelligence in academic writing: Potential, ethics, and responsible use. *European Journal of Therapeutics, 30*(1), 87-88. doi:10.58600/eurjther1755

Garbuio, M., & Lin, N. (2021). Innovative idea generation in problem finding: Abductive reasoning, cognitive impediments, and the promise of artificial intelligence. *Journal of Product Innovation Management, 38*(6), 701-725. doi:10.1111/jpim.12602

Ginting, P., Batubara, H. M., & Hasnah, Y. (2023). Artificial intelligence powered writing tools as adaptable aids for academic writing: Insight from EFL college learners in writing final project. *International Journal of Multidisciplinary Research And Analysis, 6*(10), 4640-4650. doi:10.47191/ijmra/v6-i10-15

Golan, R., Reddy, R., Muthigi, A., & Ramasamy, R. (2023). Artificial intelligence in academic writing: A paradigm-shifting technological advance. Nature Reviews. *Urology, 20*(6), 327-328. doi:10.1038/ s41585-023-00746-x PMID:36829078

Hirschheim, R. (2008). "Some Guidelines for the Critical Reviewing of Conceptual Papers," *Journal of the Association for Information Systems, 9*(8), DOI: 10.17705/1jais.00167 Available at: https://aisel.aisnet.org/jais/vol9/iss8/21

Hoffman, R. R., & Hancock, P. A. (2017). Measuring Resilience. *Human Factors, 59*(4), 564-581. https://doi.org/10.1177/0018720816686248

Jaiswal, A., & Arun, C. J. (2021). Potential of Artificial Intelligence for transformation of the education system in India. *International Journal of Education and Development Using Information and Communication Technology, 17*(1), 142-158.

Kenwright, B. (2024). Is it the end of undergraduate dissertations?: Exploring the advantages and challenges of generative ai models in education. In Generative AI in teaching and learning (pp. 46-65). IGI Global.

Khabib, S. (2022). Introducing artificial intelligence (AI)-based digital writing assistants for teachers in writing scientific articles. *Teaching English as a Foreign Language Journal, 1*(2), 114-124. doi:10.12928/ tefl.v1i2.249

Liu, W., Zhao, J., Du, L., Padwal, H. H., & Vadivel, T. (2021). Intelligent comprehensive evaluation system using artificial intelligence for environmental evaluation. *Environmental Impact Assessment Review, 86*, 106495.

Lund, B. D., & Wang, T. (2023). Chatting about ChatGPT: How may AI and GPT impact academia and libraries? Library Hi Tech News. Retrieved from SSRN: https://ssrn.com/abstract=4333415 or http://dx.doi.org/10.2139/ssrn.4333415

Mohammed, O., Sahib, T. M., Hayder, I. M., Salisu, S., & Shahid, M. (2023). ChatGPT Evaluation: Can It Replace Grammarly and Quillbot Tools? *British Journal of Applied Linguistics, 3*(2), 34-46. doi:10.32996/bjal.2023.3.2.4

Roberts, L. W. (2023). Addressing the Novel Implications of Generative AI for Academic Publishing, Education, and Research. Academic Medicine, 10-1097. PMID:38451086

Thompson, K., Corrin, L., & Lodge, J. M. (2023). AI in tertiary education: Progress on research and practice. *Australasian Journal of Educational Technology, 39*(5), 1-7. doi:10.14742/ajet.9251

Wagner, G., Lukyanenko, R., & Paré, G. (2022). Artificial intelligence and the conduct of literature reviews. *Journal of Information Technology, 37*(2), 209-226. https://doi.org/10.1177/02683962211048201

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Transformative Translation: Empowering Environmental Discourse Through Linguistic Innovation and Sustainable Translations

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Abstract: *As environmental challenges intensify, effective communication is essential to facilitate global sustainability. Translators and translation scholars may need to reconsider traditional translation approaches and offer effective translation solutions to cope with the complexity of environmental discourse. This paper is part of a wider and ongoing research project and introduces a tentative transformative approach to translation, which combined with linguistic innovation, is aimed at offering solutions for achieving sustainable translations. Rooted in eco-linguistics, participatory translation, and cultural adaptation, this approach transcends linguistic and cultural barriers, fostering inclusive and impactful communication. Transformative translation acknowledges the deep connection between language, culture, and the environment, shaping perceptions and behaviours toward achieving sustainability. By involving stakeholders and emphasizing cultural adaptation, translators ensure relevance and engagement across diverse target text users. Integrating technology with human expertise further enhances accessibility and nuance in translations. This tentative transformative approach to translation bridges global and local contexts and empowers environmental discourse, contributing to global efforts to achieve sustainability.*

1. INTRODUCTION

In the face of growing environmental challenges, effective communication is essential to foster global sustainability. However, traditional translation approaches may fail to capture the complexity and specificity of environmental discourse. The subtleties of environmental language, often involving scientific terminology, cultural nuances, and ethical considerations, can be lost or misrepresented in translation, leading to misunderstanding and reduced impact of sustainability efforts (Dash & Phil, 2019, pp. 1-6). This paper proposes a tentative transformative approach to translation that aims at empowering environmental discourse through linguistic innovation to offer sustainable translations.

Drawing on the principles of eco-linguistics, participatory translation and cultural adaptation, this approach aims to transcend linguistic and cultural barriers to create more inclusive, impactful and culturally sensitive translations. By rethinking how environmental messages are conveyed in different languages and cultures, this approach not only enhances understanding but also promotes deeper engagement with sustainability initiatives on a global scale (Al-Sofi & Abouabdulqader, 2019, pp. 1-13). Sustainable translations may be achieved by using a transformative approach to translation that prioritizes long-term cultural and environmental sustainability and ensures that translated content effectively communicates environmental issues while respecting the cultural and linguistic contexts of the target audience. This approach emphasizes the need for translations

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that not only convey accurate information but also promote sustainable behaviours and attitudes (Al-Sofi & Abouabdulqader, 2019, pp. 1-13).

Participatory translation is a collaborative translation process that involves stakeholders, including translators, subject matter experts, and community members, at every stage of the translation process. This approach ensures that translations are not only linguistically accurate but also culturally relevant and contextually appropriate, promoting inclusivity and increasing the impact of translated content (Kornacki, 2018, pp. 11-18). The term *participatory translation* was introduced by Miguel Angel Jimenez-Crespo, a translation studies researcher who has extensively explored the involvement of wider communities and audiences in the translation process (Jimenez-Crespo, 2017). His research emphasizes the collaborative nature of translation, particularly in digital environments where users and communities are actively involved in creating translations. This concept emphasizes the importance of including diverse perspectives to ensure linguistic accuracy and cultural relevance throughout the translation process.

Eco-linguistics is an interdisciplinary field that explores the relationship between language and the natural environment. It examines how language influences perceptions, attitudes and behaviours toward the environment and advocates the use of language that promotes ecological sustainability and environmental awareness (Dash & Phil, 2019, pp. 1-6). The term was coined by Michael Halliday, a prominent linguist, during his 1990 lecture entitled *New Ways of Meaning: The Challenge to Applied Linguistics*. In this lecture, Halliday discussed the role of language in addressing ecological issues and emphasized the need for linguistics to engage with environmental issues. Ecolinguistics, as defined by Ming Cheng, studies the relationship between language and the environment, focusing on how language reflects and influences our perceptions of the natural world (Cheng, 2022, pp. 189 – 192).

The successful integration of these key concepts in our study will help provide a comprehensive assessment of the accuracy and effectiveness of environmental translation and ultimately will contribute to making translations more sustainable.

2. MAKING ENVIRONMENTAL TRANSLATIONS SUSTAINABLE

This research assesses the quality of translation on environmental sustainability in Romanian. The main objective is to identify possible errors or inaccuracies that could affect the accuracy of the message. In addition, the study examines the various challenges faced by translators, including linguistic, cultural and technical issues.

The investigation aims to improve translators' understanding of the translation process (Dejica & Dejica-Cartis, 2020a) by identifying specific areas where errors are likely to occur. By addressing these potential pitfalls, it can improve the accuracy with which environmental sustainability topics are communicated in Romanian. In addition, understanding the various challenges faced by translators can help develop better strategies and tools to support accurate and culturally relevant translations. Ultimately, this research aims to contribute to more effective communication on environmental sustainability by ensuring that important information is accurately conveyed to the Romanian-speaking public.

During this research, texts translated into Romanian will be analysed to identify potential areas that could pose challenges for translators. Particular attention will be paid to the use of specialized

environmental terminology, as inaccuracies or inconsistencies in this area can significantly affect the clarity, efficiency and sustainability of translations. The aim is to uncover these problems, to develop strategies, to address them, and ultimately to reconsider translation approaches that may increase accuracy and reliability in conveying complex environmental concepts to the Romanian-speaking audience. The past years witnessed growing concern about these issues both from scholars (Cronin, 2017; Dash & Phil, 2019) and from institutions (UNESCO, 2019; IUCN, 2021).

Michael Cronin's work, Translation Goes Green, explores the critical intersection between translation and environmental sustainability, emphasizing the role of translators in shaping ecological discourse. Cronin argues that translation is not just a linguistic exercise but a vital tool for promoting global awareness and action on environmental issues (Cronin, 2017). The author emphasizes the importance of culturally sensitive translations that resonate with local audiences while maintaining the integrity of environmental messages. By examining the challenges and responsibilities faced by translators in this context, Cronin's work emphasizes the need for innovative translation practices that contribute to a more sustainable future. This perspective aligns with the aims of this research, which seeks to identify and address potential pitfalls in translating environmental sustainability content into Romanian, ultimately increasing the effectiveness of these communication efforts.

Dash and Phil's article (2019) *What is Ecolinguistics?* explores the interdisciplinary field of ecolinguistics, which examines the relationship between language and environment. The article highlights how language influences environmental perspectives and behaviours and how linguistic analysis can contribute to understanding and addressing environmental issues. Dash and Phil (2019) emphasize the importance of integrating ecological awareness into language studies to promote sustainability and environmental awareness. Dash's exploration of ecolinguistics is directly relevant to our research objective of translating environmental texts into Romanian in a sustainable way. The interdisciplinary nature of ecolinguistics, which examines the intersection of language and environmental issues, aligns with our goal of ensuring that translations accurately convey complex ecological concepts while being culturally and contextually appropriate. Dash's focus on how language shapes ecological perspectives underscores the importance of linguistic choices in translation. This perspective is crucial for the development of specialized glossaries and standardized practices to ensure that environmental texts are both accurate and resonate with Romanian audiences. By understanding the linguistic elements that influence environmental awareness, translations can communicate messages more effectively and sustainably. Last but not least, Dash's focus on promoting ecological awareness through language studies supports our goal of promoting collaboration and knowledge sharing among diverse stakeholders. We believe that by integrating ecolinguistics principles into existing translation strategies, translators can increase the impact of translated texts, encouraging collective action towards sustainability. This participatory approach to translation aligns with our broader goal of making translators, translation scholars and students aware of the importance of informed decision-making translation practices which may lead to sustainable translations. By combining ecolinguistics principles with practical translation solutions, we aim at creating translations that are not only accurate but also relevant and culturally impactful, contributing to global sustainability efforts and encouraging a more informed and engaged audience.

UNESCO's *Education for Sustainable Development Goals: Learning Objectives* (2019) provides a detailed framework for integrating the Sustainable Development Goals (SDGs) into education curricula. This document specifies learning objectives for each SDG to cultivate knowledge, skills, values and attitudes that support sustainable development. It emphasizes the role of education in promoting sustainable development and provides practical guidelines for educators to smoothly incorporate

SDG topics into their teaching methods. This framework is highly relevant to our research since we focus on translating environmental texts into Romanian in a sustainable way. UNESCO's emphasis on education as a crucial component of achieving sustainability aligns with our goal of ensuring that translations are not only accurate but also pedagogically effective. By outlining clear learning objectives for each SDG, UNESCO provides a valuable reference that can guide the translation of educational materials, ensuring that they adhere to global sustainability standards. The focus of the framework on developing knowledge, skills, values and attitudes is integral to creating translations that are culturally relevant and resonate with Romanian audiences. By understanding the educational objectives behind the sustainability content, translators can tailor their work to meet the needs of learners in a better way, thereby promoting a deeper understanding of environmental issues and encouraging responsible behaviour. In addition, UNESCO's guidelines for integrating SDG themes into teaching offer practical insights that can improve translation practices. Incorporating these guidelines ensures that translated texts are not only informative, but also engaging and accessible to a diverse audience, including educators, students and the public, which is a key element for our tentative transformative approach, meant to maximize the impact of translations, contribute to global sustainable development efforts, and foster a more informed and active community.

Language and Culture for Conservation by the IUCN (2021) highlights the critical role that language and culture play in biodiversity conservation efforts. The document emphasizes the need for integrating indigenous languages and cultural knowledge into conservation strategies to ensure the protection of ecosystems and biodiversity. It argues that recognizing and incorporating local cultural practices and traditional ecological knowledge can enhance the effectiveness of conservation initiatives, fostering more inclusive and sustainable environmental stewardship. The IUCN's Language and Culture for Conservation aligns closely with our research objective of translating environmental texts into Romanian in a sustainable way, by underscoring the importance of language and culture in effective conservation. The emphasis on integrating indigenous languages and cultural knowledge mirrors our goal of ensuring that translations are culturally relevant and resonate with the Romanian audience. The document's focus on traditional ecological knowledge and local cultural practices supports our goal to create sustainable translations that maintain the integrity and depth of environmental texts. Our transformative approach ensures that translated materials are not only accurate but also culturally sensitive, enhancing their impact and accessibility. Furthermore, the IUCN's emphasis on inclusive and sustainable conservation strategies aligns with our objective of fostering collaboration and knowledge-sharing among diverse stakeholders. By acknowledging the role of culture and language in conservation, our research aims to produce translations that facilitate informed decision-making and collective action toward ensuring sustainability. In summary, the IUCN's Language and Culture for Conservation provides valuable insights into the role of cultural and linguistic diversity in conservation, aligning with our research objective of translating environmental texts in a sustainable way.

By integrating such principles with practical translation strategies, we can enhance the cultural relevance and impact of translations, contributing to global sustainability efforts and fostering a more resilient and sustainable future. Addressing translation errors in environmental texts requires a transformative approach that ensures both accuracy and cultural relevance. The approach includes, but is not limited to a series of strategies identified in and adapted from the specialised literature or based on professional advice and recommendations:

- *Standardize terminology*: Develop and use a standardized glossary of environmental terms to ensure consistency and accuracy of translations. Standardized terminology helps maintain consistency across different documents and translations, reducing the risk of misinterpretation (Cronin, 2017).

- *Expert Collaboration*: Involve environmental science and translation experts to review and validate translated content. Their expertise ensures that technical terms and concepts are accurately represented and properly conveyed.
- *Participatory translation*: Implement a participatory approach in which community members and local stakeholders are involved in the translation process. Such a participatory approach enhances cultural relevance and ensures that translations address local environmental issues and practices.
- *Contextual adaptation*: Adapting translations to reflect the cultural and environmental context of the target audience. Adaptations may include localizing examples, adjusting terminology to align with local usage, and considering regional environmental concerns (Cheng, 2022).
- *Ongoing feedback and revisions*: Establish a feedback mechanism through which members of the target audience can provide input on the translated material. Ongoing feedback and revisions facilitate iterative improvements and address any inaccuracies or areas of confusion (Cronin, 2017).
- *Training and resources*: Provide translators with specialized training on environmental terminology and concepts. Offering resources such as glossaries, reference materials, and workshops can improve translators' understanding and accuracy.
- *Integrate technology*: Utilize translation tools and software equipped with environmental terminology databases. Machine translation and computer-aided translation (CAT) tools can help maintain consistency and efficiency in managing complex environmental texts.
- *Implement rigorous quality assurance processes*, including multiple rounds of review and editing by experienced translators and environmental experts. Quality assurance processes help to identify and correct errors before final publication.

By using such strategies, essential information is conveyed to different types of audiences in an accurate and effective way, which ultimately makes environmental translations sustainable.

3. EVALUATING AND ACHIEVING TRANSLATION QUALITY IN ENVIRONMENTAL TEXTS: METHODS AND DESIGN

The general aim of our research project is to assess and improve the quality of environmental translations, and ultimately make them sustainable. In our endeavour to create a transformative approach to translation, in addition to the activities presented in the first part of the article, we will use error analysis on a corpus of environmental texts translated from English into Romanian, interview experienced translators and consult environmentalists to assess the extent to which the translations capture the intended meaning of environmental texts. In this way, we will use mixed research methods (Wisdom & Creswell, 2013), both quantitative and qualitative, which are also applicable in the field of translation studies.

If the quantitative analysis focuses on the quality assessment (Al-Qinai, 2000; House, 1997) of environmental translations, the qualitative one will reveal the results we obtained from interviews and consultations with experts. For the interviews, we will use experienced translators specializing in environmental translations. These discussions are designed to reveal the complexity of environmental texts and the various challenges they face during the translation process. Some of the following provisional questions will be centered around these main topics:

- *Challenges faced*: What specific challenges do you face when translating environmental texts?
- *Managing specialized terminology*: How do you deal with the complexity of specialized vocabulary and technical terms in environmental texts?

- *Cultural and contextual factors*: What are the cultural or contextual factors that may create translation problems in environmental texts?
- *Dealing with ambiguities*: How do you deal with ambiguities or gaps in the source text when translating?
- *Tone and style*: Did you find it difficult to convey the tone or style of the original text? If so, how do you address these challenges?
- *Time management*: How do you manage time constraints and deadlines while ensuring high-quality translations?
- *Collaboration and resources*: Do you collaborate with subject matter experts or use additional resources to help your translations? How do these collaborations improve the translation process?
- *Technological tools*: Are there specific technology tools or resources that you find particularly useful in overcoming translation challenges?

The answers to these questions will help us identify recurring issues such as terminology gaps or conceptual misunderstandings, the strategies preferred by translators for managing and translating technical language correctly, how cultural differences (Dejica, 2009) and local contexts influence translation accuracy, the methods in which translators resolve uncertainties, ensure clarity in the target text, or manage tone and style in translation, the strategies used to the balance efficiency and thoroughness in the translation process, the role of external expertise in improving translation quality and the use of technology in facilitating accurate and efficient translations. Ultimately, these answers will contribute to achieving sustainable translations.

In addition to gathering information from translators, consultations with ecologists will provide a scientific perspective on the effectiveness and sustainability of translations. The ecologists will examine the translated texts and assess their accuracy in conveying key environmental concepts and terminology. The discussions will center around three main topics: technical accuracy, conceptual integrity and impact on understanding. The answers will help us assess if the technical and scientific details in the translations match the original environmental data and findings and if the fundamental environmental messages and concepts are preserved and accurately represented in the target language, and how translations facilitate understanding of environmental issues among the target audience.

Following the interviews and consultations, the data collected will be systematically analysed to identify common patterns, best practices and challenges in translating environmental content to make it sustainable. This analysis will involve comparing the effectiveness of different translation strategies and assessing the accuracy and clarity of the translated texts in relation to the original environmental concepts and messages. The research will also explore the interplay between translators' experiences and environmentalists' assessments to develop a holistic view of translation quality.

The findings of this research aim to provide concrete recommendations for improving translation practices and making environmental texts sustainable. By identifying best practices and addressing common problems, the study will offer solutions to improve the accuracy, clarity and cultural relevance of environmental translations. The insights gained will be valuable to translators, environmentalists and policymakers, contributing to more effective communication of environmental issues and promoting better understanding among diverse audiences. Ultimately, the research aspires to raise awareness of the importance of the concept of sustainability not only for environmental translations but also for other types of specialized translations (Dejica, In Press).

4. CONCLUSION AND FURTHER DIRECTIONS OF RESEARCH

The growing recognition of environmental sustainability as a critical global issue underscores the need for accurate and culturally sensitive communication between languages. Our tentative transformative approach to translation is aimed at bridging global and local contexts and empowering environmental discourse, contributing in this way to current global endeavours for achieving environmental sustainability. The scientific validation of our transformative approach in the final stages of our research project will hopefully consolidate our efforts in making translations sustainable and contribute in this way to international desiderata in making our environment more sustainable.

Close partnerships and ongoing communication between researchers and stakeholders are essential to producing high-quality, contextually relevant translations. This multidimensional (Dejica & Dejica-Cartis, 2020b), collaborative approach enables a deeper understanding of the specific needs and cultural contexts of the target audience, ensuring that translations are not only accurate but also meaningful and actionable. By integrating perspectives from both researchers and local experts, translations can more effectively convey the complexities of environmental sustainability, encouraging the successful implementation of sustainability initiatives.

Different dimensions of sustainability – such as ecological resilience, social inclusion and economic viability – will also be addressed in our research, to ensure that translations support comprehensive and holistic solutions. Exploring how these dimensions intersect can provide valuable insights into how sustainability research can be adapted to different contexts and needs. We will show how specialized terminology, cultural adaptation, and technological tools can influence the quality and effectiveness of translations.

We hope that our research results will be instrumental in improving the dissemination and application of sustainability knowledge. By improving translation practices, researchers and practitioners can bridge communication gaps and ensure that environmental messages are conveyed and implemented in a sustainable way. Ultimately, addressing these research needs will help advance global sustainability efforts, supporting a more resilient and sustainable future through more informed and contextually appropriate translations.

References

Al-Qinai, J. (2000). Translation Quality Assessment. Strategies, Parameters and Procedures. *Meta*. vol. 45. no. 3/2000, 497-519.

Al-Sofi, B. B. M. A., & Abouabdulqader, H. (2019). Bridging the gap between translation and culture: towards a cultural dimension of translation. *International Journal of Linguistics, Literature and Culture*, *6*(1), 1-13. https://urlis.net/vonmmw7w

Cheng, M. (2022). Ecological discourse analysis: Theory and practice – A summary of new developments of ecological discourse analysis. *Journal of World Languages*, 188-226. https://urlis.net/ve87q7cf

Cronin, M. (2017). *Eco-Translation: Translation and Ecology in the Age of the Anthropocene*. London: Routledge.

Dash, R., & Phil, M. (2019). What is ecolinguistics? *India's Higher Education Authority UGC Approved List of Journals*, 1-6. https://urlis.net/cjnzik0x

Dejica, D. (In Press). Technical and Scientific Translation. In *International Encyclopedia of Language and Linguistics, Third Edition*. Elsevier.

Dejica, D. (2009). Approaching Cultural Relations for Translation Purposes. In Croitoru, E. (ed.) *Translation Studies, Retrospective and Prospective Views*, 6/2009. Galati: Galati University Press Foundation, 43-50.

Dejica, D. & Dejica-Carțiș, A. (2020a). The Translation Process: Traditional Approaches and Contemporary Challenges. In Mardar, A. (ed.) *Encounters across Linguistic, Cultural and Professional Contexts: In Honorem Professor Elena Croitoru*. Cluj-Napoca: Casa cărţii de ştiinţă. 119-136.

Dejica, D., & Dejica-Cartis, A. (2020b). The Multidimensional Translator. Roles and Responsibilities. In Dejica, D. & C. Eugeni, A. Dejica-Cartis (eds.). *Translation Studies and Information Technology - New Pathways for Researchers, Teachers and Professionals*. Timișoara: Editura Politehnica. 45-57.

House, J. (1997). *Translation Quality Assessment: A Model Revisited,* Tubingen: Gunter Narr Verlag.

International Union for Conservation of Nature. (IUCN). (2021). *Language and culture for conservation*. IUCN. https://iucn.org/

Jiménez-Crespo, M. A. (2017). The role of translation technologies in Spanish language learning. Journal of Spanish Language Teaching, 4(2), 181-193.

Kornacki, M. (2018). *Computer-assisted translation (CAT) tools in the translator training process*, Berlin: Peter Lang.

UNESCO. (2019). *Education for sustainable development goals: Learning objectives*. UNESCO. https://urlis.net/gyif2vei

Wisdom, J., & Creswell, J. W. (2013). Mixed Methods: Integrating Quantitative and Qualitative Data Collection and Analysis While Studying Patient-Centered Medical Home Models. PCMH Research Methods Series 13, 1-5.

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Application of the Convolution Neural Network in the Text Sentiment Analysis

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Abstract: *Sentiment analysis deals with the analysis of the opinions, attitudes and emotions of the people who wrote a certain text. The goal of text sentiment analysis is to detect positive, neutral or negative sentiments from the text. The ability to automatically recognize emotions from text has many practical applications, such as customer sentiment analysis, social media monitoring, and customer feedback analysis. In this paper, we considered the application of neural networks in text sentiment analysis, using the Python programming language and Keras as a deep learning Python library. In the experimental part of the work, we trained a convolution neural network to classify text into different classes depending on the recognized emotions. We obtained a model that we tested on a test data set and considered the classification accuracy of the obtained model.*

1. INTRODUCTION

The idea of constructing intelligent machines that would independently perform certain types of work instead of humans goes back to the distant past. Computer behavior is considered intelligent if it has the ability to draw conclusions based on certain facts. Operations such as detection and classification of objects from everyday life, as well as other similar operations that humans perform intuitively, are a problem for computers.

However, until now all forms of artificial intelligence have been limited to certain types of problems. In scientific research, there is a lot of discussion about artificial intelligence, i.e. the question arises whether intelligence can be reproduced by computers (Janicic & Nikolic, 2020). It can be said that artificial intelligence represents a scientific discipline that deals with the construction of computer systems whose behavior can be interpreted as intelligent (Dalbelo-Bašić et al., 2020). Also, it represents a scientific discipline on how to enable machines to perform tasks that, if performed by humans, would require intelligence (Dalbelo-Bašić et al., 2020).

Intelligence is a skill that characterizes human beings, although they do not always behave intelligently (Eletter & Yaseen, 2010). Artificial intelligence means any non-living system that shows the ability to deal with new situations. Since such an approach requires a high degree of computational processing, its implementation was not successful until the early 1980s. The development of neural networks, which are used in data analysis, is based on existing knowledge about the functioning of the human brain. Neural networks are widely used in social, economic, technical and natural sciences. Despite the fact that the development of neural networks is more recent, the extremely

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high success rate of their implementation is reflected in the area of prediction and classification (Novakovic, 2013).

A neural network model is developed by training on a larger number of samples. The most successful applications of neural networks come from researchers with experience in academia and industry. Neural networks have become a technology suitable for application in various fields. Neural networks receive input information and then transform it into an output. The goal of neural network research is the development of new network structures that would function analogously to the human brain or at least partially imitate its functions for solving practical problems.

Deep learning is a set of machine learning algorithms for training layered structures. Moreover, the layers in those models correspond to different levels of concepts, so that the same concepts at lower levels participate in the formation of different concepts at higher levels. Deep learning represents a new field of machine learning with the aim of bringing machine learning closer to its original goal, which is artificial intelligence.

In the paper, we discussed the application of neural networks in the analysis of text sentiment. Detection and recognition of emotions from text is a field of research that is closely related to the analysis of text sentiment (Velampalli et al., 2022; Murthy et al., 2020; Kumar et al., 2020; Wankhade et al., 2022; Yao, 2019). Text sentiment analysis aims to detect positive, neutral or negative feelings from the text, while emotion analysis aims to detect and recognize the types of feelings through the expression of the text, such as anger, disgust, fear, happiness, sadness and surprise. Text sentiment analysis has applications in various areas of business, such as: product analysis, brand tracking, market research, improving customer support, social media monitoring, and customer feedback analysis.

After the introduction, which describes the basic concepts of artificial intelligence, neural networks, with special reference to deep learning, the second part of the paper deals with the theoretical assumptions of deep learning and the convolutional neural networks. The third part of the paper describes the data set that will be used for neural network training. In the fourth part, we explained preprocessing of the data set. In the fifth, we explained the settings of the experimental research, the model obtained by training and the presentation of the accuracy of the text sentiment classification. The final part of the paper provides concluding considerations and guidelines for further research.

2. DEEP LEARNING AND CONVOLUTIONAL NEURAL NETWORKS

"Deep learning is a new field of machine learning research that was introduced to bring machine learning closer to one of its original goals: artificial intelligence (http://deeplearning.net/) ." Deep learning is a type of representational learning and as such is part of machine learning.

Machine learning is one of the fields of artificial intelligence. The factors that led to the transition from machine learning to artificial intelligence are: the exponential increase of available data, the existence of flexible models, the availability of computers with good performance at acceptable prices and the possibility of reducing the dimensionality of data with appropriate methods.

Deep architecture studies are motivated by the problem of slow training of neural networks. In the last ten years, significant progress has been made in this area. The success in training the structures

of deep neural networks led to revolutionary changes in this area, as well as to the formation of a new scientific discipline - Data Science.

Convolutional neural networks (Convolutional Neural Network - CNN) can be classified as deep neural networks, which are associated with the concept of deep learning (Cen et al., 2020). These networks are a biologically inspired version of a multilayer perceptron, based on simulating the real recognition and inference processes used by humans. Therefore, the main element of which the network is made is the neuron.

Convolutional neural networks are designed to process data that comes in the form of multiple strings. The architecture of a typical CNN is structured as a series of blocks. The first blocks are composed of convolution and compression layers. Hidden layers are a combination of convolution, compression, a layer of converting data into a one-dimensional array and a fully connected layer. CNNs use multiple layers to filter the input data to achieve a high level of abstraction.

3. DATA SET FOR CONVOLUTIONAL NEURAL NETWORK TRAINING

Emotions play a key role in human communication. The ability to automatically recognize emotions from text has many practical applications, such as sentiment analysis, social media monitoring, and customer feedback analysis.

For this research, a data set by Cheela (n.d.) was used. The data set contains two columns, the first with 282822 texts and the second with a label for the corresponding emotion that expresses the given text: sad and happy. In the first column with text, there are 282782 unique values (Figure 1). The emotions shown in the second column in the observed data set have the following distribution: 53% happy and 47% sad. The data set has no missing values.

	text	emotion
0	carefully word blog posts amount criticism hea...	☹
1	cannot remember little mermaid feeling carefre...	☺
2	not feeling super well turns cold knocked next...	☺
3	feel honored part group amazing talents	☺
4	think helping also began feel pretty lonely lo...	☹

Figure 1. View of a small part of the data set

Source: Own processing

4. DATA PREPROCESSING

To recognize the sentiment of the text, preprocessing the data is a particularly important step, so that the machine learning algorithms can process it better (Dwivedi et al., 2022). We used several different preprocessing methods, namely:

- lowercase,
- dropping the stop word,
- dropping punctuation,
- discarding unwanted characters,
- tokenization,
- normalization of emoticons and signs.

Convert to lowercase converts all case-based characters in a string to lowercase characters. In order to avoid different interpretation of tokens with the same meaning, all uppercase letters are changed to lowercase.

One of the main forms of preprocessing is filtering out useless data. In natural language processing, useless words (data) are called stop words. A stop word is a commonly used word (such as "the", "a", "an") that the search engine is programmed to ignore, both when indexing search entries and when retrieving them as search results. Stop words are a set of words that are often used in a language. The idea is that dropping stop words removes low-information words from the text so that the algorithm can focus on important words (Matović, 2021).

We can do the removal by storing a list of words that we think are stop words. In the paper, we removed stop words using NLTK (natural language tool) in Python which has a list of stop words of different languages. To check the list of stop words, we can type the following command in Python.

```
import nltk

from nltk.corpus import stopwords

print( stopwords.words (' english '))

{'ourselves', 'hers', 'between', 'yourself', 'but', 'again', 'there',
'about', 'once', 'during', 'out', 'very', ' having', 'with', 'they',
'own', 'an', 'be', 'some', 'for', 'do', 'its', 'yours', 'such', 'into',
'of', 'most', 'itself', 'other', 'off', 'is', 's', 'am', 'or', 'who', 'as',
'from', ' him', 'each', 'the', 'themselves', 'until', 'below', 'are',
'we', 'these', 'your', 'his', 'through', 'don', 'nor', 'me', 'were', 'her',
'more', 'himself', 'this', 'down', 'should', 'our', 'their', 'while',
' above', 'both', 'up', 'to', 'ours', 'had', 'she', 'all', 'no', 'when',
'at', 'any', 'before', 'them', 'same', 'and', 'been', 'have', 'in', 'will',
'on', 'does', 'yourselves', 'then', 'that', ' because', 'what', 'over',
'why', 'so', 'can', 'did', 'not', 'now', 'under', 'he', 'you', 'herself',
'has', 'just', 'where', 'too', 'only', 'myself', 'which', 'those', ' and
', 'after', 'few', 'whom', ' t', 'being', 'if', 'theirs', 'my', 'against',
'a', 'by', 'doing', 'it', 'how', 'further', 'was', 'here', 'than'}
```

You can also modify the list by adding words of your choice in the corresponding file that already contains stop words. We used all the above stop words in the paper, except that we only excluded the following words 'no', 'nor' and 'not' from the list because we considered that they affect the analysis of the semantics of the text.

We can do the punctuation removal by using NLTK (Natural Language Toolkit) in Python which has a list of punctuation characters to remove. We removed unwanted characters that do not affect the semantics of the text by removing all characters except az, AZ, and 0-9.

Word tokenization is the process of representing text as a list of tokens. In this paper, sentences are divided into word-level tokens, so the sentence "I am satisfied with the service" will be represented as the following list of tokens ["I", "am", "satisfied", "with", "the", "service"].

A good indicator of emotional polarity is emoticons. The emoticons in our work are: sad (' ☹ ') and happy (' ☺ '). In our work, we performed the following mapping:

```
df ['emotion'] = df ['emotion' ].map ({

'☹ ' : 0,

' ☺' : 1

})

df.head ()
```

and obtained the following data display (Figure 2):

	text	emotion
0	carefully word blog posts amount criticism hea...	0
1	cannot remember little mermaid feeling carefre...	1
2	not feeling super well turns cold knocked next...	1
3	feel honored part group amazing talents	1
4	think helping also began feel pretty lonely lo...	0

Figure 2. View of a small part of the data set after mapping
Source: Own processing

5. EXPERIMENTAL RESEARCH

For the purposes of experimental research, the open source software Jupyter Notebook and the Python programming language were used. The Python programming language is often used to write code for artificial intelligence purposes. We used TensorFlow as an open source library for developing and training machine learning models. Also, we used Keras as a deep learning Python library.

In this paper, we investigated the performance of convolutional neural networks in text sentiment analysis. In the paper, we used different filters to pass over our input and take all the attributes, to get the final output of the convolution layer. We then passed the output of this layer through a nonlinear activation function. ReLU is most often used, which we also use in our work.

One of the layers in convolutional networks is the pooling layer, which is used with the aim of progressively reducing the size of the data set and, thus the number of features, which leads to a reduction in computational complexity and faster network training. The two most commonly used methods are maximum pooling and average pooling. In the paper, maximum compression was used - the filter is passed over the matrix with the given step and the highest value (maximum compression) is selected and written into the output map (Dabović & Tartalja, 2017). It is further moved by a previously defined step, and the maximum value from that marked part is written to the next place in the output map (matrix) and so on until the end. Maximum compression is a form of non-linear pixel downscaling. The compression layer is used with the aim of progressively reducing the size of the data set, thus the number of features, which leads to a reduction in the

complexity of the calculation (Dabović & Tartalja, 2017). In a neural network, the dence layer is a classically fully connected layer: every input node is connected to every output node.

A CNN model needs to know what shape the input should expect. The first layer in the sequential model should receive information about the form of the input. Only the first layer receives this information, as subsequent layers can perform automatic inference. To create the model, we use the following layers:

- *Conv1D* – convolutional layer.
- *MaxPooling1D* - compression by maximum.
- *Dense layer* - fully connected layer.
- *Dropout layer* - cancels the contribution of some neurons.

In this paper, we will model a CNN that has 3 convolution layers. After each convolution, we add a compression layer using max pooling. After the third convolutional layer, we will add a *Dropout layer* which is a mask that cancels the contribution of some neurons towards the next layer and leaves all others unchanged.

After the *Dropout layer*, we will add a fully connected layer to obtain a text sentiment feature map, based on which we perform the classification. The fully connected layer has "units = 1" because it has to predict based on the text whether someone has a positive or negative emotion.

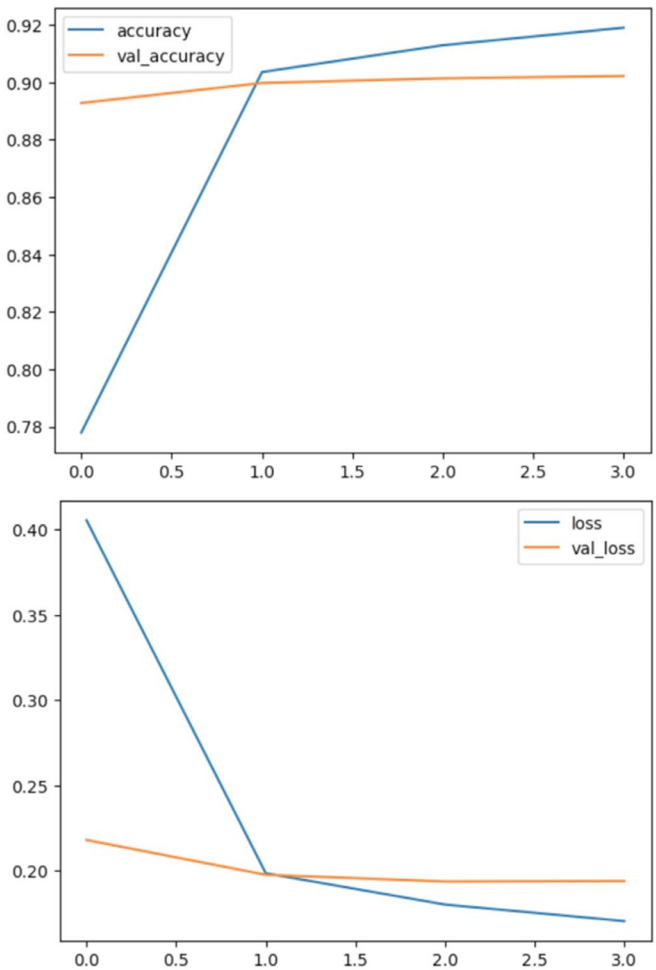


Figure 3. Accuracy and classification losses on the training and validation sets

Source: Own processing

In our work, we use the "adam" optimization function, which optimizes how quickly our model learns the correct image classification. The number of epochs is the number of complete passes through the training dataset, in our case it is 10. As a metric for our model, we use classification accuracy. The learning rate is used to control the rate at which the algorithm updates or learns the parameter estimate values. In other words, the learning rate regulates the weights of our neural network in relation to the loss gradient. In our case, it has a lower value (0.00005) due to the possibility of overtraining.

The loss function is a function that compares the target and predicted output values; measures how well the neural network models the training data. When training, we aim to minimize this loss between predicted and target results. In the paper, since we are considering a classification problem, binary cross entropy was used to select the category with the highest probability of belonging.

Figure 3 shows the values for classification accuracy and losses during training and validation. Epochs are shown on the horizontal axis, while accuracy and loss values are shown on the vertical axis. We can conclude that the classification accuracy increases until the fourth epoch and then decreases. The classification accuracy of the test data set for the best network parameters is 90.21%, while the losses amount to 0.1940.

6. CONCLUSION

Sentiment analysis of textual data is a scientific field that deals with the analysis of the thoughts, attitudes and emotions of the people who wrote the text. This paper discusses the problem of sentiment analysis of textual data using convolutional neural networks. First, the data is preprocessed with some of the standard preprocessing techniques in the word processing field. After that, using preprocessed data, we investigated the performance of convolutional neural networks in text sentiment analysis. In our further research on the sentiment analysis of textual data, we will use other machine learning models in order to obtain the highest classification accuracy and the least losses.

References

Cen, P., Zhang, K., & Zheng, D. (2020). Sentiment analysis using deep learning approach. *Journal on Artificial Intelligence, 2(1),* 17-27. https://doi.org/10.32604/jai.2020.010132

Cheela, S. (n.d.). https://www.kaggle.com/datasets/shreejitcheela/text-emotion-recognition

Dabović, M., & Tartalja, I. (2017). Duboke konvolucijske neuronske mreže – koncepti i aktuelna istraživanja. Zbornik 61. Konferencije za elektroniku, telekomunikacije, računarstvo, automatiku i nuklearnu tehniku, ETRAN 2017 (pp. VI1.1.1-6), Kladovo, ISBN 978-86-7466-692-0

Dalbelo-Bašić B., et al. (2020, February 20). *Umjetna inteligencija*, http://www.fer.unizg.hr/predmet/umjint/materijali.

Dwivedi, D. N., Mahanty, G., & Vemareddy, A. (2022). How Responsible Is AI?: Identification of Key Public Concerns Using Sentiment Analysis and Topic Modeling. *International Journal of Information Retrieval Research (IJIRR)*, *12(1),* 1-14. http://doi.org/10.4018/IJIRR.298646

Eletter, F. S., & Yaseen, G. S. (2010). Applying Neural Networks for Loan Decisions in the Jordanian Commercial Banking System. *International Journal of Computer Science and Network Security*, 10 (1), pp. 209-214.

Janicic, P., & Nikolic, M. (2020). *Veštačka inteligencija*. Matematički fakultet u Beogradu.

Kumar, A., Saumya, S., & Singh, J. (2020). NITP-AI-NLP@Dravidian-CodeMix-FIRE2020: A Hybrid CNN and Bi-LSTM Network for Sentiment Analysis of Dravidian Code-Mixed Social Media Posts. FIRE 2020: Forum for Information Retrieval Evaluation, Hyderabad, India.

Matović, S. (2021). Analiza sentimenta teksta na Srpskom jeziku korišćenjem dubokog učenja. Zbornik radova Fakulteta tehničkih nauka, Novi Sad, UDK: 004.9. https://doi.org/10.24867/12BE48Matovic

Murthy, Dr. G. S. N., Allu, S.R, Andhavarapu, B. & Bagadi, M. (2020). Text based Sentiment Analysis using LSTM. *International Journal of Engineering & Technology (IJERT)*. ISSN: 2278-0181, Vol. 9 Issue 05.

Novakovic, J. (2013). *Redukcija dimenzionalnosti podataka u klasifikacionim problemima veštačke inteligencije* [Doctoral dissertation, University of Kragujevac, Faculty of Technical Study Čačak].

Velampalli, S., Muniyappa, C., & Saxena, A. (2022). Performance Evaluation of Sentiment Analysis on Text and Emoji Data Using End-to-End, Transfer Learning, Distributed and Explainable AI Models, *Journal of Advances in Information Technology*, Vol. 13, No. 2.

Wankhade, M., Rao, A. C. S., & Kulkarni, C. (2022). A survey on sentiment analysis methods, applications, and challenges. *Artif Intell Rev* 55, 5731–5780. https://doi.org/10.1007/s10462-022-10144-1

Yao, J. (2019). Automated Sentiment Analysis of Text Data with NLTK. *IOP Conf. Series: Journal of Physics: Conf. Series* 1187 052020. doi:10.1088/1742-6596/1187/5/052020

https://doi.org/10.31410/ERAZ.2024.527

Tourism in the Function of Economic Growth and Development in the Modern World

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Abstract: *Contemporary economic flows in the world economy, especially trends within the development of tourism, are becoming more and more dynamic. The modern world is characterized by constant changes, in which the key to economic success lies in the ability to understand them and optimally adapt to the newly emerging business environment.*

The dynamic development of the world economy in recent decades has caused major changes in the structure of the world economy. Tourism, as one of the economic branches, greatly contributes to the economic growth and development of the world economy today. It can be said that tourism has acquired the hallmark of a very complex and significant economic category. In this regard, the aim of this paper is to indicate the economic importance of tourism and its impact on the development of national and global economy, with a special overview of the Balkan region.

1. INTRODUCTION

Tourism, as one of the economic sectors, today significantly contributes to the economic growth and development of the global economy. Tourism has evolved into one of the broadest and most significant economic sectors in contemporary times. As part of the service sector, tourism has become a social phenomenon that characterizes our era, marked by dynamism and mass participation over the past half-century.

Tourism has played a significant role in the economic development of a large number of countries. There is almost no country in the world that does not develop tourism in some form. Tourism has a substantial impact on the economic development of economies, both in developed and underdeveloped countries. Many countries have managed to develop faster thanks to tourism, as a driving force for their accelerated growth. Therefore, tourism is often attributed with the power to enhance the socio-economic and demographic development of a country, and it is no wonder that tourism is discussed as a developmental potential.

Tourism is currently one of the most important tertiary sectors of the economy, significantly contributing to general economic well-being and progress. Tourism is particularly significant in regions that possess high tourism potential and in regions that do not have a well-developed economy and industry. It is in these regions that the true state and strength of tourism's impact are reflected, leading to the general prosperity of the region through its development.

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In modern economies, tourism plays an increasingly important role in achieving macroeconomic goals. Tourism accelerates local and regional development, fosters the growth of less developed areas, increases employment, and contributes to the growth of GDP, thereby positively impacting the macroeconomic stability of countries. Tourism has a direct impact on social product and national income, on the country's balance of payments, on employment, on raising living standards, on investment activity, and on reducing the gap between developed and underdeveloped countries.

2. TOURISM AND ITS ECONOMIC ASPECT

When defining the term "tourism" it is important to emphasize that there is no single, universally accepted definition. Different scientific approaches to the given term provide sufficient argument for various aspects of its observation, and consequently, its definition (Lazarević, 2018, p. 53).

Tourism can be defined as a set of relationships and phenomena arising from the travel and stay of visitors to a place, provided that the stay does not establish permanent residence and is not related to the performance of economic activities. A tourist is any person who travels for 24 hours or longer to a country or part of their own country where they do not have a residence, in order to satisfy various tourist needs (Lazarević, 2018, p. 54).

By studying tourism through an economic aspect, it is concluded that, on one side, there are consumers of tourist services – tourists, who have financial resources, and on the other side, the complete tourist offer. Its primary role would be to ensure the satisfaction of various consumer needs. Therefore, when defining tourism by analyzing economic effects, it is essential to separate consumers on the demand side from the activities that constitute the tourism industry on the supply side. The tourism industry differs significantly from other economic activities. The most important specificities of tourism activities include the heterogeneity of the structure, the high degree of demand elasticity compared to the inelasticity of supply, the pronounced seasonal nature of operations, and the specific characteristics regarding the nature of work in this activity (Milićević & Trišić, 2019, p. 22).

It can be said that tourism is a global phenomenon, both spatially and sociologically, economically, politically, culturally, ecologically, aesthetically, and psychologically. There is almost no country in the world that does not develop tourism in some form (Lazarević, 2018, p. 53). It is a specific socio-economic phenomenon, a unique blend of the material and the spiritual, a special component, but also a significant factor in the development of modern civilization. Tourism represents the movement of people, goods, money, and information.

Tourist movements have a significant impact on a country's economy and politics, as well as on other spheres of human life, such as culture and healthcare. Tourist movements play an exceptionally important role in the development of the general cultural and educational level of the population. Tourists not only learn about the cultural and historical heritage of various countries but also become acquainted with the customs, habits, folklore, and life of other peoples. In this way, through direct contact, the cultural and educational level of participants in tourist travels is elevated, the cognitive sphere is expanded, and there is a mixing of various cultures, communication, and better understanding among people. Tourists learn about the different socio-economic and political systems of various countries, which, among other things, helps to break down various prejudices and preconceptions about certain countries, mostly formed under the influence of ill-intentioned propaganda. This contact is not only between tourists and the local population of

the country but also among the tourists themselves. For this reason, tourism becomes a genuine and significant factor in ensuring peace in the world and better understanding among people, as well as a factor in strengthening the political prestige of a particular country on the international stage (Lazarević, 2018, p. 54).

Tourism is a kind of link between the state, public-social and private sectors. It eliminates conflicts and barriers, because good and planned cooperation is a prerequisite for the development of tourism in an area. Tourism permeates every pore of the economy and society, from the local to the global level. It is a phenomenon based on numerous opposites, at the same time contradictory and complementary, too complex to be molded and generalized (Lazarević, 2018., p. 53). According to its spatial, economic, sociological, psychological, political and other connotations, tourism, as a phenomenon, has no counterpart in any other phenomenon of the modern world (Erutor, 2024).

Observing tourism in the light of social and economic effects, and above all in relation to the number of participants in tourist trips both domestically and internationally, it can be said that tourism is in a process of constant and strong changes. Tourism plays an important and positive role in the socio-economic development of many countries, contributing to cultural exchange, improvement of international relations and peace in the world.

Based on the above, economic and tourism policy holders of countries that have the potential for tourism development and want to use it for faster economic development, must bear in mind that the relationship between tourism and economic development is characterized by a high degree of correlation, and tourism, due to its positive effects on the entire economic activity can be used as a factor of economic development, specifically through the influence of tourist consumption and investment in tourism. A more efficient use of tourism potential cannot be achieved only by having the natural prerequisites for dealing with tourism, but also requires certain investments in infrastructure, facilities, personnel, etc. It is important to note that the economic development of any country should not be based on only one activity and one-sided economic orientation, regardless of available resources. It is also necessary to use the new tendencies of modern tourism and globalization processes in tourism as an opportunity to integrate into European and world tourist flows. In this sense, the bearers of the tourism policy, primarily the line ministries and tourism organizations, have a significant role to play (Stanić & Vujić, 2009, p.14).

3. ECONOMIC EFFECTS OF TOURISM DEVELOPMENT

Tourism as a mass social and economic phenomenon has found its reflection in the last few decades. In that short period, tourism has developed into one of the broadest and most significant social achievements of modern humanity. At the same time, tourism has acquired the hallmark of a very complex and important economic category, with extremely dynamic development, rapid and profound qualitative and quantitative changes. As a global economic phenomenon, tourism is an economic branch that has a great contribution to the economic growth and development of the world economy (Stanić & Vujić, 2009, p. 16). Tourism has an explicit impact on macroeconomic aggregates and increases the macroeconomic stability of the national economy, while at the same time accelerating local and regional development and increasing employment.

There is a two-way positive relationship between economic development and tourism development, but it can be said that the nature of their relationship has not yet been fully clarified. In practice, it is unequivocal that there is a pronounced connection between tourism and economic development

and that at a time of stronger influence of non-productive sectors, tourism represents a significant area of economic growth (Petković et al., 2011, p. 91).

In theory, for a long time, there was a generally accepted position that tourism is only a secondary, consequential phenomenon of economic development. Such an attitude was explained by the fact that the positive effects of tourism on the economy of a country presuppose a previously reached certain level of general social and economic development. Precisely, the most significant factors that drive the development of tourism, such as income and free time, but also others, such as urbanization, industrialization, are primarily the result of positive economic development. Given that economic development occurs before the appearance of tourism, tourism was initially considered only a consequence of economic development. However, later tourism research indicated that the development of tourism also affects other economic and social activities, that is, the overall economic development (Bošković, 2012, p. 26). In this situation and with this point of view, tourism is recognized not only as a consequence of economic development but also as an important factor in it.

When talking about the importance of tourism and its contribution to the overall regional development, it is important to note that depending on the incoming and outgoing tourist flows, tourism can have both positive and negative effects on the size and degree of regional economic development. Tourism affects the redistribution of national income in the world framework, but also the redistribution of income between sectors and companies within the national economy. The attention of many theoreticians is focused precisely on analyzing the various economic impacts of tourism on the regional development of certain areas, especially those in which industry and other economic branches are not developed, and in a sense are not economically prosperous. It is precisely in such regions, if there is a tourist potential, that a great deal of investment is made in the tourist offer, which would in some way compensate for the economic underdevelopment and contribute to the development of the region itself, which would become competitive in relation to other regions (Lakićević et al., 2019, p. 106). Numerous studies have shown that there are differences between individual countries in terms of whether tourism has stimulated economic development, or whether economic development has stimulated the development of tourism (Petković et al., 2011, p. 89).

Countries that have potential for the development of tourism and want to use it for their faster economic development have in mind that the relationship between tourism and economic development is characterized by a high degree of correlation, and due to its numerous positive effects on the entire economic activity, tourism can be used as a factor of faster economic development. The impact of tourism on economic development is concretely achieved through the impact of tourist consumption and investments intended for tourism, on general economic activity and participation in the creation of the social product. Investments in tourism are an important prerequisite for using the opportunities it provides as an element of development policy (Bošković, 2012, p. 24). More efficient use of tourist potentials cannot be achieved only by simply having natural and similar advantages for tourism, but also requires certain investments in facilities, infrastructure, personnel, etc.

Tourist consumption by domestic and foreign tourists has strong repercussions on all activities that make up the complex system of tourism. There is a pronounced correlation between realized tourist consumption and the development of certain activities of the tourism industry. Tourism consumption is at the center of the measurement of economic activities and the basis of the economic impact of tourism on the balance of payments, the impact of tourism on overall economic development through the multiplier effect, the impact of tourism on regional economic development, as well as the impact of tourism on employment (Lazarević, 2018, p. 54).

The most important direct impact of tourism on the economy is the impact on the social product and national income, the impact on the development of the tourism economy, the impact on the balance of payments, the impact on the level of employment of the population, the impact on the value of investments and the impact on the faster development of underdeveloped countries and regions (Lakićević et al., 2019, p. 103). The indirect impact of tourism refers to its impact on agriculture, industry and construction. The consumption made by foreign tourists has a multiple impact on the economy of the country as a whole, and especially on the economic prosperity of the specific tourist region, i.e. destinations.

4. TOURISM AS A DRIVER OF ECONOMIC GROWTH IN THE BALKANS

Along with the development of the world economy, the structure of activities is also changing, that is, the participation of individual sectors in the social product, national income, as well as in the employment of the workforce. In recent decades, the main structural change in the world economy is reflected in the growing amount of services, i.e. the significant participation of the tertiary sector of the economy. There is almost no country whose economy does not have a significant share of the service sector. Tourism is currently one of the most important tertiary branches of the economy, which significantly contributes to general economic well-being and progress.

Tourism, as part of the service sector, has become a social phenomenon that characterizes our era, and the last half century has been characterized by dynamism and massiveness. Tourism played a significant role in the economic development of a large number of countries in the world and was one of the decisive reasons that tourism countries, through various instruments of economic and tourism policy, stimulated the development of tourism motivated by economic motives. In many countries, tourism is among the top three industries, generating the largest or moving towards the largest retail turnover and employment (Stanić & Vujić, 2009, p. 16).

Tourism is especially important in those countries that have a high tourism potential, but which do not have a well-developed economy and industry. It is precisely in those countries that the true state and power of tourism, whose development leads to general prosperity, is depicted. For the economies of medium-developed and less developed countries, tourism is of great economic importance, and its potential should be nurtured precisely for the reason of increasing the economic competence of these countries.

Bearing in mind the high tourist potential that the Balkan region possesses, it is extremely important to influence and work on improving the tourist offer, which would in some way compensate for the economic deficiencies that are still present in that region. The expansion of tourism has been noticeable in all parts of the Balkans in recent years, especially after COVID-19.

In Serbia, the expansion began in 2015, primarily with incentive measures for domestic tourism, but also with the increase in the interest of foreign tourists in that period. Expressed by the number of overnight stays, tourist traffic was on the rise until 2019, when a record total of 10.1 million overnight stays was achieved. In 2020, tourist activity will contract and the number of overnight stays will drop to 6.2 million, where domestic tourists have achieved almost 5 million, and foreign tourists around 1.3 million overnight stays. In 2021, there will be a recovery and an increase in the number of overnight stays to 8.2 million. The growing trend, expressed by the number of tourist overnight stays in Serbia, continued in 2023, when 12.4 million overnight stays were recorded, or 1.6% more than in 2022. In the first quarter of 2024, the number of tourist overnight stays was

2.6 million, which is 5.3% more than in the first quarter of 2023. Domestic tourists accounted for 54.4% and foreign tourists for 45.6% of the total number of overnight stays (Statistical Office of the Republic of Serbia, n.d.).

When we talk about the foreign exchange inflow from tourism, in the first 10 months of 2023, Serbia achieved an inflow in the amount of 2.09 billion euros, 4% more than in 2022.

In 2019, Montenegro generated revenues from tourism at the level of 1.14 billion. euros. In 2020, the mentioned revenues are at a significantly lower level, bearing in mind that the mentioned year was marked by the emergence of the COVID-19 pandemic, which left significant consequences for the tourism sector. In 2021, the recovery of economic activity in the tourism sector was achieved and an income of 834.00 million was achieved. euros. Realized revenues in the first quarter of 2022 are at the level of 45 million euros.

The key indicators from the report of the World Travel and Tourism Council (WTTC) for Montenegro, which refer to the year 2019, are as follows: the total contribution of the tourism and travel sector to the GDP was 30.9%, the total the contribution of employment was 31.9%, and the share of tourism in exports was 52.6%. If we look at the data for the period from 2009 to 2019, it can be stated that the number of tourists increased by 119%, the number of overnight stays by 91%, and the total income by 92%. Statistical data also show that over 90% of tourist visits are realized in the coastal region and mostly during the summer period (Parlamentarna budžetska kancelarija, n.d.).

In Bosnia and Herzegovina we also have a noticeable increase in tourists. In the period January - April 2024, tourists achieved 426,125 visits, which is 5.0% more, and 918,070 overnight stays, which is 3.6% more compared to the same period in 2023. The number of overnight stays by domestic tourists increased by 5.4%, while the number of overnight stays by foreign tourists increased by 2.7% compared to the same period in 2023. In the total number of overnight stays, the share of domestic tourists is 33.4%, while the share of foreign tourists is 66.6% (Federalni zavod za statistiku, n.d.).

When we talk about Croatia, there is a noticeable increase in GDP from 58,207 million euros in 2021 to 67,390 million in 2022. Out of that, tourism revenues in 2021 amounted to 9,134 million, while in 2022 there was an increase in revenues and they amounted to 13,113 million euros. In percentage terms, the share of tourism in GDP was 15.7% in 2021, while in 2022 that percentage was increased to 19.5% (Državni zavod za statistiku, n.d.).

5. CONCLUSION

The dynamic development of the world economy in recent decades has caused major changes in the structure of the world economy. These changes happen at such a speed that it is very difficult to keep track of them. Tourism, as one of the economic branches, today largely contributes to the economic growth and development of the world economy. Tourism as a mass social and economic phenomenon is responsible for the economic progress of many countries in recent decades.

The economic development of every country implies the choice of an economic goal, the choice of strategy and policies that will enable the realization of the planned strategies. Key economic goals are most often defined through economic growth and development, as well as growth in living standards, increase in employment, balancing regional development and balancing the balance of payments.

Any consumption that generates economic activities is worthy of macroeconomic attention, and the interest of economic science in the study of tourism became relevant when there was an increase in the income of the national economies of tourist countries, as a consequence of tourism trends. This also emphasized the interest in studying the economic consequences of tourism development. At the beginning, the views on tourism were reduced mainly to the study of the economic consequences that tourist traffic brought. However, later research on tourism pointed to its impact on other economic and social activities, that is, on the overall economic development. In this way, tourism is recognized, not only as a consequence of economic development, but also as a factor of economic development (Stanić & Vujić, 2009, p.15).

Bearing in mind all the mentioned facts, it can be concluded that tourism is a part of the economy that is of great importance for economic growth and development, and whose potential should be nurtured precisely for the reason of increasing economic competence.

References

Bošković, T. (2012). Turizam kao faktor privrednog razvoja. *Škola biznisa - Naučnostručni časopis*, 3, No. 4 23-28

Državni zavod za statistiku. (n.d.). https://podaci.dzs.hr/hr/podaci/turizam/

Erutor. (2024).

Federalni zavod za statistiku. (n.d.). https://fzs.ba/index.php/category/saopcenja/turizam/

Lakićević, M., Žarevac Bošković, M., & Sagić, Z. (2019). Uticaj turizma na regionalni razvoj. *III Međunarodna naučno stručna konferencija: Regionalni razvoj i saradnja, Zbornik radova*, Pirot, 103-112

Lazarević, M. (2018). Turizam i trgovina kao komplementarni faktori rasta i razvoja ekonomije. *Naučni časopis za ekonomiju, 53-55*

Milićević, S., & Trišić, I. (2019). Ekonomski i socio-kulturni efekti razvoja turizma u turističkim destinacijama. *Megatrend revija, Vol. 16, № 2,* 21-38

Parlamentarna budžetska kancelarija. (n.d.). https://pbk.skupstina.me/

Petković, G., Zečević, B., & Pindžo, R. (2011). Turizam kao deo nacionalne ekonomije. *Ekonomika preduzeća*, 89-97

Stanić, M., & Vujić, T. (2009). Turizam kao faktor ekonomskog razvoja. *Sinergija University International Scientific Conferencem,* 14-19

Statistical Office of the Republic of Serbia. (n.d.). https://www.stat.gov.rs

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The Need for Sustainable Tourism

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Abstract: *Sustainable tourism has gained significant attention in recent years due to environmental pressures. Climate change and environmental degradation have made people more aware of the environmental and social impacts of their travel and tourism activities. The tourism industry has the potential to contribute to the three pillars of sustainable development by preserving the environment, promoting social inclusivity, and fostering local economic development. Balancing tourism development with environmental conservation and socio-economic sustainability is crucial for the long-term viability of this industry. Albania has great potential to become one of the Balkans region countries suitable for implementing and developing sustainable tourism practices due to its natural beauty, cultural heritage, landscapes, etc.*

As tourism affects the overall dimensions of our lives, implementing sustainable tourism practices requires undertaking some strategies such as policy and regulations, community engagements, and awareness. People must choose greener transport forms, eat local foods, and seek authentic and small-group tourism experiences. The private sector needs to invest in sustainable practices to minimize the negative impacts of their activities on the environment. Through prioritizing responsible development, community engagement and awareness, and environmental conservation, Albania can turn tourism into a significant contributor to the economy and people's well-being.

Through a descriptive overview of some global and Albanian sustainable tourism practices and their impact on the economy, environment, and society, this paper aims to analyse the importance of implementing more sustainable tourism practices in our country's accommodation and services sectors.

1. INTRODUCTION

The tourism sector is a major global industry with significant effects on economies, cultures, and environments worldwide. It has the potential to drive sustainable economic growth, benefiting both people and places (UNWTO, 2020). However, despite its economic contributions, tourism poses serious environmental challenges. Its unsustainable features, such as waste generation, greenhouse gas emissions, and natural resource depletion, cause severe threats to the environment. According to Pang et al. (2023), tourism contributes significantly to environmental degradation and greenhouse gas emissions. A 2018 study revealed that global tourism accounted for 8% of global greenhouse gas emissions from 2009 to 2013, a figure four times higher than earlier estimates (Lenzen et al., 2018).

Climate change and environmental degradation have made people more aware of the environmental and social impacts of their travel and tourism activities. Sustainable tourism has gained significant attention in recent years due to environmental pressures. Increased awareness of climate change and environmental degradation has heightened concern about the impacts of travel and tourism (Gössling, 2021).

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Even though, its negative impacts on the environment, the tourism industry has the potential to contribute to the three pillars of sustainable development by preserving the environment, promoting social inclusivity, and fostering local economic development (Sachs, 2015). Balancing tourism development with environmental conservation and socio-economic sustainability is crucial for the long-term viability of this industry (Hall, 2020). Tourism is one of the most important global economic sectors, contributing widely to economic growth and sustainable development (Garau-Vadell et al., 2018).

As tourism affects the overall dimensions of our lives, implementing sustainable tourism practices requires undertaking some strategies such as policy and regulations, community engagements, and awareness (Buckley, 2020). People must choose greener transport forms, eat local foods, and seek authentic and small-group tourism experiences (Weaver, 2020). The private sector also plays a crucial role by investing in practices that mitigate environmental harm (UNWTO, 2022).

Albania, with its natural beauty, cultural heritage, and diverse landscapes, has significant potential to implement and develop sustainable tourism practices (Tourism Review, 2023). By focusing on responsible development, community involvement, and environmental conservation, Albania can transform tourism into a major contributor to its economy and overall well-being (Gori & Cici, 2022).

Through a descriptive overview of some global and Albanian sustainable tourism practices and their impact on the economy, environment, and society, this paper aims to analyze the importance of implementing more sustainable tourism practices in our country's accommodation and services sectors.

2. WHAT IS SUSTAINABLE TOURISM?

According to Britannica, tourism is the act of spending time away from home pursuing recreation, relaxation, and pleasure, while making use of the commercial provision of services. Tourism is considered a social, cultural and economic phenomenon, which entails the movement of people to countries or places outside their usual environment for personal or business/professional purposes. Despite the direct activities, tourism practices include also indirect activities, such as the transport company, which delivers the food to the restaurant, or the laundry company that has a contract with the hotel for cleaning bed sheets.

Tourism is the sector that can significantly contribute to a region's GDP, create jobs, and foster business opportunities. It can drive demand for local goods and services, increasing revenues for small and medium-sized enterprises, which are particularly crucial in rural and less-developed regions.

In 2022, the Travel & Tourism sector contributed 7.6% to the global GDP, while in 2023, this sector contributed 9.1% to the global GDP; an increase of 23.2% from 2022 and only 4.1% below the 2019 level. In 2022, this sector contributed 9 % of global employment, while in 2023 there were 27 million new jobs, representing a 9.1% increase compared to 2022, and only 1.4% below the 2019 level. The forecasted figures for 2033, are shown in the figure below, where we can conclude that it is a significant increase in the percentage of the contribution of the travel and tourism sector to global GDP and employment.

Tourism also promotes cultural exchange and helps preserve local heritage and traditions. Cultural tourism, for instance, draws attention to historical sites, crafts, music, and festivals.

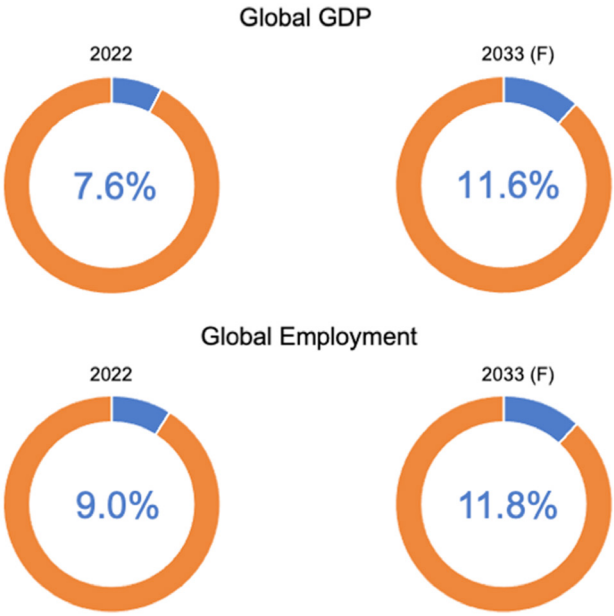


Figure 1. Travel and Tourism sector's total economic contribution
Source: World Travel & Tourism Council (2023)

Tourism has been included as a targets in Sustainable Development Goals:

8 – Decent Work and Economic Growth: *"Improve progressively, through 2030, global resource efficiency in consumption and production and endeavor to decouple economic growth from environmental degradation.*

12 – Responsible consumption and production: "*As the targets rely on recirculating what was previously seen as waste back into the economic space, via closed-loop processes which reduce negative externalities".*

While tourism provides substantial economic and social benefits, it has a significant environmental footprint. According to Pang et al. (2023), tourism contributes significantly to environmental degradation and greenhouse gas emissions, because the tourism sector overuses natural resources for its purpose without minding the negative impact to the environment. The tourism industry can be a heavy consumer of natural resources. Hotels, resorts, and recreational facilities often overuse water and energy, which can strain local resources. Infrastructure development such as airports, roads, and resorts can lead to deforestation, loss of biodiversity, and pollution. Transportation, particularly air travel and cruise tourism, is a major contributor to greenhouse gas emissions.

To address these issues, sustainable tourism aims to ensure that tourism benefits local economies and cultures without degrading the environment. The concept of sustainability has its origin in the environmentalism that evolved in the 1960s and was formally defined in the 1987 Brundtland Report. This report defined it as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs. Sustainable tourism is generally defined as tourism that *"fulfills the needs of tourists, host communities, tourism enterprises, and local and central decision-makers*" by managing tourism resources in a way that preserves continuous economic, social, cultural, and environmental values. This ensures that these resources remain as attractive as before and continue to create opportunities for future tourism development. Sustainable tourism operates on three primary principles.

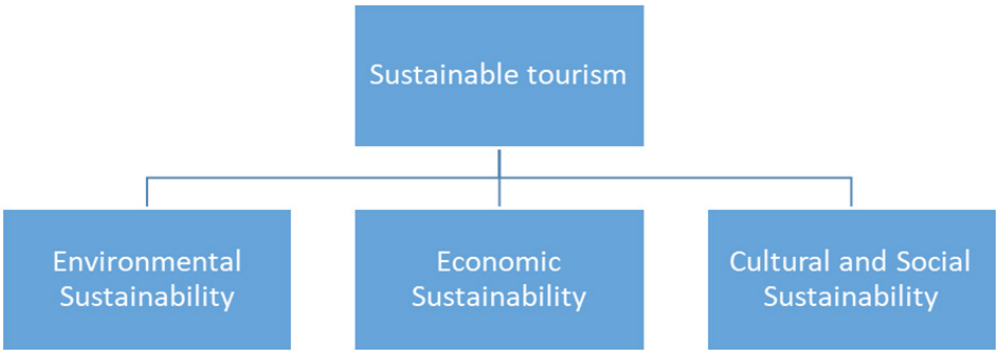


Figure 2. Three primary principles of sustainable tourism
Source: Authors own illustration

Environmental Sustainability: Minimizing energy and water use, reducing waste, and protecting biodiversity, to reduce the ecological footprint of tourism activities. Sustainable tourism encourages public transportation, cycling, and walking, considered low-carbon travel options. It also encourages travelers to reduce their environmental impact through responsible behaviours, such as reducing energy use and supporting eco-friendly accommodations. Sustainable tourism businesses tend to adopt green practices like waste reduction and renewable energy to minimize their carbon emissions.

Economic Sustainability: Ensuring that tourism generates income and jobs for local communities without undermining their long-term prosperity. Sustainable tourism and economic development are closely linked, with sustainable tourism practices aiming to balance the economic benefits of tourism with environmental preservation and social equity. Sustainable tourism can create employment opportunities and generate income for local communities.

For instance, studies by Ashley (2000) highlight how eco-tourism in Namibia has provided jobs and income for residents while promoting wildlife conservation. Mitchell and Ashley (2009) found that tourism in developing countries often leads to significant economic linkages with local businesses, enhancing their sustainability and growth. The development of sustainable tourism often leads to improvements in infrastructure, such as roads, airports, and sanitation facilities, which benefit both tourists and residents.

Sustainable tourism encourages tourists to spend money on local goods and services, benefiting small and medium-sized enterprises. Blanco (2011) found that eco-tourism initiatives contributed significantly to the national GDP and created thousands of jobs, particularly in rural areas in Costa Rica.

UNWTO (2019) reported that sustainable tourism contributes significantly to GDP in many developing countries, fostering economic growth and poverty alleviation.

Cultural and Social Sustainability: Sustainable tourism also plays a vital role in preserving cultural heritage and fostering cultural exchange. By encouraging tourists to engage with and respect local traditions, sustainable tourism helps protect cultural assets that might otherwise be at risk of erosion due to globalization.

For instance, sustainable tourism initiatives often involve the promotion of traditional arts, crafts, and cultural practices, providing local artisans and performers with economic opportunities while

also educating tourists about the rich cultural heritage of the destination. This exchange creates a deeper understanding and appreciation of cultural diversity, enhancing the overall travel experience and contributing to the preservation of cultural identity.

3. SOME SUSTAINABLE TOURISM PRACTICES

Sustainable tourism practices aim to minimize the negative impacts of tourism on the environment, culture, and local communities while maximizing the benefits for all stakeholders. Some of the recently used practices are:

Community-based tourism consists of the involvement of residents in profiting from tourism activities, ensuring that a significant percentage of tourism revenue remains in the community. In this way, it empowers local people economically and socially. The local community is involved in touristic services such as accommodation, guiding services, handicraft sales, and local food preparation. Indirectly, this practice reduces the migration phenomenon. This practice also encourages and promotes the preservation of traditional customs, practices, arts, and crafts, helping communities to take pride in their cultural heritage and identity, reinforcing social cohesion and cultural pride.

Statistics from the International Labour Organization indicate that community-based tourism can increase local incomes by up to 30% in some regions (ILO, 2018). Examples of successful community-based tourism can be found in regions like Thailand and Costa Rica, where indigenous communities offer cultural tours, eco-lodging, and wildlife experiences that highlight local traditions and biodiversity conservation. The Sustainable Tourism Development Project implemented in Thailand generated a 20% increase in local incomes from tourism-related activities (UNWTO, 2020). According to the Costa Rican Tourism Board (2019), indigenous tourism ventures have seen a 25% rise in community revenue and a 15% boost in local employment due to cultural and eco-tourism initiatives.

Carbon offsetting practices consist of encouraging carbon offsetting or providing low-impact transportation options. Traveling via low-carbon methods, such as public transportation, biking, or walking, tends to be cheaper than driving private vehicles or flying, leading to cost savings for travelers. Moreover, the use of bicycles, electric vehicles, and public transportation reduces the environmental impact of traveling to popular destinations. Studies by the European Cyclists' Federation show that using bicycles can reduce carbon emissions by up to 50% compared to cars (European Cyclists' Federation, 2021). Electric vehicles, on average, cut emissions by 30% compared to conventional vehicles (International Energy Agency, 2022). Amsterdam is a global leader in low-impact transportation with its comprehensive cycling infrastructure. The city continues to invest in making cycling safer and more accessible. Additionally, Amsterdam encourages residents and tourists to offset their travel-related carbon emissions through local reforestation projects.

Promoting sustainable travel methods can have many benefits. It leads to job creation in industries such as eco-tourism, renewable energy, and green transportation technologies; improves physical health by encouraging active lifestyles; provides more affordable and accessible alternatives to private vehicles or air travel, promoting social equity; a longer stay in a destination; reduces the environmental degradation caused by mass tourism, ensuring that they remain attractive to future generations of travelers, ensuring long-term economic stability and environmental health.

Eco-friendly practices aim to minimize air, water, and soil pollution by reducing waste, limiting the use of harmful chemicals, and promoting cleaner technologies. These practices promote the responsible use of resources such as water, energy, and raw materials lowering the amount of CO_2 and other greenhouse gases released into the atmosphere. Many eco-friendly practices, such as energy efficiency, water conservation, and waste reduction, lead to significant cost savings for businesses and households over time. Eco-friendly practices promote long-term economic stability by reducing dependence on finite resources like fossil fuels, encouraging investment in sustainable technologies, and ensuring resources remain available for future generations. The zero-waste movement in tourism encourages both travelers and operators to minimize waste by avoiding single-use plastics, encouraging recycling, and promoting the use of biodegradable materials. Some eco-lodges, like those in the Maldives, have adopted a zero-waste philosophy by managing their waste streams, composting, and reducing reliance on disposable goods. Eco-lodges have implemented zero-waste practices, reducing waste generation by up to 60%. Many have achieved a 100% recycling rate and significantly reduced reliance on single-use plastics (Maldives Ministry of Environment, 2022). Many Marriott properties have implemented comprehensive energy management systems, utilizing LED lighting, energy-efficient appliances, and smart thermostats to reduce energy consumption. Mrizi i Zanave Agroturizëm in Albania uses solar panels to generate electricity and heat water, emphasizing the use of locally sourced and organic ingredients in their restaurant, supporting local farmers and reducing the carbon footprint associated with food transportation. They also implement waste segregation, composting organic waste, and use biodegradable products to minimize environmental impact. Llogora Tourist Village, located in Llogara National Park in Albania, utilizes solar panels for energy needs, reducing reliance on non-renewable energy sources. The construction of the village incorporates eco-friendly materials and methods, ensuring minimal disruption to the surrounding natural environment. The resort supports local conservation efforts and educates guests about the importance of protecting the natural environment. Green Cabs, New Zealand is a taxi service that uses hybrid and electric vehicles to reduce carbon emissions.

Promotion of local and organic production. Many eco-friendly hotels and restaurants prioritize sourcing ingredients from local farmers, supporting the local economy while reducing the carbon footprint associated with food transportation. Some destinations, like New Zealand, are promoting "farm-to-table" experiences, where tourists can dine on locally grown, seasonal produce. The Farm-to-Table initiative has increased the consumption of local produce by 25% among tourists, and 80% of eco-friendly hotels source their ingredients locally (New Zealand Tourism Board, 2023). Noma, Copenhagen, Denmark is known for its commitment to sustainability, using locally sourced, organic ingredients, and reducing food waste through creative menu planning and composting.

Cultural/societal sustainability practices. In many parts of the world, tourism is helping to preserve local cultures and traditions by promoting cultural tourism. This type of tourism encourages visitors to engage with and appreciate local heritage through events such as traditional music performances, craft workshops, and cultural festivals. In Bhutan, for example, cultural preservation is central to their tourism policy, with restrictions in place to prevent cultural dilution. Their tourism policy includes a high-value, low-impact approach, which restricts visitor numbers to preserve cultural integrity. This has led to a 10% increase in cultural preservation funding and a 20% increase in local cultural tourism jobs (Bhutan Tourism Council, 2022). Inkaterra Hotel in Peru engages with local communities by employing local staff, sourcing food

and products locally, and supporting community development projects such as education and healthcare initiatives. In tourist areas like Gjirokastër and Krujë in Albania, shops selling souvenirs made from recycled materials have become popular. These shops focus on sustainability by using waste materials to create unique, eco-friendly products. By promoting recycled crafts, these shops support local artisans and contribute to the local economy. Outdoor Albania offers eco-friendly tours and adventure travel experiences that emphasize minimal environmental impact and cultural sensitivity. Activities include hiking, cycling, and rafting, with a focus on conserving natural landscapes and wildlife.

Some tourist practices such as responsible travel, education and awareness, voluntourism and respectful behaviour can encourage tourists to minimize their environmental impacts, such as reducing waste, conserving water, and using eco-friendly products and respecting local customs, traditions, and regulations.

4. CONCLUSION AND RECOMANDATIONS

Tourism plays a vital role in economic development and cultural exchange, but its environmental footprint cannot be ignored. The tourism industry consumes vast amounts of natural resources and contributes to pollution and greenhouse gas emissions, particularly through transportation and infrastructure development. However, the rise of sustainable tourism offers a way to balance the economic, social, and environmental impacts of tourism.

The linkage between sustainable tourism and economic development is complex and multifaceted, with significant potential benefits and challenges. Sustainable tourism can drive economic growth, create jobs, and support local businesses while promoting environmental conservation and cultural preservation. However, achieving sustainable tourism requires careful planning, robust regulatory frameworks, and active community involvement to balance economic, environmental, and social objectives. Future research should continue to explore innovative models and practices that enhance the sustainability and economic benefits of tourism.

By promoting eco-friendly practices, supporting local businesses, and preserving cultural heritage, sustainable tourism ensures that tourism can continue to provide benefits to local communities while minimizing its negative impact on the environment. Sustainable tourism is essential for the long-term viability of the tourism industry and the protection of natural and cultural resources for future generations.

The principles of sustainable tourism emphasize the importance of stakeholder collaboration and partnerships. Effective sustainable tourism development requires the involvement of various stakeholders, including government agencies, local communities, private sector businesses, and non-governmental organizations. By working together, these stakeholders can develop and implement strategies that address environmental, social, and economic concerns holistically. Collaborative efforts help to align tourism activities with local development goals, create synergies between different sectors, and leverage resources and expertise from multiple sources. This collective approach not only enhances the effectiveness of sustainable tourism initiatives but also ensures that the benefits are distributed equitably among all stakeholders. In Albania, there is a great need for an awareness increase for all stakeholders, regarding the environmental degradation caused by the tourism sector and the importance of implementing and investing more in sustainable tourism practices in both accommodation and service sectors.

References

Ashley, C. (2000). The impacts of tourism on rural livelihoods: Namibia's experience.
Bhutan Tourism Council. (2022). High-Value, Low-Impact Tourism in Bhutan. Retrieved from https://bhutan.travel/
Blanco, E. (2011). A social-ecological approach to voluntary environmental initiatives: The case of nature-based tourism. Policy Sciences, 44, 35-52.
Buckley, R. (2020). *Sustainable Tourism*. Routledge.
Costa Rican Tourism Board. (2019). Indigenous Tourism Ventures in Costa Rica. Retrieved from Costa Rican Tourism Board website
European Cyclists' Federation. (2021). The Environmental Benefits of Cycling. Retrieved from European Cyclists' Federation website
Garau-Vadell, J. B., Gutierrez-Taño, D., & Diaz-Armas, R. (2018). Economic crisis and residents' perception of the impacts of tourism in mass tourism destinations. *Journal of destination marketing & management, 7*, 68-75.
Gori, D., & Cici, V. (2022). *Sustainable Tourism Development in Albania*. Tourism Review, 77(1), 123-140.
Gössling, S. (2021). *Tourism and Climate Change: A Review*. Journal of Sustainable Tourism, 29(7), 1013-1030.
Hall, C. M. (2020). *Tourism and Sustainable Development*. Routledge.
International Energy Agency. (2022). Electric Vehicles and Emissions Reduction. Retrieved from IEA website
International Labour Organization (ILO). (2018). Community-Based Tourism: Empowerment and Economic Impact. Retrieved from ILO website
Lenzen, M., Sun, Y., Faturay, F., Ting, Y. P., Geschke, A., & Malik, A. (2018). *The Carbon Footprint of Global Tourism*. Nature Communications, 9, 1338.
Maldives Ministry of Environment. (2022). Zero-Waste Tourism Practices. Retrieved from Maldives Ministry of Environment website
Mitchell, J., & Ashley, C. (2009). Can the private sector reduce poverty at scale? Evidence from the tourism value chain. Commonwealth secretariat, commonwealth ministers reference book, 1-4.
New Zealand Tourism Board. (2023). Farm-to-Table Initiatives. Retrieved from New Zealand Tourism Board website
Pang, J., Tian, Z., Zhang, M., Wang, Y., Qi, T., Zhang, Q., Liu, E., Zhang, W., Ren, X., Jia, Z., Siddique, K. H. M., & Zhang, P. (2023). Enhancing carbon sequestration and greenhouse gas mitigation in semiarid farmland: The promising role of biochar application with biodegradable film mulching. *Journal of Integrative Agriculture*. https://doi.org/10.1016/j.jia.2023.12.01
Sachs, J. D. (2015). *The Age of Sustainable Development*. Columbia University Press.
Tourism Review. (2023). *Albania: A New Frontier for Sustainable Tourism*. Retrieved from Tourism Review.
UNWTO. (2019). *Sustainable Development Goals and Tourism*. United Nations World Tourism Organization.
UNWTO. (2020). *International Tourism Highlights*. United Nations World Tourism Organization.
UNWTO. (2020). Sustainable Tourism Development in Thailand. Retrieved from UNWTO website
UNWTO. (2022). *Sustainable Tourism Policies and Practices*. United Nations World Tourism Organization.
Weaver, D. (2020). *Sustainable Tourism: Theory and Practice*. Routledge.
World Travel & Tourism Council. (2023). https://wttc.org/

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The Influence of Tourism Policy on the Management and Development of the Destination

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Makarska city

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Abstract: *The paper investigates the role of tourism policy in the management of the tourist destination of the city of Makarska, which is one of the most important tourist destinations on the Croatian coast of the Adriatic Sea. Focusing on the complexity of managing a tourist destination enabled an analysis of the importance of an integrated approach in tourism development, with a special emphasis on meeting the needs of all stakeholders and ensuring the destination's sustainable future. The subject of this paper is to analyse the theoretical framework of tourism policy and to investigate how tourism policy affects the management of a tourist destination on the model of the Makarska tourist destination. The goal of the work is a deeper understanding of the complexity of tourism policy and the identification of key factors that contribute to the sustainable development of tourist destinations. Through the analysis of the tourism policy, the possibilities of improving the tourism of the mentioned destination with the aim of long-term prosperity were investigated. Special importance is attached to examining the attitudes of the local population on the impact of tourism and tourism policy. The analysis of the perception of the local population provided a deeper insight into the positive and negative aspects of tourism and the identification of key areas for further action. In the paper, empirical research was conducted through an online survey questionnaire to analyse the views of the local population on the impact of tourism and tourism policy on the specified destination. Primary data were collected through a one-time descriptive survey on a targeted sample (N 1332). The general conclusion of the research is that based on a detailed analysis of the tourism policy of the city of Makarska, key aspects of business and investment in tourism were investigated, including demand monitoring, innovation, tourism promotion, investment in employees, raising the quality of business and environmental protection. The results of the average scores of the respondents show a moderately good degree of agreement with the mentioned aspects, while a certain variability in the scores can be observed.*

1. INTRODUCTION

Tourism has become a key factor in modern economic development around the world, representing a vital component of the economy of many regions. Due to the increase in the number of tourists and the growing demands for a quality tourist offer, the management of tourist destinations has become a challenging area that requires an integrated approach, careful planning and implementation of strategies to ensure the sustainability and competitiveness of the destination. Through the analysis of key aspects of tourism policy, management of the tourist destination and planning of the development of the tourist destination, this paper explores the possibilities of improving tourism in Makarska with the aim of long-term prosperity. Managing a tourist destination becomes a complex process that requires continuous adaptation and reflection in order to meet the needs of all stakeholders - local residents, tourists, business entities and institutions. In this context, tourism policy plays a

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key role in directing the development of tourist destinations according to the set goals and purpose. Special emphasis in this paper is placed on examining the attitudes of the local population of the Makarska destination on the impact of tourism and tourism policy, with the aim of better understanding the perception of the local community and identifying key areas for further improvement.

2. THEORETICAL FRAMEWORK OF TOURISM POLICY

Tourism policy is part of the economic policy of a certain country. Economic policy directs the direction of development of various activities for the sake of overall economic and social development. In the context of the economic policies of a certain country, a whole series of sectoral and branch policies is formed, among which is tourism policy. Tourism, as a multi-functional activity, is subordinated to the economic policies of various tourist and complementary sectors, such as catering, industries, transport, agriculture, trade and others. According to Bartoluci (2013), the application of tourism policies is becoming more and more important, both in Croatia and in other countries around the world (p. 58). Although tourism policy is a key factor for the development and improvement of tourism, maintaining competitiveness and achieving economic and non-economic goals, it is important to emphasize that state intervention plays a key role in achieving these goals. Krce Miočić et al. (2016), emphasize that different countries apply different strategies, but they all have in common that the development of tourism cannot be completely left to the private sector (p. 104). Dwyer et al. (2009) point out that tourism policy is the essential relationship of the state towards tourism, and it is shaped by a series of complementary activities, that is, their economic policy (p. 65). Sectors such as catering, transport, trade, communal services and others make up an important part of tourism, which justifies the need for a tourism policy. According to Petrić (2011), tourism policy represents a set of measures that the state consciously applies in order to influence tourism through special instruments aimed at developing, improving and maintaining the competitiveness of tourism (p .83). The goals of the tourism policy include the achievement of economic and non-economic goals and the preservation of the sustainability of tourism. The importance of tourism policy is manifested in directing desirable and acceptable activities in tourism and in setting development guidelines and goals. It provides the necessary support for the implementation of projects and measures aimed at encouraging the development and ensuring the competitiveness of the destination. According to Silvar and Golja (2016), tourism policy can avoid unwanted forms of destination development and direct efforts towards the creation of new tourist products that meet the needs and interests of contemporary tourists and the local community (p. 127). The formulation of tourism policy begins with the recognition of the different needs of regions or countries through appropriate research techniques. Dias et al. (2024) state that tourism goals are key because they reflect these needs but are limited by existing external and internal factors (p. 4). For example, the lack of air-conditioned spaces can repel American tourists, therefore a policy aimed at attracting such guests can provide financial incentives for the modernization of accommodation facilities. According to Mill and Morrison (1992), excessive use of tourism facilities by local residents can also limit tourism development (p. 256). In addition, the lack of free land and investment capital represent current challenges, especially in less developed countries. Before a conscious and active tourism policy can be implemented, it is necessary to clearly define the goals to be achieved. According to the above, defining clear goals enables the selection of the necessary instruments, because the available instruments are key to achieving the desired goals. According to Blažević and Peršić (2009), this means that tourism policyholders have at their disposal various instruments through which they can achieve the desired results (p. 83). According to Kahlenborn et al. (1999), tourism policy instruments include concrete measures implemented by tourism policy holders in order to influence the tourism sector, tourist flows or the structure of tourism in accordance with the set goals (p. 47). These instruments stem from various government

and private policy initiatives. Their use is not static but adapts to the current situation and prevailing social and economic conditions. According to the same authors Kahlenborn et al. (1999), from an economic perspective, individual instruments can be aimed at supply or demand, but they can also affect the tourism market as a whole directly or indirectly (p. 53). The goals and purpose of tourism policy represent an essential foundation in shaping the sustainable development of tourism, playing a key role in achieving a balance between economic profit, preservation of cultural heritage, social responsibility, and environmental protection. According to Vukonić and Čavlek (2001), through strategic goal setting, tourism policy directs efforts towards increasing the competitiveness of destinations, attracting a diverse tourist population and creating a positive socioeconomic impact on the local community (p. 283).

Cardena-Garcia and Alcala-Ordonez (2023), analyze the differences in the impact of sustainable tourism policies on the development of destinations in developed and developing countries, with an emphasis on long-term economic, social and ecological effects (p.3). Authors Dredge and Jamal (2015) in their article, consider contemporary approaches to tourism planning and policy, including a critical review of how knowledge is produced in this area and how it shapes the development of destinations (p. 287). At the same time, improving the quality of the tourist experience requires investment in infrastructure projects, education of tourist staff and maintaining the ecological sustainability of destinations. Kahlenborn et al. (1999) point out that stimulating the local economy, through support for small entrepreneurs, cultural events and preserving the authenticity of destinations, becomes crucial for the long-term success of tourism policy (p. 61). Ultimately, tourism policy goals not only shape the tourism sector but also have a profound impact on broader socio-economic aspects.

2.1. Management of Development in the Destination

In the world of tourism, planning the development of a tourist destination is key to successfully guiding the destination towards sustainable growth, improving the tourist experience and preserving the natural and cultural environment. Planning begins the destination management process in which goals are set and then measures are taken to achieve them. According to Vukonić (2010), in the planning phase, the vision is first defined, then the mission, goals and guidelines (p. 143). The organization regulates the roles of individuals and groups. Human resource management is the direct influence on people within the organization, while control is the monitoring of all system activities. According to Magaš (2008), the responsibilities of the overall management of a tourist destination include defining the ultimate goals of the entire tourism system, identifying resources and determining the skills needed to achieve general goals, and defining procedures and strategies (p. 17). The same author, Magaš (2008) emphasizes that after defining management, the question arises as to what the purpose of destination management (p. 31) is. One of the key factors affecting the success of a tourist destination is the regulation of tourist arrivals. Although regulatory frameworks are intended to protect community interests and conserve resources, they face challenges in adapting to rapid changes in tourism trends and technology. One of the challenges facing destinations is mass tourism. An increase in the number of tourist arrivals can lead to negative impacts on the environment, cultural heritage and the quality of life of the local population. Destinations often struggle with the balance between attracting tourists and maintaining authenticity and sustainability. According to Marušić and Prebežac (2004), the challenge is to develop strategies that will enable sustainable tourism, while at the same time minimizing negative impacts on the destination (p. 135). Digital transformation also poses new challenges to the management of a tourist destination. According to Aflić (2019), online reservations, social networks and technological innovations are changing the way tourists plan and experience travel (p. 111). Destinations face the need to adapt

their marketing strategies, communication with tourists and information management. According to Zadel and Cerović (2013), in cooperation between stakeholders in the destination, the challenge lies in achieving a balance of public and private sector interests and involving the local community (p.401). Accordingly, cooperation is essential to create sustainable policies and strategies that will meet the needs of all stakeholders, including tourists, local residents, entrepreneurs and authorities. Given the challenges mentioned, destinations must establish a comprehensive approach to tourism management that includes integrated strategies, the cooperation of all relevant stakeholders and the active participation of the local community. According to Feige (2000), the central principle of the destination management process is to bring stakeholders together to clearly define strategic directions and actions for the future development, marketing and management of the destination (p. 110). Križman Pavlović (2008) emphasizes that planning should be based on analysis to ensure that all relevant knowledge is included in the strategic direction of the development of the tourist destination (p. 113). The author Dujmović (2014), in his work, concludes that in the last few decades, the effect of globalization has not only dominated different spheres of social life, but has also had a significant impact on the tourist market (p.30). Here, supply and demand changed drastically, partly due to competition and more and more demanding tourists, which resulted in a greater diversity of supply, various forms of tourism and significant development of tourist destinations. The improvement in the living standard of tourists was reflected in the change of traditional needs and value systems. Pike and Page (2014), indicate that tourist destinations, in order to keep pace with new trends and tourist preferences, had to adapt their offer to an increasingly demanding market (p. 7). The modern tourist is looking for vacation design according to his own wishes, individualized and non-standardized service and simpler travel booking. His need for dynamic and authentic experiences creates a profile of tourists who expect high quality experiences and rich content for the money invested. Mitchell (2007) indicates that the interpolation of global tourism trends represents the future of high-quality tourism offer (p.10). The fundamental trends in global tourism today are socio-demographic changes, globalization processes, ecology and new technologies. The following table shows the classification of tourism trends, which should not be viewed in isolation but as a complete interconnected system. In particular, these trends can be quantitatively or qualitatively analysed and examined in the context of supply or demand at different levels, from local to global. Each individual trend can represent different types of tourism trends at the same time.

Table 1 . Types of trends in tourism

According to place emergence on the tourist market	Trends tourist demand
	Trends tourist offers
According to type tourist markets	Trends on emissive tourist markets
	Trends on receptive tourist markets
According to content studies	Quantitative trends
	Qualitative trends
According to strength actions	Local
	Regional
	National
	Global (megatrends)

Source: Hendija (2013)

3. ANALYSIS OF TOURISM DESTINATION MAKARSKA

A tourist destination like the city of Makarska represents an intriguing example for analysis, since it combines a rich cultural heritage with attractive natural beauty. In this chapter, the key aspects of Makarska will be analysed in order to see its current status, challenges and opportunities for

further development. SWOT analysis for the city of Makarska provides an in-depth insight into the current state of the destination, identifying key factors of strength, weakness, opportunities and threats. This analysis helps in shaping strategies for the sustainable and successful development of tourism in Makarska.

Table 2. SWOT analysis of the city of Makarska

FORCE (WITH)	WEAKNESSES (W)
• Favorable geographical position • Natural beauty, clear sea • The length of the coast with numerous beaches • Biodiversity • Proximity to the hinterland and islands • Favorable Mediterranean climate • Transport connections (Split, Brač, Hvar) • Long-standing touristic tradition • Large number hotel and restaurants • Park nature Biokovo • Rich cultural heritage • Numerous manifestations • Year-round sports events • Growth tourist arrivals • Return of permanent guests	• Lack of off-season content and marked seasonality tourism • Too big crowds on beaches • Overloading of transport infrastructure during the summer season • City without a cinema hall • Construction works in the pre-season and post-season • Poor promotion of events • Insufficient education of employees in tourist facilities • Insufficient parking spaces • Lack of marking of paths with signposts and guidelines
OCCASIONS (ON)	**THREATS (T)**
• By withdrawing funds from the European fund by entering EU • Improvement tourist infrastructure • Trends in tourism • Construction cable cars Makarska – Biokovo • Construction new one's parking lots places or garages • Introduction of new bus lines in favor of better connectivity destinations • Culturally education • Pedestrian arrangement and bicycle paths	• The attitude that the valorised resources of the sea, beautiful beaches and hours of sunshine are sufficient for the sustainability of tourism in destinations (Split, islands) • Excessive construction of residential areas that destroys the natural beauty of the city • Insufficient environmental protection and pollution must discharges from ships • Danger from frequent fires • Climate change

Source: Author's suggestion

Managing a tourist destination like Makarska requires the implementation of targeted policies in order to achieve sustainable and successful tourism development. The key aspects of managing the destination of Makarska through the prism of tourism policy include sustainability of tourism, diversification of tourist offers, cooperation with stakeholders, quality of service, promotion and marketing, infrastructure development, safety and environmental protection, event planning, continuous monitoring and evaluation. Crisis management, sustainable mobility, digitization of the tourist experience, management of tourism potential, and involvement of the local community. Tourism is a key economic activity in the city of Makarska, providing a significant contribution to the economy and the local community. One of the key strategic goals of the city of Makarska is to direct tourism towards sustainable development. This includes minimizing the negative impacts of tourism on the environment, culture and local community and promoting practices that encourage environmental awareness among visitors and local residents. Sustainable tourism is set as a fundamental principle that will guide the development of tourism policy, to ensure the long-term protection of natural resources and cultural heritage. Diversification of the tourist offer is also an important strategic goal of the city of Makarska. Instead of relying exclusively on the sun and the sea, the city strives to develop various forms of tourism such as cultural tourism, active vacations, gastronomy and rural tourism. The goal is to reduce seasonal dependence and create an attractive offer that will attract visitors throughout the year, which will increase the economic stability and sustainability of the destination. Improving the quality of the tourist experience is one of the key goals of the tourism policy of the city of Makarska. This includes improving services, infrastructure and authentic visitor experiences to ensure their satisfaction and loyalty. Through continuous investment in the training of tourist workers and improvement of infrastructure, the city strives to achieve high standards of service quality that will be recognized and appreciated at the international level. The protection of

cultural heritage is also highlighted as a strategic goal of the tourism policy of the city of Makarska. The city undertakes to preserve historical landmarks, traditions and customs in order to promote the authenticity of the destination and enrich the tourist offer. By encouraging the interpretation and promotion of cultural heritage, the city wants to preserve its identity and heritage. Partnership with the local community is a key element in achieving the strategic goals of tourism policy. The city strives to ensure transparency, participation and engagement of local stakeholders in tourism planning and management, in order to ensure a balance between tourist needs and the interests of the local population. Through cooperation and dialogue, the city will be able to better understand the needs of its citizens and harmonize tourism development with the local context and values. Ultimately, setting clear strategic goals for the tourism policy of the city of Makarska reflects the city's commitment to sustainable and balanced tourism development. Through an integrated approach, the city strives to create a tourist destination that will be attractive, competitive and sustainable in the long term.

4. SURVEY OF THE LOCAL POPULATION ON THE IMPACTS OF TOURISM AND THE TOURIST POLICY OF THE CITY OF MAKARSKA

Understanding local residents' perceptions and attitudes about tourism and tourism policy is vital for developing sustainable strategies and destination management. This paper investigates the role of tourism policy in the management of the tourist destination of the city of Makarska, which is one of the most important tourist destinations on the Croatian coast of the Adriatic Sea. Focusing on the complexity of managing a tourist destination enabled an analysis of the importance of an integrated approach in tourism development, with a special emphasis on meeting the needs of all stakeholders and ensuring the destination's sustainable future.

4.1. Research Methodology

Empirical research was conducted through an online survey questionnaire as the main research tool, to analyse the views of the local population on the impact of tourism and the tourism policy of the city of Makarska. Primary data were collected through a one-time descriptive survey on a targeted sample. This method was chosen for easier access to a larger number of respondents and faster implementation of the survey itself. The survey process was conducted digitally through the Google Forms application, ensuring respondents' anonymity by accessing the survey via a link. A total of 1,332 respondents responded, which is about 10% of the total population of the city of Makarska. Survey research from January 1 to February 15, 2024. The survey questionnaire consisted of 10 questions, the first 3 questions included general demographic questions such as age, gender and education, which were closed-ended to facilitate later analysis. The other 7 questions explore the perception of investment in the city of Makarska and various aspects of tourism and related activities. The questions were expressed using a Likert scale ranging from 1 to 5, where 1 indicated complete disagreement and 5 complete agreement with the statement. For the analysis of the average level of agreement, the arithmetic mean and the most common level of agreement, calculated as the weight of the most common answer (mode), were used. The collected data were coded and analysed using R Project, a programming language and software for statistical analysis and data visualization.

4.2. Research Results

The results of the conducted research are presented in graphic form together with the related questions. Due to the limited scope of the work, only the key results of the research are presented, which follow in the further description of the work. Therefore, answers to questions about age

indicate a significant difference in the representation of men and women among the respondents. The research shows that the majority of respondents were female, which is 53% or 700 female respondents, while male respondents make up 47%, or 632 respondents. This significant ratio between the number of women and men in the sample opens the door for a deeper analysis of the research results. Also, it suggests possible differences in behavior patterns or attitudes between the sexes, which is an important aspect of research. This balanced gender distribution provides valuable insight into diverse perspectives and potential variations in research results. Furthermore, the largest share of respondents, 42% or 558 respondents, has completed a bachelor's degree, while 432 respondents (32%) have a master's degree. 25% of respondents, or 333 respondents, completed secondary school as the highest level. It is important to point out that only 9 respondents (1%) in the sample completed a doctorate, which emphasizes the relative rarity of this highest level of education within the population of respondents. The results of the research related to the survey on the level of agreement of the respondents of the survey on the investment of the city of Makarska in various activities, the following can be observed: each activity in the survey had 1332 participants, which indicates the representativeness of the sample. The average scores for each activity vary, with "Marketing" receiving the highest average score (3.041), while "Educating your employees" had the lowest average score (2.608). Although all activities were rated according to the same rating module (3), which suggests that a neutral rating is most common among respondents, there is variability in ratings. The standard deviation, which is relatively low for all activities (varies from 0.877 to 0.983), indicates a relatively small variability of ratings among respondents. The range of grades is divided into three categories: negative (1 – 2), neutral (3) and positive (4 – 5). A larger number of respondents rated the activities as neutral, while a smaller number gave negative or positive ratings. The minimum and maximum rating for each activity is 1 and 5, respectively. Analyzing the distribution of ratings, we can notice that the respondents are the most neutral towards all activities, while there are variations in the perception of different investments, which may indicate different priorities or needs of the respondents. Considering these data, it can be concluded that the respondents are the most neutral towards all activities, but there are certain variations in the perception of different investments, which may indicate different priorities or needs of the respondents regarding the investment of the city of Makarska. The results of the research related to the survey on the level of agreement of the respondents of the survey on the investment of the city of Makarska in monitoring the current and future demand in certain areas of tourism, with special emphasis on the use of different resources such as the results of specialized research organizations, the services of consultants and the services of academic and higher education institutions, the following can be observed: the average ratings for each area vary, where the highest average score was recorded for using the services of consultants (2,764), while the average scores for using the results of specialized research organizations and the services of academic and higher education institutions are the same (2,595). All activities were evaluated according to the same rating module (3), which suggests that a neutral rating is the most common among respondents. However, there is variability in the ratings, as confirmed by the standard deviation varying from 0.929 to 1.029. The range of grades is divided into three categories: negative (1 – 2), neutral (3) and positive (4 – 5). A larger number of respondents rated the activities as neutral, while a smaller number gave negative or positive ratings. The minimum and maximum score for each area is 1 and 5, respectively. Analyzing the distribution of scores, it can be noted that a neutral score is the most common for all areas of demand monitoring, but there are variations in the perception of different ways of using resources, which may indicate different priorities or needs of respondents regarding with demand tracking. Considering these data, it can be concluded that the respondents are the most neutral towards all areas of demand monitoring, but there are certain variations in the perception of different ways of using resources, which may indicate different priorities or needs

of the respondents regarding the investment of the city of Makarska in the mentioned area. The results of the research related to the survey on the level of agreement of the respondents of the survey on the investment of the city of Makarska in ways of promoting tourism, with an emphasis on different methods of promotion, such as market research, promotions, advertising and distribution. The following was noted: the average scores for each promotion method varied, with the highest average scores recorded for advertising (3.196) and promotions (3.122), while the lowest average scores were recorded for market research (2.723) and distribution (2.865). All promotion methods were rated according to the same rating module (3), which suggests that a neutral rating is the most common among respondents. There is variability in the ratings, as confirmed by the standard deviation varying from 0.898 to 0.998. The range of grades is divided into three categories: negative (1 – 2), neutral (3) and positive (4 – 5). Analysing the distribution of grades, it can be observed that respondents are the most neutral towards all methods of tourism promotion, but there are variations in the perception of different methods, which may indicate different priorities or needs of respondents in relation to tourism promotion. Considering these data, we can conclude that the respondents are the most neutral towards all methods of tourism promotion, but there are certain variations in the perception of different methods, which may indicate different priorities or needs of the respondents regarding the investment of the city of Makarska in tourism promotion.

Table 3. The average level of agreement of survey respondents on how much the city of Makarska invests in environmental protection

		Business processes and standards that contribute to environmental protection	Technology and equipment that preserves the environment/ reduces environmental pollution	"Green marketing"
N	Valid answer	1332	1332	1332
Arithmetic mean		2,696	2,628	2,588
Module		3	3	2
Standard deviation		0.964	0.932	1,040
Minimum		1	1	1
Maximum		5	5	5
Ratings				
1 – 2 (negative)		540	576	675
3 (neutrally)		540	558	396
4-5 (positively)		252	198	261

Source: Own research

Considering the total number of respondents of 1332 and the absence of missing answers, this table provides relevant information about the attitudes and perceptions of the local community about the importance of investing in environmental protection. The average level of agreement of respondents varies for different aspects of investment in environmental protection. Business processes and standards that contribute to environmental protection receive an average score of 2.696, while technology and equipment that preserve the environment or reduce pollution environment evaluated as something lower with an average grade of 2,628. “Green marketing” was rated the lowest with an average rating of 2.588. The module (most common value) for business processes and technology/equipment is 3, suggesting that most respondents support a medium level of investment in these aspects of environmental protection. However, for “Green Marketing” the module is 2, which indicates that the majority of respondents chose a lower rating. The standard deviation varies from 0.932 to 1.040, which shows a relatively large variability of responses among respondents in some aspects compared to others.

5. CONCLUSION

The tourism policy for the management of the destination of the city of Makarska in the future should be directed towards sustainability, diversification of the offer, protection of natural resources, and improvement of the quality of the tourist experience. While the tourist offer seems diverse, there is a lack of concrete initiatives to preserve nature and promote ecological sustainability. Instead, the phenomenon of " greenwashing " is increasingly being noticed, which further complicates the perception of real efforts to protect the environment. In addition, the lack of transparency and communication with the local population further complicates the participation of citizens in initiatives aimed at preserving the environment. Sustainable development should be the main goal of all initiatives, with an emphasis on the protection of natural resources, the preservation of cultural heritage, and the improvement of the quality of life for the local population. To solve the above-mentioned challenges, it is necessary to strengthen concrete activities on the ground aimed at protecting the environment and improving the tourist offer. The city of Makarska needs to implement solid policies, programs, or initiatives that promote ecological sustainability and encourage an authentic tourist experience. In the research on the attitudes of the local population on the impact of tourism and the tourism policy of the city of Makarska, numerous limitations were identified that affected the process of data collection during the research. These limitations include self-report errors, incomplete information, seasonality of tourism activities, and social desirability. First, self-report bias refers to respondents' tendency to answer questions based on their tastes, preferences, or perceptions, which can lead to biased results. Second, the incompleteness of information suggests that participants may not fully understand tourism policy or the actual impact of tourism on their community, which may limit the validity of the results obtained. Third, the seasonal nature of tourist activities in the city of Makarska means that data collected outside the tourist season may be incomplete or may not adequately reflect the true impact of tourism on the local population.

References

Aflić, S. (2019). Tourist boards and destination products, trends in Croatian tourism, *Mostariensia: journal of social and humanities, Vol. 23 No. 2,* 109-121.

Bartoluci, M. (2013). *Management of the development of tourism and entrepreneurship.* Zagreb. Schoolbook.

Blažević, B., & Peršić, M. (2009). *Tourism regionalization in global processes*. River. Faculty of Management in Tourism and Hospitality in Rijeka.

Cardena-Garcia, P., & Alcala-Ordonez, A. (2023). Tourism and Development: The Impact of Sustainability — Comparative Case Analysis, *Sustainability 2023, 15(2), 1310,* 1-10. https://doi.org/10.3390/su15021310

Dias, Á., Viana, J., & Pereira, L. (2024). Barriers and policies affecting the implementation of sustainable tourism: the Portuguese experience. Journal of Policy Research in Tourism, Leisure and Events, 1-19. https://doi.org/10.1080/19407963.2024.2314514

Dredge, D., & Jamal, T. (2015). Progress in tourism planning and policy: A post-structural perspective on knowledge production. *Tourism Management, 51*, 285-297. https://doi.org/10.1016/j.tourman.2015.06.002

Dujmović, M. (2014). Postmodern society and tourism in *Contemporary trends in tourism*. Pula. Juraj Dobrila University in Pula. Faculty of Economics and Tourism "Dr. Mijo Mirković"

Dwyer, L., Edwards, D., Mistilis, N., Roman, C., & Scott, N. (2009). Destination and enterprise management for a tourism future. *Tourism Management, 30*(1), 63-74. https://doi.org/10.1016/j.tourman.2008.04.002

Feige, M. (2000). Tourism at the beginning of the new millennium. *Tourism, no. 2/2000,* 109-112.
Hendija, Z. (2013). *Tourism policy and development: Trends in the tourist market as a starting point in tourism development planning.* Zagreb. Zagreb Faculty of Economics.
Kahlenborn, W., Kraack, M., & Carius, A. (1999). *Tourismus - und Umweltpolitik – Eine political Spannungsfeld* . Berlin.
Krce Miočić, B., Razović, M., & Klarin, T. (2016). Management of sustainable tourism destination through stakeholders cooperation, *Management, Vol. 21, No. 2*, 99-120.
Križman Pavlović, D. (2008). *Marketing of the tourist destination,* Zagreb. Micro work.
Magaš, D. (2008). *Destination management – models and techniques.* Opatija: Faculty of Tourism and Hotel Management. Adamić.
Marušić, M., & Prebežac, D. (2004). *Research of tourist markets.* Zagreb. Adecco.
Mill, R., & Morrison, A. (1992). *The Tourism System: An Introductory Text*. Prentice-Hall International editions.
Mitchell, G. (2007). *Handbook for Destination Management Companies.* Zagreb. USAID.
Petrić, L. (2011). *Tourist destination management - principles and practice.* Split. Faculty of Economics in Split
Pike, S. J., & Page, S. (2014). Destination Marketing Organizations and destination marketing: A narrative analysis of the literature, *Tourism Management Vol., 41,* 1-26.
Silvar, I., & Golja, T. (2016). *European tourist market and development trends.* Pula. Juraj Dobrila University in Pula.
Vukonić, B. (2010). *Tourism – The future of many illusions.* Zagreb. University of Tourism and Hotel Management in Zagreb.
Vukonić, B., & Čavlek, N. (2001). *Dictionary of tourism.* Zagreb. Mass media.
Zadel, Z., & Cerović, M. (2013). Quantitative and qualitative trends on the tourist market in Croatia, *Current affairs of civil law, law in tourism, civil law and law of the sea, and administrative law,* Čizmić, J; Radić, Ž.; Seršić, V. (ed .). Split. Faculty of Law, University of Split, 399-411.

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Innovation in the Marche Region's Tourism Sector: The Case of Inside Marche Live

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Abstract: *The Marche region is situated in what is known as the Third Italy, right at the heart of the Italian Peninsula. This geographical area has traditionally served as an incubator for entrepreneurship within the framework of the industrial district model. The economy continues to rely heavily on manufacturing for export purposes. The tourism sector, while predominantly characterized by family tourism along the Adriatic Sea coast, has also seen some emerging activities in farm and rural tourism in the inland areas. However, the onset of the COVID-19 pandemic in 2020 unexpectedly catalyzed local initiatives among tourism operators. The halt in economic activity provided an opportunity for approximately thirty companies to utilize their newfound free time to devise a new model for collective cooperative tourist offerings. The work studies the Inside Marche Live initiative developed by tour operators with the aim of creating a network of tourism businesses to promote inbound tourism in the Marche region and facilitate outbound tourism by Italians. In particular, the work delves into the analysis of this initiative as a relevant case study in terms of strategic collaboration and plural resilience in tourism.*

1. INTRODUCTION

The Marche region is located in Central Italy, in the area that Bagnasco (1977) calls "Third Italy" or "North-East-Center". This area, between the industrialized Northwest and the less developed South of Italy, sees many SMEs clustered in specialized industrial districts (Corinto & Curzi, 2017; Dunford & Greco, 2005). On the one hand, the Marche region expresses economic development linked to numerous industrial districts spread throughout the territory (Becattini, 1987; 1990; Fuà & Zacchia, 1983; Fuà, 1988); on the other hand, it largely presents rural dimensions and related sociocultural elements (Anselmi, 1990). Thus, a socioeconomic pattern emerges that combines high levels of both material and immaterial well-being (Censis, 2002).

Becattini (1987, 1990) defines light industrialization as the main feature of Central Italy's development, with an intense presence of SMEs spread throughout the region and often agglomerated in industrial districts. Scholars have since long underlined that the origins of these districts lie in a combination of urban and rural values (among others, Becattini, 1987; Becattini et al., 2001; Fuà, 1988). Indeed, in the Marche region, family businesses often manage both manufacturing enterprises and agriculture. According to Conti (1996), the limited average size of urban centers is an expression of a society in which urban residents have long based their way of life on close contact with the nearby countryside. Tourism activities are another important factor in regional development. They are intensively concentrated along the Adriatic Sea coast. Consequently, in recent times, it has been the area of agritourism and rural tourism that has expressed significant

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expansions in offer capacity, in a framework of integration between agriculture and non-agricultural industry (Corinto & Curzi, 2017; Corinto, 2014; Salizzoni, 2012).

The region's economic environment continues to be dynamic, but significant changes in consumption trends worldwide, global crises and pervasively impactful geopolitical phenomena pose crucial challenges for public and private players. As a result, there is an emerging need for new strategies, on multiple levels, especially in terms of market positioning, resource attraction, risk management and partnership development. It is well known how, during the dramatic crisis due to the COVID-19 pandemic, many sectors – including tourism – came to a standstill. The most fragile enterprises painfully exited the market, overall generating a huge impact not only economically but also socially. Other enterprises managed to keep going and, among them, some used the halting period to reflect on how to deal with the situation by developing strategic and resilience-oriented thinking, based on a new awareness of risk scenarios. In the dramatic standstill, some tourism operators in the Marche region took the opportunity to share such reflection, leading to the development of a new model of collaborative tourism offerings within the Inside Marche Live association.

The work presents an analysis of this initiative, undertaken to establish a network of tourism businesses capable of promoting inbound tourism and facilitating outbound tourism for all Italians, not just Marche residents. The initiative, the first of its kind within the local private tourism sector, has garnered attention from the regional administration and is expected to serve as an important example for future advancements in the regional tourism sector. The Inside Marche Live association is now tasked with coordinating thousands of tourist activities, expanding the number of partners, improving the quality of offerings, certifying them, fostering relationships with public bodies, and brainstorming innovations for the tourism sector. The work aims to give voice to this case of strategic collaboration, in order to contribute to the understanding of the factors that, in tourism, lead bottom-up aggregative processes and enable the evolution of collaborative contexts toward cross-sector profit-nonprofit-public interactions oriented to the co-creation of plural value.

2. THEORETICAL CONTEXT AND CONCEPTUAL FRAMEWORK

As early as 2000, Bramwell and Lane (2000) emphasized the growing awareness about the relevance of involving a wide range of stakeholders in tourism planning and management. For collaboration to take place, there needs to be stakeholder involvement developed through processes of interaction, within a context of shared references by the parties. In the effective definition provided by Wood and Gray, "collaboration occurs when a group of autonomous stakeholders of a problem domain engage in an interactive process, using shared rules, norms, and structures, to act or decide on issues related to that domain" (Wood & Gray, 1991, p. 146). According to this definition, the development of collaboration requires the convergence of several elements: the existence of a specific problem area; orientation of each actor to the problem area; spontaneity of the individual's aggregative drive; interplay between actors according to a framework of shared references; vision toward evolutionary outcomes; and plural dynamism, given that true collaboration never represents an empty box but always involves actions and decisions aimed at evolving the problem area according to predefined objectives (Wood & Gray, 1991, pp. 146-149). Although in tourism studies the centrality of collaboration issues has emerged with great prominence over time, in practice one still observes (beyond mere intentions and statements of aggregation) widespread contexts characterized by enormous opportunities for cohesion and convergence and, at the same time, by difficulties of coordination and substantial fragmentation. Thus, the need to better understand what fosters and hinders the creation and development of collaborative networks emerges strongly.

Conceptually, there is a broad consensus on the importance of collaboration. However, it is necessary to extend the areas of empirical investigation to capture what, in practice, drives the players out of the confines of their own business to operate as parts of a network and, at a high level, to operate in the perspective of a value proposition of public relevance – which means, in the context considered here, in the perspective of territorial tourism development. It is very important, as pointed out by Hall (1999), to recognize the need for further studies regarding the implications of networks in terms of public interest and public policy dimensions. The issue of balancing interests on multiple levels appears as particularly pivotal. As indicated by Thomson and Perry (2006, p. 26), it is a matter, for the parties and the network, of effectively managing the tension between "self-interest" and "collective interest" (Thomson & Perry, 2006, p. 26). Successful collaboration requires the achievement of a very delicate and dynamic equilibrium between individual needs, of the participants, and plural needs, of the network. It is not easy for the different actors to maintain constant and adequate focus on both dimensions, to make a win-win approach habitual and pervasive, and to nurture a plural projection toward shared evolutionary outcomes (Giusepponi, 2021).

A crisis emerges in studies as an event that can trigger the initiation or intense evolution of a collaboration, seeking ways out, new arrangements, and forms of resilience. Crisis puts different actors in front of new risk scenarios that lead them to strongly perceive the fragility of individuality and to try to overcome uncertainty in the strength of unity (Azadegan & Dooley, 2021). A transformative approach is sought in the crisis, an approach addressed to "resilience thinking" (Sakurai & Chughtai, 2020, p. 586). The success of the aggregative drive is always fostered by the quality and scope of leadership resources available. Many scholars focus on these resources as key elements in promoting and nurturing collaborative processes (among others, Ansell & Gash, 2012; Huxham & Vangen, 2000; Crosby & Bryson, 2005; Mandell & Keast, 2009). Necessarily, especially in crisis conditions, leadership in collaborative contexts can only be plural and proactive (Wooten & James, 2008; Walsh, 1995; Weick, 1988). Inclusive leadership is crucial both to make differences among actors a strength of the network and to enable timely processes for identifying and resolving any conflicts arising from the different positions of actors. Gray, leveraging precisely the valorization of differences, defines collaboration "a process through which parties who see different aspects of a problem can explore constructively their differences and search for solutions that go beyond their own limited vision of what is possible" (Gray, 1989, p. 5).

Responding to the need for empirical investigations in the field under consideration, this work delves into the analysis of a specific case of collaboration in tourism. This case is significant for addressing, on this topic, issues mainly related to: crises as events triggering the impetus toward collaboration; awareness of context risks and opportunities, and orientation toward collaboration; needs and risks of multi-level interest composition; role of leadership and other factors in the equilibrium of collaboration.

This study represents only a contribution, in response to a call for research that should be considered permanent given the enormous dynamism and multifaceted nature of the theme in empirical contextualizations. Within the limits of its scope of analysis, the study allows for immersion in an emblematic experience and is designed for debate, reflection, and comparison with other cross-sections of reality.

3. RESEARCH DESIGN AND METHODS

The Marche region has a high potential to attract tourists – due to a wide and varied natural, cultural, artistic and historical heritage – but is still far from the levels of tourism observed in other

Italian regions and is considered by many as largely unexplored. Building on this observation, the work is developed around questions about bottom-up development trajectories of regional tourism and, in particular, about the potential of collaboration between private operators – not only as a facilitating factor for the actions of operators themselves but also as a driver of regional tourism development.

With the aim of formulating empirically founded responses to these questions, the work focuses on investigating the Inside Marche Live initiative as an expressive case study of aggregative dimensions in the observed region, thus as a relevant case study from an exploratory perspective, within a field of research that still lacks defined boundaries (Yin, 1994, 2009; Stake, 1995; Zainal, 2007). In this perspective, indeed, the case study is a powerful means of investigating "a contemporary phenomenon in depth and within its real-life context" (Yin, 2009, p. 18). To delve into the specific context and significance of Inside Marche Live, board members of the association were involved as experts through interviews and the content they expressed was processed on the basis of a qualitative content analysis in order to extract meanings (Schreier, 2012; Khan & VanWynsberghe, 2008).

Specifically, four association board members were interviewed between October 2023 and May 2024, as experts on the purpose, role and impact of Inside Marche Live. The Authors sincerely thank the board members interviewed: Marco Cadeddu *(Esatourgroup)*, Renzo Fazi *(Break in Italy)*, Emanuele Piunti *(Movimondo)*, Stefania Stefanelli *(Greenwich Viaggi Turismo).* They, by generously sharing their experiences and reflections, provided important resources and insights to increase knowledge on the topic analyzed here. The two authors conducted together all four interviews. Each interview lasted about thirty minutes. The interviewees are referred to here as board member A, board member B, board member C, board member D according to the time order of their interviews, an order intentionally not mentioned here.

The interviews, which were individually developed in-depth, efficiently gathered content of high significance (Berry, 1999). Kvale's method has been adopted, by posing the interview as a free dialogue based on empathy, with development directed by the researcher-interviewer, consistent with the set and emergent cognitive goals (Kvale, 2006). To address the research objectives and formulate coherent responses, the Authors processed data and information collected through multiple sources, following the grounded theory approach (Corbin & Strauss, 1990; Glaser & Strauss, 1967). These sources not only include direct interviews, but also previous studies, media articles, reports on regional tourism, and reflections shared by the authors. All these sources were used to better understand and enhance the case study, which was discussed as an emblematic cross-section of reality and "not as a local application of an abstract model" (Anderson et al., 2003, p. 9).

4. FINDINGS AND DISCUSSION: INSIGHTS FOR REFLECTIONS ON THE FUTURE

4.1. Context and Ongoing Paradigm Shift

The contents of the interviews reveal a context of profound change that has fostered collaborative processes within the association and has led to an evolution of the association's strategic orientation. On the one hand, the positive trend of incoming tourism in the Marche region (thus internationalization of regional tourism) is underlined. In particular, board member C focuses on how incoming tourism has grown in recent years, and on how it represents a sector with great value in terms of regional economic development and convergence of value to the region. She/he

notes the need to give recognition to incoming tourism in the Marche region and to support related operators as strategic to the area. She/he highlights that in Italy incoming tourists are massively directed to very classic markets and that more public efforts to support flows toward "Italy to discover" would be desirable.

In the perspective of effective incoming management, emphasis is placed on the centrality of unity among operators. For example, board member D argues that this unity is crucial to achieving important results, considering the small size of operators in this attractive regional context. Specifically, she/he says that in an international context, the Marche region is touristically young and unstructured, and that therefore proposing an organization capable of uniting experienced and specialized professionals makes the tourism offer definitely attractive and well implemented.

The pandemic period is identified as a phase of radical paradigm shift and reinforced perception of the need for collaboration both among private operators and between private operators and public institutions. In this regard, board member A vividly recalls that, during the COVID-19 pandemic, all tourism businesses were halted, facing a very particular moment in global history. She/he notes how the pandemic, in all its dramatic scenario and in the operational standstill it generated, freed up time for reasoning, for dialogue. She/he highlights that some tourism operators have thus begun to meet online frequently, to discuss with each other, to try to protect themselves, to engage in dialogue with public institutions, in the uncertainty of such a difficult moment. Furthermore, she/he notes that the need to collaborate was obviously there also pre-pandemic, but before people could not find the time to engage in collaboration because they were overwhelmed by everyday commitments. Before there was a physical office approach, then the pandemic radically changed the way of working. Digitalization has certainly expanded opportunities to develop and nurture relationships and to work with stakeholders in all parts of the world.

Similarly, board member B remembers the halt in business caused by the COVID-19 pandemic, recalling that in February 2020, with the closure and cancellation of bookings, the industry came to a complete standstill. Subsequently, some tourism operators in the Marche region met online and decided to collaborate. They thus obtained positive feedback from the Region, which was very close to the operators and supported them with important aids, in addition to the national ones. It was at this stage that Inside Marche Live's mission strongly evolved in the sense of a common shared commitment and thus of territorial promotion; the association then advanced in that direction by creating the website and curating through social media important moments of debate.

4.2. Evolving Strategic Orientation of the Association

As stated in the association's website, «Inside Marche basically aims to contribute to the enhancement of the Marche region, from a tourism perspective and beyond, through the knowledge, communication, promotion and marketing of individual and specific territorial peculiarities» (Inside Marche Live, 2024a). This is a mission that also emerges highly from the interviews. Board member D first precisely emphasizes the orientation of Inside Marche Live toward developing greater competitiveness for tourism in the Marche region. She/he highlights how the association is strongly geared to provide support so that this region fully expresses all that it can offer. From the words of board member A, vision and enthusiasm emerge regarding the fundamental contribution that the association can give in a relational, collaborative and innovative perspective. She/he emphasizes how the orientation toward developing empathy and trust among actors is crucial and highlights that today the approach to service has changed a lot, but the need to devote attention and time to

the development of empathy remains. In particular, she/he emphasizes that extra attention makes a difference in strengthening relationships and that passion is key in this work.

Board member B specifically delves into how the association's aims have evolved. In particular, she/he focuses on the evolution that occurred in 2020, during the pandemic period, pointing out that the association, which began with union purposes, is now geared toward territorial promotion. In fact, as stated on the association's website, Inside Marche Live, which was born in the year 2015 with the purpose of category and labor protection, «to date, [...] contributes to the sociocultural development and enhancement of individual and specific territorial peculiarities through activities of: collaboration, promotion, marketing» (Inside Marche Live, 2024b).

Fundamentally, the need to develop a system of relationships, debate, and coordination among tourism operators emerges strongly, supporting an increasingly broad, consolidated and cohesive, and therefore an increasingly relevant network, both in terms of global value creation for the territory and as a reference for public institutions. Board member C focuses on what, through the operators, Inside Marche Live can do for the territory. She/he talks, for example, about opportunities for developing road tours and presentations of the Marche region. She/he also highlights, however, how getting the different actors to agree is not easy. In this regard, She/he believes that the regional public institution can play an important role in promoting and supporting the aggregative initiatives of operators.

Therefore, the cohesion and the terrain for discussion enabled by Inside Marche Live appear to be oriented both toward the objectives of supporting tourism operators and toward objectives of enhancing the territory from a tourism perspective. These are closely interconnected spheres, in the context of a win-win approach. Moreover, the contents of the interviews show how, for aggregation to succeed, collaboration with public institutions is indispensable in both perspectives, as they are inescapably interconnected.

4.3. Public-private Collaboration in Tourism

From the contents of the interviews, it emerges how, for successful aggregation, collaboration with public institutions is indispensable in both of the interrelated perspectives indicated above (regarding support for tourism operators and enhancement of the territory). Inside Marche Live certainly turns out to be both a bottom-up initiative and a reality that needs the involvement of public institutions in order to fully express itself.

Board member A reflects on how it might seem that enterprises are slightly waiting for what the regional public institution does and points out, «we have acted regardless, we believe in developing something that creates value; however, we need public support to be able to make a contribution, we need a favorable overall environment for which the public institution is fundamental».

Likewise, board member D believes that enhancing the offer – in the qualitative and quantitative aspects – and strengthening the relationship with public administrators represent absolutely complementary dimensions. She/he focuses on the need for Inside Marche Live to continuously interface itself with the public administration and the need to always work in a coordinated and timely way in order to make the right choices. She/he reflects on how operators have tight time frames (even small changes need to be handled right away), and at the same time need to take into account the guidelines and timelines set by the public administration, which are quite difficult for those who have to act in the field as quickly as possible. Therefore, she/he believes that coordination

and collaboration with the Region and the Municipalities, as public bodies, are fundamental and are to be actively sought out because all operate with difficulty in fragmentation.

The relevance of public-private collaboration is considered not only from the perspective of Inside Marche Live but also from the perspective of the public side. In this regard, board member B notes how tourism is evolving rapidly and how public entities need to approach new tourism trends in a timely manner. She/he then focuses on the association's connection with public institutions, in particular with the Region, illustrating how essential this connection is both for coordinating activities in the territory (for example, promotional activities) and for having the resources and space needed for incisive interventions. However, she/he believes that these are not easy relationships, not only because the actors obviously cannot agree on everything, but also because the association is not always involved in the occasions for concertation in which it would like to participate, believing that it can bring important added value. Analogously, board member C focuses on the desirability and need for a unified public-private collaboration strategy, pointing out, however, that coordination between actors is often difficult even in the short term.

4.4. Opportunities and Success Profiles

Fundamentally, the importance of relationships in the perspective of offering high-quality services and operating successfully in the tourism sector is widely emphasized. The interviews reveal the relevance attributed to Inside Marche Live in developing networks and innovation, public-private collaboration, to steer regional incoming tourism toward a coordinated development, favorable both for operators and in the perspective of territorial enhancement.

The pandemic period is widely recalled as a pivotal period that members directed toward a strategic unity, fundamental in the interaction with public institutions. In that phase, in which habits were completely disrupted, the associates were able to enter into new, then established, dimensions of proximity and contact between associates themselves and with other actors in the field. As highlighted by board member A, during that period, members got to appreciate how the association connects with so many stakeholders, and this prompted them to continue investing in it even when they resumed activities after the COVID-19 pandemic. Board member A highlights that, in general, the association has made it possible to shorten the distance between actors, enabling important results to be achieved, and particularly reflects on the intense promotional activities carried out in Inside Marche Live by participating in trade fairs together with the Region. «We put all our professionalism to grow the quality of tourism service in general» she/he says.

Board member C stresses that access to major European fairs and events which also have windows to foreign countries is very important for incoming tourism operators, as they must know about opportunities early on. She/he believes that collaboration in this regard is certainly strategic. More generally, she/he believes that the unity of operators allows for greater capacity for action, that more voices allow for greater incisiveness and that, therefore, Inside Marche Live represents an important interlocutor to be listened to. Similarly, board member D defines, on the whole, the picture of a reality that has been able to express an effective network and a good example of associationism, a reality recognized by the regional public institution as an important interlocutor and also rewarded with other acknowledgments at the national level (for example, on national sector newspapers). Board member B, among other aspects already mentioned above, underlines the important contribution of Inside Marche Live in the perspective of digitalization, toward an e-commerce site dedicated to Marche tourism. This is Marche Connect, a digital platform that

will include numerous tourism products concerning the Marche region (both B2B and B2C) that will be linked to the regional digital system.

4.5. Risk Factors

On this point, too, the views of the interviewees are very convergent. Risk factors are associated with the possibility of tensions among associates – due to individualistic drives that cannot be excluded a priori – and complexities of maturing the interrelationship with public actors in the perspective of a full and integrated co-creation of public-private value.

In the first regard, that is with reference to relations among members, the possibility of tensions is seen as existing but remote at present. In particular, board member D, with reference to possible risks in the life of the association, focuses on possible dimensions of individualism, because in the case of pushing the interests of one or a few to prevail, problems could obviously arise, as in any association. However, she/he points out that to date no such difficulties have arisen in Inside Marche Live, despite the increase in the number of members in recent years. She/he points out that the operators who are members of the association are very diverse and believes that this diversity has so far greatly helped the success of the association and the value of Inside Marche Live as a good example of associationism. She/he also highlights that so far the association has had very strong leadership, and the vision of having to all work together for the good of the territory and the association, regardless of the political views of individual members. Similarly, board member B, reflecting on how hard it is to develop collaboration from the bottom-up, observes in Inside Marche Live a leadership that she/he describes as very involved and effective. Board member C likewise observes that Inside Marche Live has so far internally expressed very effective leadership and a great equilibrium among participants. In the same perspective of the unified orientation, board member A remarks that risks of tension between colleagues may arise, however, she/he stresses that by taking care of respect everything proceeds for the better.

Regarding the evolution of the association toward the role of a full-fledged technical interlocutor of public institutions, in particular the regional public institution, a path is observed that has been started to date but is still largely to be covered. Board member D believes that the existence of the association is important for the regional public institution which has the possibility of relating to the most expressive interlocutor of Marche region's realities. She/he emphasizes the association has obtained important recognition from the regional public institution, which during the pandemic period provided the support strongly requested by the association itself. Moreover, at a general level, board member D believes that further steps need to be taken so that the role of Inside Marche Live can evolve toward that of a fully-fledged technical interlocutor, involved in the concertation tables to share its expertise in the perspective of creating value for regional tourism. In the same dimension, board member B considers it desirable for the association to be invited to important concertation tables, to participate in the development of plans for tourism in the regional territory. She/he believes, however, that the conditions necessary to enable the expected developments in the prospects outlined above have not yet been realized. She/he underlines that the association today has project-based relations with the regional public institution, while the main associative intent is precisely to create a stable concertation table together with public actors, trade associations, and other types of associations, in order to share a coordinated promotional plan well in advance. Also for Board member A, full public-private collaboration is certainly desirable but is not yet adequately developed, as it needs a ground of cohesive vision. Similarly, Board member C, likewise emphasizes the opportunity and need for a unified strategy of public-private collaboration, but also reflects on how coordination among actors is often difficult even in the short term.

4.6. Future Perspectives

The central role attributed to nonprofit alliance dynamics emerges, both in fostering the bottom-up process of aggregation among tourism operators and in advancing the dialogue process in the perspective of co-creating value with public institutions.

In particular, board member D considers it desirable that the collaboration expressed by Inside Marche Live will continue and strengthen and that, in an evolutionary perspective, it contributes to the organization of the territory – considering as allies all the subjects that operate in it – and to the definition of a varied and complete tourism offer, so as to boost the movement of tourists in the Marche region, in every sphere – also trying to develop collaboration with trade associations such as Chamber of Commerce.

Similarly, board Member B believes that it is also very important to extend consultation among the different professional categories involved in tourism, and to promote synergies through coordination because, in the interaction with politics and public administrators, the more voices the better. As indicated above, she/he thinks that it is very demanding to develop collaboration from the bottom, between operators, and between associations; however, she/he believes that Inside Marche Live, with the effective leadership it expresses, could play a key role in fostering such collaboration. Analogously, reflecting from an evolutionary perspective, board member C focuses precisely on the central role of associationism. On the one hand, she/he observes that Inside Marche Live has so far expressed very effective leadership internally and a great equilibrium among participants – as pointed out above. On the other hand, she/he reflects on the need to take further steps toward major projects, the implementation of which requires significant human and financial resources. As indicated by board member A, the development of a cohesive vision is a central step in fostering synergies between actors and public-private collaboration. Furthermore, she/he believes that universities can play an important role in helping to develop such a vision and public-private conjunction.

5. CONCLUSION

As indicated above, the analyzed case study is significant in addressing relevant issues concerning the topic of bottom-up collaborative processes that drive cross-sector profit-nonprofit-public interactions oriented toward the co-creation of collective value in tourism.

It is very interesting to observe how the *crisis* due to the pandemic, with the paradigm shift it generated globally, created the conditions for enhancing the impetus toward collaboration. Crisis emerges as a disruptive event that triggers the drive for collaboration and lead to the evolution of the association's strategic orientation. However, it should be considered that it was possible to exert this cohesive momentum due to a pre-existing terrain of contact, communication and exchange among tourism operators, a terrain that proved particularly fruitful at the time of change, providing a source of resilience.

The period of dramatic global difficulties, on the one hand, made businesses and other actors perceive, with exceptional proximity and consequent disruptive awareness, the broad and multifaceted *contextual risks* to which tourism is subjected and, on the other hand, made them realize, with extreme immediacy, the *advantages/opportunities of unity and coordination* of actors' action, against the fragility of fragmentation. In fact, a territory, in order to be recognizable and touristically attractive on a large scale – that is, in relevant socioeconomic dimensions – cannot prescind from a vision,

mission, strategy and communication converging toward a coordinated offering, designed for tourists to enable them to have complete experiences in and through the territory itself.

In the aggregative process considered here, this coordination requires multi-level interest composition concerning the following spheres of relationships (each entailing different sets of interests): among individual businesses participating in the collaboration; between individual businesses and the nonprofit context; between the nonprofit context and the public institutions involved; between individual businesses and such public institutions. This is a dynamic equilibrium, the pursuit of which may, more or less, drive toward unity and plural dimensions, depending on the space-time context in which one moves. At certain times the drive is perceived as more urgent, but it must be considered that, in order to exercise it effectively, the necessary levers must be steadily attended to. This delicate quest naturally also involves risks of tensions; however, an emphasis on ways to contain and counter them emerges from the case.

First, it emerges how crucial an *aggregative leadership* around perspectives of value co-creation is. A balanced composition of interests, in fact, can only be achieved through a deep sharing of the network vision by the actors involved, driven by the non-pressing but pervasive action that cohesive and proactive leadership can enable. Another important factor in leading a balanced composition of interests lies in the diversity among network participants, diversity understood as an element of strength, as the ability to capture different nuances of the same problem and to imagine different solutions to compare. Furthermore, it emerges that the system of values is central in originating equilibrium. These values are synthesized in the case study mainly as respect among actors, as an attitude to harmoniously reconcile the pursuit of individual value with the pursuit of collective value, to generate sociocultural and economic outcomes over the entire territory, which benefit everyone in a win-win perspective – not idealized but centered on a non-divisive concreteness.

For all actors involved, there emerges the need to be prompt, the need for constant training, in terms of communication and connection with other relevant stakeholders in the tourism system of the territory. There is a necessity for these actors – private and public – to increasingly converge toward common objectives, jointly projecting collective impacts and favorable conditions for individual operators in a coordinated plan. Advancing the networking process through public-private coordination is certainly non-banal. It requires, for both parties, openness to new approaches. However, this represents a central challenge and a potential engine of enormous growth in sociocultural and economic value for the territory.

This study provides only one contribution to the understanding of what in tourism drives bottom-up aggregative processes and enables the evolution of cross-sector collaborative contexts. Within the confines of its area of analysis, the work makes it possible to immerse oneself in a significant experience and is conceived for discussion, reflection, and comparison with other experiences. The main issues addressed through the case study and outlined in this conclusion correspond to research domains that could be usefully enriched by further contributions through insights concerning experiences of collaboration developed in other territorial contexts or in other sectors of the same territory.

Authors' contribution

This work is the result of a research project jointly undertaken by Gian Luigi Corinto (GLC) and Katia Giusepponi (KG). GLC wrote the section *1. Introduction*. KG wrote the sections: 2. *Theoretical context and conceptual framework; 5. Conclusion.* GLC and KG co-wrote the sections: *3. Research design and methods; 4. Findings and discussion: insights for reflections on the future.*

References

Anderson, K., Domosh, M., Pile, S., & Thrift, N. (Eds.). (2003). *Handbook of Cultural Geography. A Rough Guide.* London: Sage Publication.

Ansell, C., & Gash, A. (2012). Stewards, mediators, and catalysts: Toward a model of collaborative leadership. *The Innovation Journal, 17*(1).

Anselmi, S. (1990). Mezzadri e mezzadrie nell'Italia centrale. In P. Bevilacqua (Ed.), *Storia dell'agricoltura italiana in età contemporanea,* vol. II, pp. 201-259. Venezia: Marsilio.

Azadegan, A., & Dooley, K. (2021). A typology of supply network resilience strategies: complex collaborations in a complex world. *Journal of Supply Chain Management, 57*(1), 17-26.

Bagnasco, A. (1977). *Tre Italie. La problematica territoriale dello sviluppo italiano.* Bologna: Il Mulino.

Becattini, G. (Ed.). (1987). *Mercato e forze locali: il distretto industriale.* Bologna: Il Mulino.

Becattini, G. (1990). The Marshallian industrial district as a socio-economic notion. In F. Pyke, G. Becattini, W. Sengenberger (Eds.), *Industrial districts and inter-firm cooperation in Italy,* pp. 37-51. Geneva: IILS.

Becattini, G., Bellandi, M., Dei Ottati, G., & Sforzi, F. (2001). *Il caleidoscopio dello sviluppo locale.* Torino: Rosenberg & Sellier.

Berry, R. S. (1999). *Collecting data by in-depth interviewing.* Paper presented at the British Educational Research Association Annual Conference, University of Sussex at Brighton, September 2-5, 1999.

Bramwell, B., & Lane, B. (2000). Collaboration and partnerships in tourism planning. In Bramwell, B., & Lane, B. (Eds.), Tourism collaboration and partnerships: Politics, practice and sustainability, vol. 2, pp. 1-19. Channel View Publications.

Censis. (2002). *Rappresentare il Policentrismo, Rapporto finale.* Roma: Censis.

Conti, G. (1996). Metropolizzazione delle aree rurali: ambiti, ambiente e aspetti valutativi. Atti 26° Incontro Ce.S.E.T., pp. 95-116. Firenze: Fupress.

Corbin, J. M., & Strauss, A. (1990). Grounded theory research: Procedures, canons, and evaluative criteria. *Qualitative sociology, 13*(1), 3-21.

Corinto, G. L. (2014). Littoralization and rural-urban divide in the Italian region of the Marches. In R. Efe, M. Ozturk (Eds.), *Town, City and Urbanization in Globalizing World: A Theoretical and Practical Perspective,* pp. 305-316. Sofia (BG): Kliment Ohridski University Press.

Corinto, G. L., & Curzi, F. (2017). How to Change Vision from Manufacturing to Tourism?: The Role of University in the Marche Region (Italy). *Revista Turismo & Desenvolvimento,* 27/28, 9-19.

Crosby, B. C., & Bryson, J. M. (2005). *Leadership for the common good: Tackling public problems in a shared-power world*, vol. 264. John Wiley & Sons.

Dunford, M., & Greco, L. (2005). *After the Three Italies: Wealth, Inequality and Industrial Change.* Oxford (UK): Wiley-Blackwell.

Fuà, G. (1988). Small-scale Industry in Rural Areas: The Italian Experience. In K.J. Arrow (Ed.) *The Balance RT&D between Industry and Agriculture in Economic Development.* Proceedings of the Eight World Congress of the International Economic Association, Delhi, India, vol. I, Basic Issues, pp. 259-279. NY: St. Martin's Press.

Fuà, G., & Zacchia, C. (Eds.). (1983). *Industrializzazione senza fratture.* Bologna: Il Mulino.

Giusepponi, K. (2021). Win-Win Situation. In *Encyclopedia of Sustainable Management* (1-3). Springer.

Glaser, B. G., & Strauss, A. L. (1967). *The Discovery of Grounded Theory: Strategies for Qualitative Research.* New York: Aldine Publishing Company.

Gray, B. (1989). *Collaborating: Finding Common Ground for Multiparty Problems.* San Francisco: Jossey-Bass.

Hall, C. M. (1999). Rethinking collaboration and partnership: A public policy perspective. *Journal of sustainable tourism, 7*(3-4), 274-289.

Huxham, C., & Vangen, S. (2000). Leadership in the shaping and implementation of collaboration agendas: How things happen in a (not quite) joined-up world. *Academy of Management journal, 43*(6), 1159-1175.

Inside Marche Live. (2024a). *Obiettivi* [Objectives], https://www.insidemarchelive.it/ (accessed August, 05, 2024).

Inside Marche Live. (2024b). *Chi siamo* [About Us], https://www.insidemarchelive.it/chi-siamo (accessed August, 05, 2024).

Khan, S., & VanWynsberghe, R. (2008). Cultivating the under-mined: Cross-case analysis as knowledge mobilization. In *Forum: qualitative social research, 9*(1), 34. Institut für Qualitative Forschung.

Kvale, S. (2006). Dominance through interviews and dialogues. *Qualitative Inquiry, 12*(3), 480-500.

Mandell, M. P., & Keast, R. (2009). A new look at leadership in collaborative networks: Process catalysts. In Raffel, J.A., Leisink, P., & Middlebrooks, A.E. (Eds.). (2009). *Public sector leadership: International challenges and perspectiv*es, pp. 163-178. Edward Elgar Publishing.

Sakurai, M., & Chughtai, H. (2020). Resilience against crises: COVID-19 and lessons from natural disasters. *European Journal of Information Systems, 29*(5), 585-594.

Salizzoni, E. (2012). Turismo lungo le aree costiere euro-mediterranee: dalla scoperta, al consumo, al progetto del paesaggio. *Ri-Vista, 10*(1), 207-220.

Schreier, M. (2012). *Qualitative content analysis in practice.* Sage publications.

Stake, R. E. (1995). *The Art of Case Study Research.* Thousand Oaks, CA: Sage Publications.

Thomson, A. M., & Perry, J. L. (2006). Collaboration processes: Inside the black box. *Public administration review,* 66, 20-32.

Walsh, J. (1995). Managerial and organizational cognition: Notes from a trip down memory lane. *Organization Science, 6*(3), 280-321.

Weick, K. (1988). Enacted sense-making in crisis situations. *Journal of Management Studies, 25*(4), 306-317.

Wood, D. J., & Gray, B. (1991). Toward a comprehensive theory of collaboration. *The Journal of applied behavioral science, 27*(2), 139-162.

Wooten, L. P., & James, E. H. (2008). Linking crisis management and leadership competencies: The role of human resource development. *Advances in developing human resources, 10*(3), 352-379.

Yin, R. K. (1994). *Case study research: Design and methods* (2nd ed.). Thousand Oaks, CA: Sage Publications.

Yin, R. K. (2009). *Case study research: Design and methods* (4th ed). Thousand Oaks, CA: Sage Publications.

Zainal, Z. (2007). Case study as a research method, *Jurnal Kemanusiaan bil.*, 9 (June), 1-6.

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Rural Tourism Challenges of the Sarajevo Canton's "Green Ring"

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Abstract: *Rural tourism is gaining popularity due to a healthier stay in a less developed rural environment. Sarajevo Canton, Bosnia and Herzegovina's most popular destination strives to enhance its tourism offer by developing rural tourism in its immediate surroundings. The "green ring," a basin rim with preserved forest ecosystems and rural villages, serves as the foundation for the rural tourism product. The paper analyses the characteristics of rural tourism in the vicinity of Sarajevo and the role of stakeholders in planning rural tourism. Fieldwork, surveys, and interviews with tourism industry representatives were conducted to determine the cohesion of joint activity and the key features of rural tourism development. Domestic tourists make up the majority of rural visitors, although tourists from the Middle East and Europe are particularly interested in rural tourism. The top motives for visiting rural areas are walking and hiking, traditional gastronomy, and escaping from everyday life. The paper clarifies the challenges and barriers to rural tourism development.*

1. INTRODUCTION

The concept of rural tourism (Fig. below) demonstrates that the focus is on identifying rural areas and categories of rural visitors in order to ensure a diverse and sustainable tourist offer with certified services in rural tourism, as well as sustainable management with economic income and integrated cooperation of numerous stakeholders (authorities, local communities, tour operators, investors, international organisations, etc.), including legal aspects of rural tourism development and marketing impacts on the popularity enhancement of rural tourist destinations. „Rural tourism is a type of tourism activity in which the visitor's experience is related to a wide range of products generally linked to nature-based activities, agriculture, rural lifestyle/culture, angling, and sightseeing" (UNWTO, 2024). „Products in rural tourism are represented by the offer of the farms, tourist villages, ethno-houses, rural architecture, and rural manifestations, i.e., all services that are offered to tourists, such as room and board, sightseeing of the destination, participating in the work of a country host, organising creative workshops, etc." (Košić et al., 2015).

„Rural tourism activities take place in non-urban (rural) areas with the: a) low population density, b) landscape and land use dominated by agriculture and forestry, and c) traditional social structure and lifestyle" (UNWTO, 2024). The Sarajevo Canton comprises nine municipalities, five of which are classified as non-urban (see Fig. 2), indicating its opportunities for rural rural tourism development. Sarajevo Canton (in Census from 2013, Federal Bureau of Statistics, 2024) has more than 200 rural settlements with an average density of 53.7 inhabitants per sq km; the share of rural population is 14.1%, consisting of the multiethnic rural communities: Bosniaks

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(15.7%), Serbs (8.2%), Croats (3.3%), etc. „Rural tourism has a high potential to stimulate local economic growth and social change because of its complementarity with other economic activities, its contribution to GDP and job creation, and its capacity to promote the dispersal of demand in time (fight seasonality) and along a wider territory" (UNWTO, 2024). Sarajevo Canton, along with the steady increase in the tourism industry, has recently recognised the need for developing rural tourism, which is currently one of the strategic goals of its tourism development. Although the rural tourist offer and the cooperation of stakeholders in that field are limited, the canton has registered over twenty rural households that are now part of the tourism supply, making the first step to the rural tourism legislative growth.

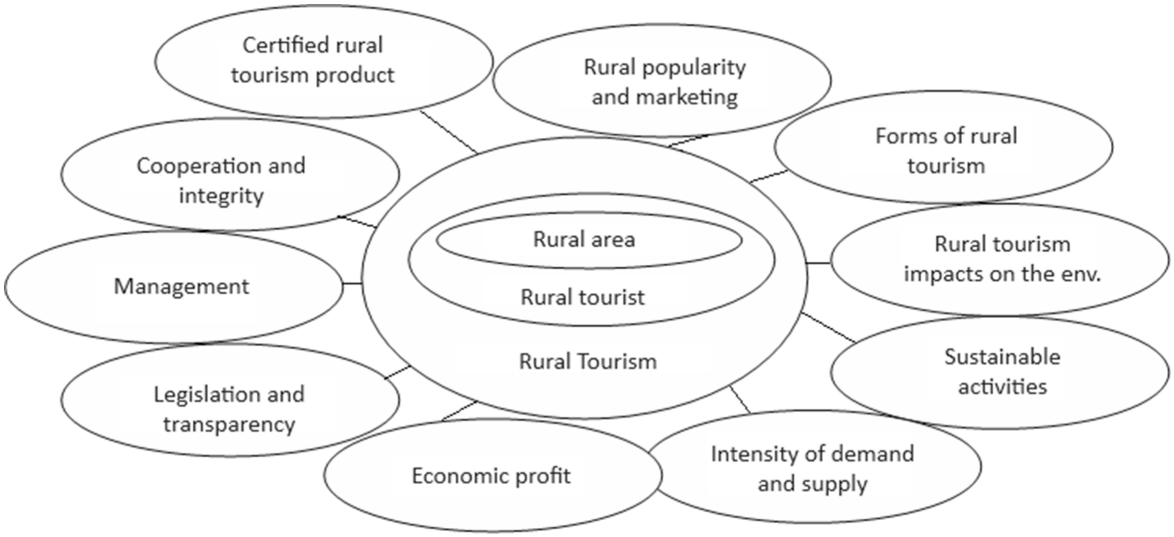


Figure 1. Rural tourism concept
Source: Žunić (2012)

2. METHODOLOGY

The purpose of this research is to identify potential and challenges to the growth of rural tourism in Sarajevo Canton. The paper investigates the characteristics of rural tourism in the vicinity of Sarajevo, as well as the involvement of stakeholders in its planning. Fieldwork, surveys, and interviews with tourism industry representatives were conducted to assess the coherence of cooperative activity and the main features of rural tourism development. Five tour operators (inbound agencies) and six rural tourist households from the Sarajevo Canton area participated in the survey, which followed the direct contact and open module principles. An interview was conducted as well with representatives from the canton, Federation of Bosnia and Herzegovina, and Bosnia and Herzegovina tourism authorities and tourism associations.

3. TOURISM DEVELOPMENT OF THE SARAJEVO CANTON

Sarajevo Canton (43°52′ N, 18°26′ E, alt. 630 m) is the country's leading cultural and tourism center, with tourism as "the fastest-growing industry" (Ministry of Economy, 2024). "In 2019, Bosnia and Herzegovina had the third-highest tourism growth rate in the world" (USAID, 2019), with Sarajevo Canton leading by 40% of overall participation. „Sarajevo, as the capital, has a favorable geographic, traffic and tourism position, and it's well connected with Europe and the rest of the World, while it's also part of a very important European tourism corridor which connects the continental Middle Europe and the Mediterranean Europe" (Žunić et al., 2019).

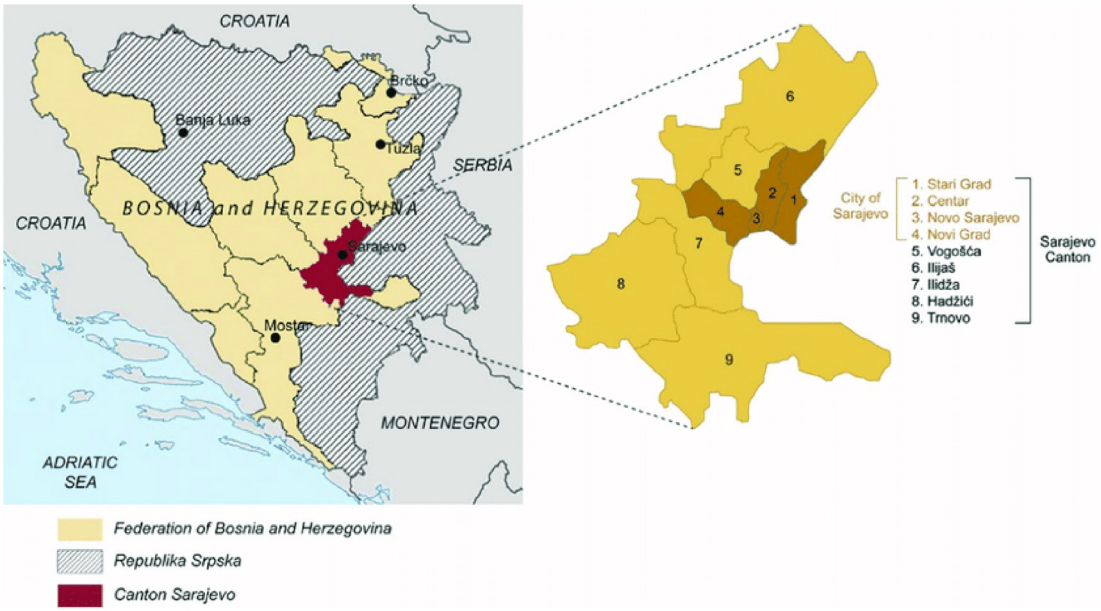


Figure 2. Gül & Dee Map of Sarajevo Canton central position in Bosnia and Herzegovina, formed of its nine municipalities, including four making the City of Sarajevo

Source: Turhan and Ayataç (2020)

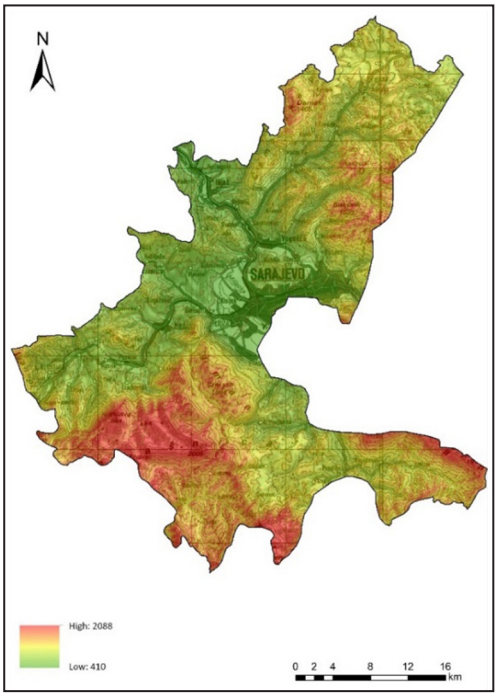


Figure 3. Topography of the Sarajevo Canton with its mountain surroundings popular as the "green ring" or "the Sarajevo lungs"

Source: Own project, supported by GIS

The Sarajevo Canton's terrain has highly pronounced dynamics, with the high mountain surroundings: Bjelašnica (2,067) ft. Igman (1,510), Jahorina (1,916), Trebević (1,629), Treskavica (2,088), Visočica (1,974), Ozren (1,452) ft. Bukovik (1,532), including the Black River Plateau (approx. 1,000), and the valley of Bosnia in the central part (approx. 500). Climate types are temperate continental, pre-mountain, and alpine mountain. "Sarajevo with its immediate surroundings is an area abundant in water" (University of Sarajevo, 2024), settled in the Bosnia river basin, including

its source, the urban area in the Miljacka valley, the peripheral regions popular by thermomineral waters, and the "green ring" with streams and waterfalls. Thus, Sarajevo Canton is also popular for scenic landscapes and five IUCN nature-protected areas, which are an attractive part of its tourism offer. Sarajevo is home to an exceptionally rich natural and cultural heritage, given that "this region comprises the meeting of various civilisations and peoples" (Sarajevo Cantonal Development Planning Institute, 2021), with the Illyrians, Slavens, Ottomans, Austro-Hungarians, and other distinctive marks. "It's a place where East and West, North and South meet, layers of history and diversity of different cultures and their spiritual and material sediments permeate" (Sarajevo Cantonal Development Planning Institute, 2021). Sarajevo is a growing European tourism destination, with the City of Sarajevo and Ilidža serving as the focal tourism area. Žunić et al. (2020) stated that Sarajevo has experienced positive tourism growth over the past two decades, with a 20% increase in total accommodation offerings; hotels are primarily concentrated in the urban zone, while luxury hotels are located southwest of the city centre near thermomineral waters. Žunić et al. (2024) stated that the growing demand for accommodation in non-urban zone, e.g. Hadžići (Arabian tourist settlments, "Osenik Resort" and "Countryside Resort") and Ilidža (Spa) highlights the importance of Sarajevo Canton's natural resources in the immediate green environment, as the natural sites attract the majority of foreign tourism investments, particularly from Gulf countries.

Figure 4 indicates the continuous growth of Sarajevo's tourism, showing the increase in the number of visitors and nights for the period 2007–2023, (exc. 2019–COVID), and its greatest expansion in the post-pandemic period:

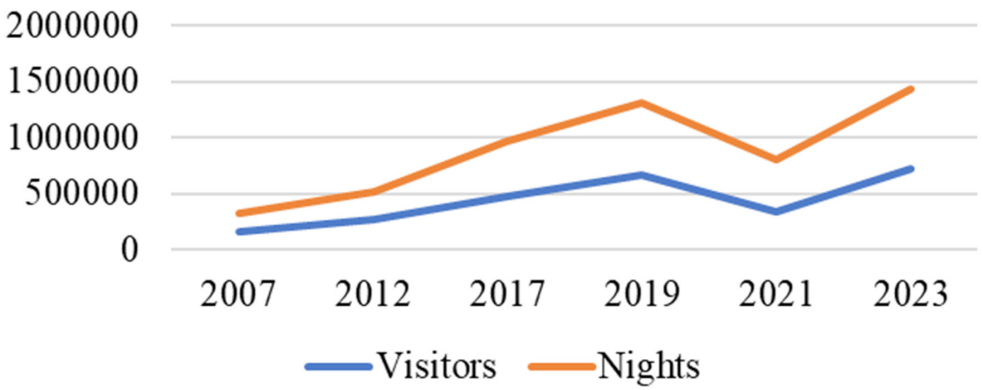


Figure 4. Growth of the total number of visits and overnight stays in Sarajevo Canton in the period 2007-2023.

Source: Žunić et al. (2024)

Žunić et al. (2024) stated the consecutive growth of foreign nights in Sarajevo for the observed period too, highlighting the international tourism importance of the destination. The share of foreign overnight stays is 86% in 2023, with the prevalence of five countries (Turkey, Croatia, KSA, Serbia, UAE) accounting for the statistical majority (53% of total nights).

4. RURAL TOURISM CHARACTERISTICS IN THE SARAJEVO CANTON

According to the Ministry of Economy (2024), Sarajevo Canton has a large-scale potential for all types of tourism development, and it's a profitable area for foreign investment. The implementation of the Strategy for the Development of Tourism in Sarajevo Canton Until 2030 will be guided by two priorities: the establishment of a system framework for the development of a tourist destination and the development of an appealing year-round tourism offer, focusing,

among others, on rural tourism. The Draft Law on Amendments to the Tourism Law will be established for good tourism development management in terms of stability and green tourism, emphasizing outdoor tourism and the mountain surroundings of Canton as strategically important. Thus, it includes the development of various rural tourism activities in the "green ring" of Sarajevo. The mountain surroundings of the Sarajevo Canton and its green and rural potential provide excellent opportunities for various rural tourist activities, of which many are considered outdoor activities as they're nature-based, such as forest meditation, hiking, walking, harvesting, hunting, farm tours, bird safaris, quad tours, agricultural open-air events, grass moving, and other competitions, etc.

In the new brochure of "Rural Tourism in Canton Sarajevo" (Ministry of Economy of Canton Sarajevo, 2022), over 20 rural households are presented with their tourism offer (accommodation, gastronomy, etc.), including the model of their year-round activities (planting, animal care, moving the grass, horticulture, picking fruits and mushrooms, harvesting, preparation of winter house, home crafts), with the opportunity for visitors to participate based on their interests.

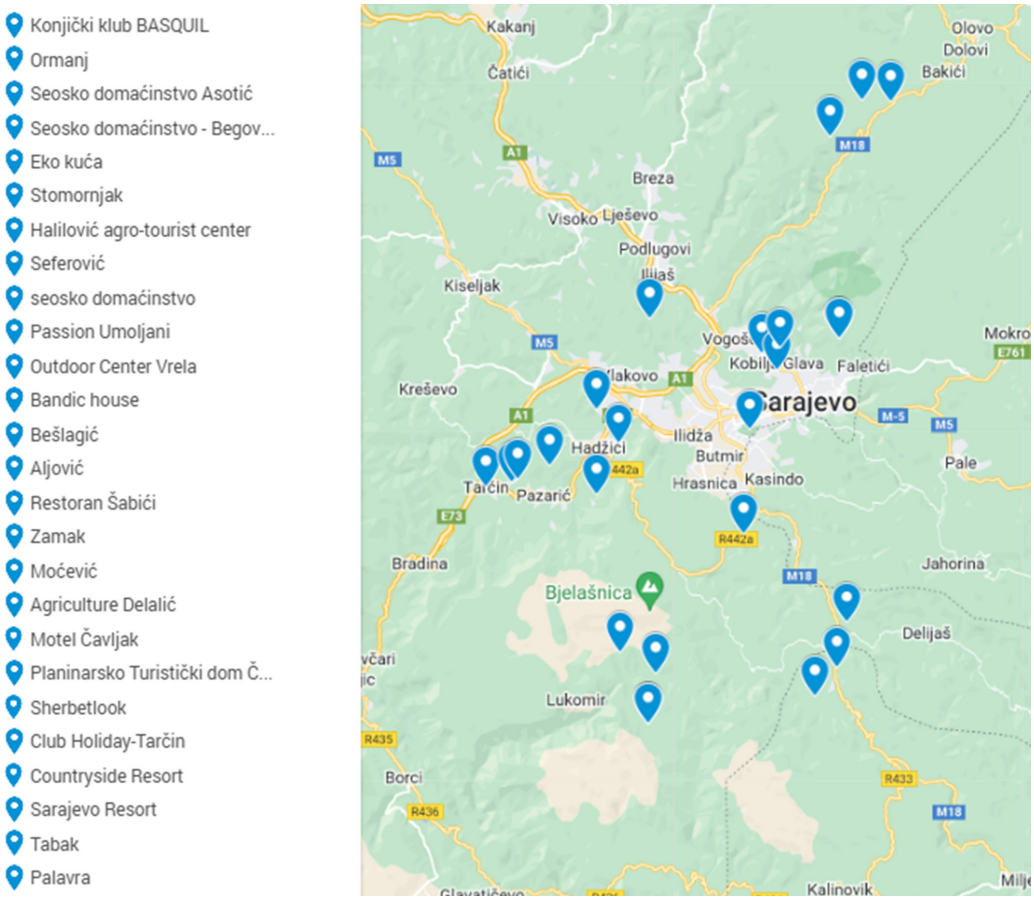


Figure 5. Rural households in Sarajevo Canton, including two Arab tourist settlements: Sarajevo Resort & Countryside Resort

Source: Own project, supported by Google My Maps

Resources for the development of rural tourism in Sarajevo Canton: a) mountains, nature scenic beauty, and protected areas; b) closeness to other attractive destinations; c) gastronomy offer; d) rural culture & tradition (ethnic diversity attractivity with distinctions in religious and other customs, while certain exhibit cultural fusion due to coexistence); e) outdoor activities; f) competitive prices of tourist services (often higher for foreign visitors). Benefits of rural tourism are: i) conservation

of natural resources and increasing awareness of environmental importance; ii) promotion of a healthy lifestyle; iii) creating new jobs and increasing the income of the local community; iv) social interactions and cultural exchange; v) encouraging investments in rural areas.

The Fig. 6 shows the average annual number of overnight stays in rural households, which is higher than the average stay in Sarajevo Canton (the Spatial Development Planning Institute estimates an average stay of two days in 2023):

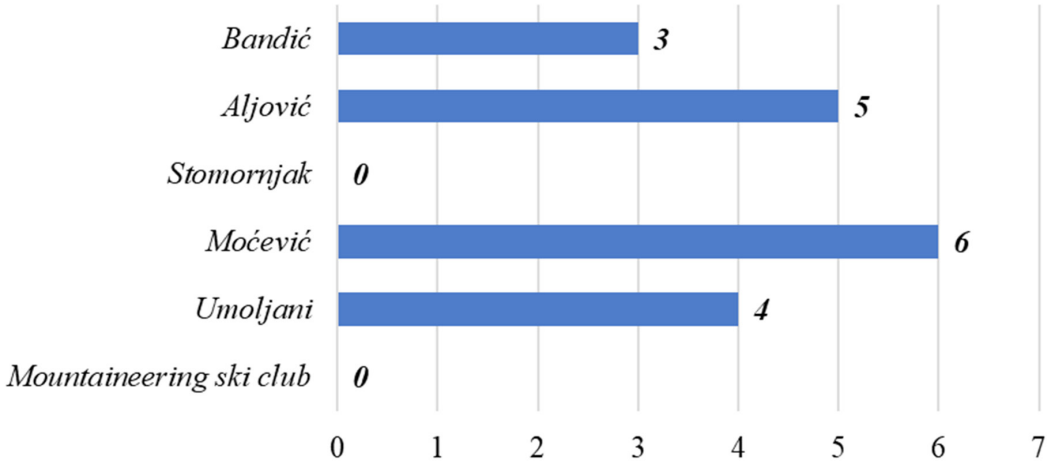


Figure 6. Average annual number of overnight stays in rural households

Source: Own research

Domestic tourists are the most common visitors to rural areas (see Fig. 7 & 8), and the majority of visits occur during the warmer period of the year (April-October), which is the most popular tourist season in Sarajevo Canton (the "extended summer season"):

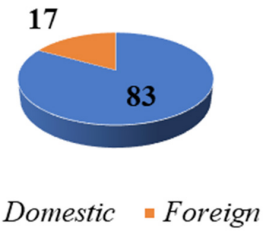


Figure 7. Percentage ratio of dominant visits by domestic and foreign tourists among surveyed rural households

Source: Own research

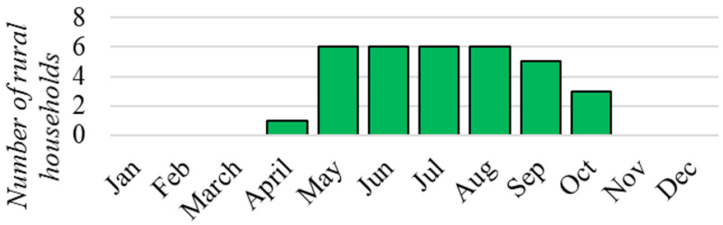


Figure 8. Seasonality of tourist visits in rural households of Sarajevo Canton

Source: Own research

Among the top motives for visiting rural areas in Sarajevo (see Fig. 9) are: walking and traditional gastronomy, hiking, and escaping to a more peaceful place from everyday life.

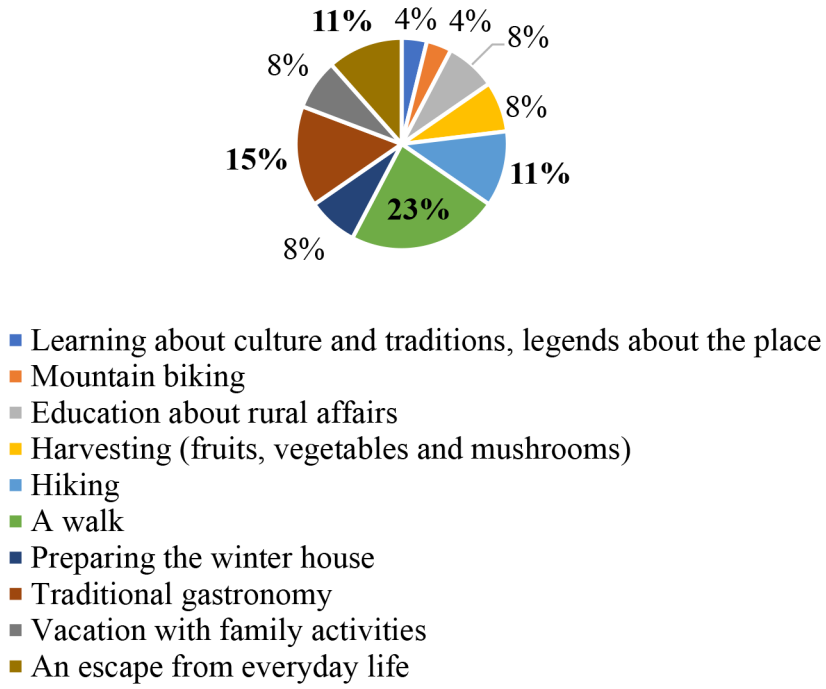


Figure 9. The most common reasons for visiting rural areas according to rural households

Source: Own research

According to Fig. 10, visitors from the Gulf countries (UAE, Qatar, Kuwait), Austria, and Germany are the most interested in rural sites of Sarajevo Canton:

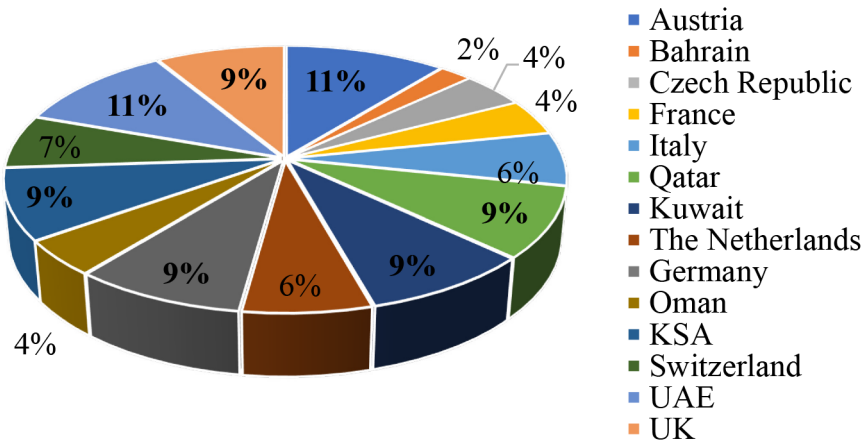


Figure 10. Visitors interested in rural areas by arrival according to the tour operators

Source: Own research

5. LIMITATIONS AND BARRIERS IN THE RURAL TOURISM OF SARAJEVO CANTON

However, rural tourism in Sarajevo Canton hasn't progressed significantly due to numerous constraints. In light of our field observations and the perspectives of tourism representatives (the Tourist Association of Sarajevo Canton, UTA, and the Ministry of Environment and Tourism), we can identify important issues in the development of rural tourism in Sarajevo Canton: insufficient investments in rural development; lack of networking among rural areas with mountaineering societies and tour operators; insufficient investments in rural development; a lack of spatial planning and legal documentation in the field of rural tourism to regulate issues related to the classification of catering facilities in rural households, their purpose, the type of services they provide,

construction style regulations, etc.; lack of cooperation between tourist organisations and rural communities in planning itineraries and arrangements for visiting rural locations; lower interest of rural households in registering in the tourist offer (according to the Tourism Association of Sarajevo, there have only been seven rural accommodation facilities in the last decade); insufficient communal infrastructure (traffic and sanitary/hygienic) in rural areas; summer seasonality of rural tourism offer (given the poorer traffic infrastructure and heavier weather obstacles during the winter). Among the offer's weaknesses are inauthentic handicrafts, such as woollen socks, which are sometimes manufactured using machine knitting instead of traditional methods like shearing, spinning, and knitting sheep's wool; visitors purchase "improvised" domestic goods of lower quality, which will subsequently reflect negatively on the sustainability of the product. Another issue is poor tourist navigation in rural areas, which includes a lack of information, markers, and organised paths (walking, cycling, hiking, etc.), increasing the risk of underutilization of the stay, as well as other threats such as getting lost, walking into minefields, potential injuries, usurpation of land by inappropriate vehicles, and so on. In terms of current rural tourism promotion in Sarajevo Canton, two key features have been identified: a) there are a limited number of websites that highlight rural households and their tourism offerings, and b) some advertising on social media platforms such as Facebook and Instagram, though it is worth noting that advertising on websites such as TripAdvisor, Booking, and similar is extremely uncommon.

Figure 11 illustrates that rural households share a common motivation to develop rural tourism offers, including lodging facilities. However, their expectations are split into two categories: either they have already planned to increase their capacities, as in the case of half of them, or they are willing to participate but have been impeded by financial constraints:

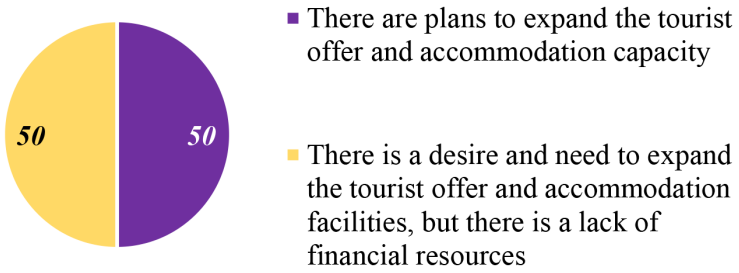


Figure 11. Projection of expansion of tourist offer and accommodation capacities according to rural households in Sarajevo Canton (%)

Source: Own research

6. FUTURE RESEARCH DIRECTIONS

To boost rural tourism, it is necessary to improve its products and promotions, such as ads with seasonal and themed packages (weekend on the farm, family packages, etc.), educational workshops and tours (learning about agriculture, animal husbandry, or traditional crafts), organizing village fairs and festivals, etc., and, among mostly important, tailoring strategies to the target audience. Rural tourism in Sarajevo Canton should be promoted in two directions: a) European countries, such as Austria or Germany, whose visitors are aware of the environment and sustainable development, and b) GCC countries, whose climate and vegetation differ from this area, making Sarajevo's rural areas appealing to these consumers. Furthermore, it is crucial to monitor the results and adjust the marketing strategies according to the needs and feedback of tourists. From the perspective of rural tourism development, the strategic spatial documents for the Sarajevo Canton and the Federation of Bosnia and Herzegovina will focus on: creating an outdoor alliance

for a methodical approach to the development of rural areas, including various actors such as land owners (state, entity, or municipality), governors (Sarajevo Forest), etc.; enhancing and promoting local agricultural, culinary, gastronomic, and rural tourism events; and establishing new tourism clusters that will include more protected areas and monitoring of novel ecotourism products. Professional and scientific experts must undertake a situational analysis of the current conditions and work together with authorities to establish acceptable short-term and long-term objectives in further tourism development strategies.

7. CONCLUSION

Sarajevo Canton has a high potential for the development of rural tourism due to its mountainous topography and numerous villages in the green environment. Tourism development has been progressive over the last decade, with foreign visitors and overnight stays accounting for the majority of tourist traffic. Rural tourism is a developing phenomenon that faces numerous challenges, but the initial steps have been taken in terms of enhancing legislative and planning regulations, as well as creating Sarajevo Canton's rural tourism offer. Rural households are willing to participate in tourism development, which is a key incentive for achieving the goals. Although domestic visits to rural areas are currently the most common, interest in rural areas has grown among foreign tourists, primarily among wealthy Arab clients and Europeans (particularly in central Europe), who will serve as the target groups for the future promotion of Sarajevo Canton's rural tourism product.

References

Federal Bureau of Statistics. (2024). *Census of Population in Bosnia and Herzegovina in 2013*. Popis 2013 u BiH (statistika.ba)

Košić, K., Demirović, D., Pejanović, R., Lazić, L., & Stamenković, I. (2015). Key Principles of Rural Tourism Households Development Strategy – Case Study of Vojvodina. *Economics of Agriculture 4/2015*. UDC: 338.48-44(1-22)(497.113)

Ministry of Economy of Canton Sarajevo. (2022). Rural Tourism in Canton Sarajevo. https://mp.ks.gov.ba/sites/mp.ks.gov.ba/files/katalog_rural_ks_eng.pdf

Ministry of Economy. (2024). Welcome to Canton Sarajevo Flagship of EU Reforms and the Future Capital of Foreign Direct Investments!- Business Landscape. Cantonal Agency for Attracting Investment and Privatization (KAIP). kaip_investors_guide_1.pdf (ks.gov.ba)

Sarajevo Cantonal Development Planning Institute. (2021). *Sarajevo Canton Development Strategy 2021-2027*. sarajevo_canton_development_strategy_2021-2027.06.07.pdf (ks.gov.ba)

Turhan, T. Z., & Ayataç, H. (2020). A Characterization of Public Space: The Conceptual Transformation in Sarajevo. *Şehir ve Medeniyet Dergisi Journal of City and Civilization* 6(11): 233-257. http://www.sehirvemedeniyetdergisi.org

University of Sarajevo. (2024). *About Sarajevo*. University of Sarajevo- Faculty of Science. About Sarajevo – PMF – Odsjek za geografiju (unsa.ba)

UNWTO. (2024). *Rural tourism- Product Development*. UN Tourism. https://www.unwto.org/rural-tourism

USAID. (2019). *Developing Sustainable Tourism in Bosnia and Herzegovina*. FACT SHEET: Developing Sustainable Tourism (Turizam) in Bosnia and Herzegovina | Bosnia and Herzegovina | Fact Sheet | U.S. Agency for International Development (usaid.gov)

Žunić, L. (2012). Evaluation and conceptualization of the contemporary development of rural tourism in Europe and Bosnia and Herzegovina. Conference Proceedings (pp 199-210). International scientific meeting "Education in tourism and environmental protection as a

prerequisite for tourism, regional and spatial planning". Geography society of Federation of Bosnia & Herzegovina

Žunić, L., Bajek, M. S., Ravlić, A., Bajak, W., & Bajak, S. (2024). The Impacts of Tourism on Sarajevo Canton's Health Infrastructure Development with Reference to the Example of the Private Polyclinic „Sanasa". *AD ALTA: Journal of Interdisciplinary Research 14*(1), 305-316. Magnanimitas Assn. www.doi.org/10.33543/1401

Žunić, L., Bidžan-Gekić, A., & Gekić, H. (2019). Balneological Classification of Thermomineral, Thermal and Mineral Waters at the region of Ilidza- Sarajevo and its impact on tourism. *AD ALTA: Journal of Interdisciplinary Research, 9*(1), 336-342. Magnanimitas Assn. www.doi.org/10.33543/0901

Žunić, L., Bidžan-Gekić, A., & Gekić, H. (2020). Internal Factors of Sarajevo Hotel Industry. *AD ALTA: Journal of Interdisciplinary Research, 10*(1), 343-349. Magnanimitas Assn. www.doi.org/10.33543/1001

Additional reading

Economic Institute of Sarajevo. (2024). *Sarajevo Canton Tourism Development Strategy up to 2030- Draft*. https://mp.ks.gov.ba/sites/mp.ks.gov.ba/files/nacrt_strategije_razvoja_turizma_kantona_sarajevo_do_2030_godine_13_mart_2024.pdf

Sarajevo Cantonal Development Planning Institute. (2006). Spatial Plan of Sarajevo Canton for the period 2003-2023. Prostorni Plan Kantona Sarajevo za period 2003-2023 | Zavod za planiranje razvoja Kantona Sarajevo (ks.gov.ba)

Sarajevo Cantonal Development Planning Institute. (2024). *Tourism in the Area of Sarajevo Canton during the period from 2017 to 2023*. https://zpr.ks.gov.ba/sites/zpr.ks.gov.ba/files/turizam_ks_2017-2023.pdf

https://doi.org/10.31410/ERAZ.2024.575

Perspectives of the Development of Sports Tourism in Bosnia and Herzegovina

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Strategy

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Abstract: *Sports tourism is considered one of the fastest-growing sectors in tourism. More and more tourists are interested in sports activities during their travels, regardless of whether sports are the main purpose of the trip or not. Major sporting events can be a catalyst for tourism development if they are successfully used in terms of destination branding, infrastructure development and other economic and social benefits. This research analyzed the importance, potentials and challenges, as well as the perspectives on the development of sports tourism in Bosnia and Herzegovina. Numerous destinations and specific attractions, along with natural and cultural heritage, provide the possibility of a diverse offer of Bosnia and Herzegovina, which, with adequate strategies for further development and more intensive promotional marketing activities, contributes not only to the strengthening of economic growth, but also sports tourism, and sports in general. Sports Tourism is experiencing growth and attracts an increasing number of visitors from countries around the world. Using a combined methodological approach, which includes surveying stakeholders and analyzing collected data, we highlight the importance of sports tourism, as well as sports in general. The goal is to make Bosnia and Herzegovina an even more attractive destination by instructing policymakers and tourism professionals to strengthen and expand existing capacities and ensure sustainability and economic benefits for the well-being of the entire society, given the competitive environment of countries in the region that also abound in natural beauty, and a rich and attractive offer of sports activities and tourist experiences.*

1. INTRODUCTION

The concept of sports tourism can be viewed in a broader and narrower sense. Sports and tourism are two complex areas. The link between sport and tourism has been widely discussed in recent decades, and sports tourism has been a major and complex research topic (Gammon & Robinson, 1997; Gibson, 1998; Higham, 1999; Getz, 2003; Chalip & Costa, 2005; Weed, 2009). We can ask ourselves, first of all, who is an athlete and who is a tourist? An athlete engages in sports activity as his main occupation (professional) or it is not his only occupation (amateur), and competes within a sports organization or as an individual depending on the rules of the sports discipline, but the number of recreational athletes is also increasing. A tourist is a person who stays outside his permanent place of residence or outside the country where he lives, regardless of the reasons for his trip: business, health, politics, etc. In her comparative studies on the importance and role of sports tourism, Sue Glyiptis concludes that the term "sports tourism" encounters different attitudes and reactions from actors in sports tourism, local authorities, the academic community to commercialized service providers, who not only do not see the integration of sports and tourism but even oppose it (Glyptis, 1982). He also points out that these are two separate areas, but sport and tourism are much more connected than it seems (Glyptis, 1991). The subject of studying sports

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tourism includes a broader conceptualization that includes organizers, service providers of sports tourism, government bodies that define policies and the academic community, however, these types of definitions are useful because they briefly indicate the complexity of this phenomenon (Borovčanin & Lesjak, 2021, p. 7). The conceptual tendencies of the modern development of tourism in relation to the traditional ones experience the transformation of the motive of vacation into content with numerous vacation activities. Modern lifestyle, inactivity, noise, climate change, etc. impose the need on modern man to create a counterbalance to the negative consequences of today's civilization. That is why the tourist offer should include a variety of sports content, i.e. adapted to the requirements of sports tourism. Sports tourism represents a very interesting and growing field, which has a unique ability to attract a large number of visitors (Klarić, 2012, p. 63). The development of sports tourism should be coordinated with the plans for the development of tourism in Bosnia and Herzegovina. The experiences of others show that investing in the development of sports tourism improves and contributes to the overall quality of tourism (tourist offer).

The significance of the research stems from the fact that sports tourism in BiH is on the rise. The reason for this research is the underutilization of the potential that Bosnia and Herzegovina has in the tourism sector. The goal is to make Bosnia and Herzegovina a more attractive destination by instructing policymakers and tourism professionals to strengthen and expand existing capacities and ensure sustainability and economic benefits for the benefit of the entire society, given the competitive environment of countries in the region.

The paper is composed of several chapters. In the first part of the paper, an overview of existing literature is presented, and scientific achievements and findings are presented. The research methodology is presented in the second part of the paper, while the third part of the paper presents the results of the primary research. In addition, it includes recommendations for further research and concludes with a summary of key findings.

2. LITERATURE OVERVIEW

Many authors show interest in sports tourism and tourism in general. Despite the academic interest in the field of sports event tourism, there is still little synthesis and no overview of research directions (Bazzanella et al., 2023). In the study, they talked about sports tourism as a key topic and its complexity. In order to answer many questions, that have arisen over time, they have analyzed previous research that deals with sports events and tourism. They found that the legacy and impacts/effects of SE, especially in terms of their implications for tourism, were the most researched topics (Thomson et al., 2019). Among the topics covered, mega events such as the Olympic Games and the FIFA World Cup stand out, while studies examining the effects of SE on tourism and their implications for the environment are on the rise (Collins et al., 2009; Fermeglia, 2017; Poczta & Malchrowicz-Mośko, 2018) and social context (Hautbois et al., 2020; Inoue & Havard, 2014; Jamieson, 2014). They came to the conclusion that some topics are poorly researched or even missing and that a diversity of research on topics is needed, including sustainability efforts, authenticity, using SE as a mechanism to transform a destination into a tourist attraction, experiencing tourism from different perspectives (fans, active participants, volunteers, officials, media, sponsors, etc.), and media technology to improve the viewer experience and participation, fan engagement, e-sports and entertainment. They also conclude that new methods and approaches are needed, especially in the field of medium and small SE, where evaluation metrics for mega-events are difficult to apply or produce a biased result, and the field of project management is under-represented and needs further research.

In recent years, Bosnia and Herzegovina has been included in the group of countries with a tourism boom. Bosnia and Herzegovina abounds with numerous facilities for the development of tourism, including sports tourism. A rich cultural heritage in which remnants of former cultures and natural heritage (mountains, waterfalls, national parks...) are interwoven makes up the great potential that Bosnia and Herzegovina can offer. Recognizing this potential, USAID Tourism, in cooperation with international partners The Global Travel & Tourism Resilience Council and Travolution, gathers world leaders from the world of tourism in order to present in Bosnia and Herzegovina innovative solutions and best global practices for the sustainable development of tourism, which will take place June 6 and 7, 2024 in Sarajevo at the Hills Hotel. This is an ideal opportunity for professional networking and a key event for the regional tourism sector. The summit will serve as a platform for developing new opportunities in Europe and networking with leaders from around the world, including the US, the United Kingdom, the Balkans, the Middle East, North Africa and other regions.

The tourism industry in Bosnia and Herzegovina has experienced significant growth in recent years in terms of the number of tourist arrivals and overnight stays. In 2019, the number of tourist arrivals reached 1,641,000, representing a 25.6% increase compared to 2017. The number of overnight stays in 2019 was 3,371,000, marking a growth of 25.9%.

This growth was primarily driven by an almost 30% increase in the number of foreign tourist arrivals and a 26.4% rise in overnight stays by foreign tourists. In contrast, the growth of domestic tourism was somewhat lower but still significant. Between 2017 and 2019, the number of domestic tourist arrivals increased by 15.4%, while the number of overnight stays grew by 24.6%. A significant increase in tourist arrivals and overnight stays was recorded in the Federation of Bosnia and Herzegovina, Republika Srpska, and the Brčko District.

From January to December 2023, a total of 1,733,071 tourist visits were recorded, representing a 17.3% increase compared to the same period in 2022 (Table 1.). The total number of overnight stays reached 3,645,839, marking a 13.2% increase from 2022.

However, a contrasting trend was observed between foreign and domestic tourists:

- The number of overnight stays by domestic[4] tourists decreased by 5.1% compared to 2022.
- The number of overnight stays by foreign[5] tourists increased by 24.3% over the same period.

Table 1. Tourist arrivals and overnight stays, January - December 2022 and 2023

	ARRIVALS			NIGHTS			I - XII 2023	
	I -XII 2022	I –XII 2023	Indices I - XII 2023 I - XII 2022	I –XII 2022	I –XII 2023	Indices I – XII 2023 I - XII 2022	Structure of nights %	Average number of nights by arrivals
Total	1.477.371	1.733.071	117,3	3.221.404	3.645.839	113,2	100,0	2,1
Domestic tourist	562.228	549.902	97,8	1.218.871	1.156.121	94,9	31,7	2,1
Foreign tourist	915.143	1.183.169	129,3	2.002.533	2.489.718	124,3	68,3	2,1

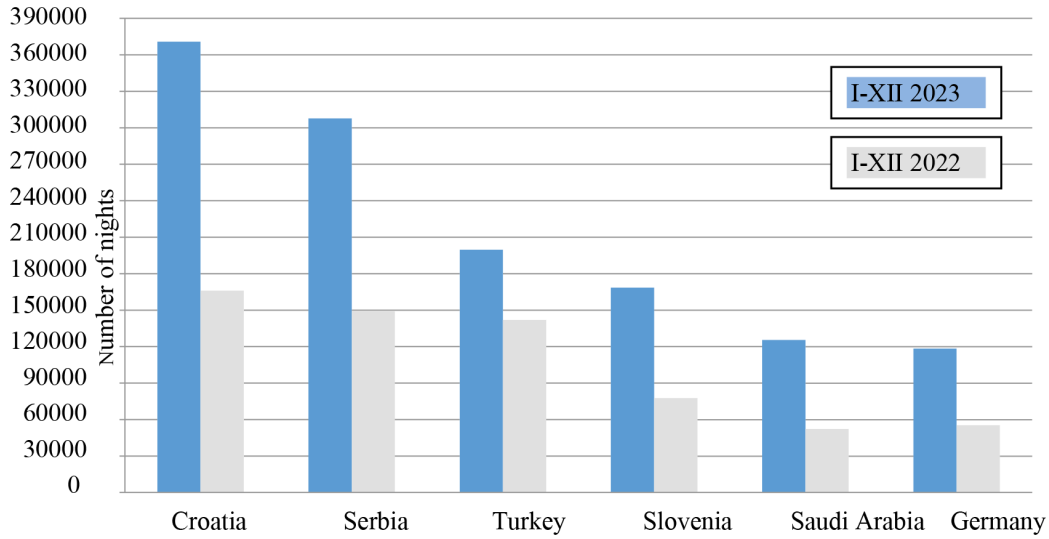
Source: Agency for Statistics of Bosnia and Herzegovina (2024)

In the total number of overnight stays, foreign tourists accounted for 68.3%, while domestic tourists made up 31.7%.

[4] Domestic tourists are citizens of Bosnia and Herzegovina

[5] Foreign tourist are pearson from other country (Serbia, Slovenia, Croatia, Germany, Turkey, etc.)

Graph 1. shows the foreign tourists who stayed the longest in BiH. Among foreign tourists, the largest share of overnight stays was recorded by visitors from: Croatia (14.9%), Serbia (12.4%), Turkey (8.0%), Slovenia (6.8%), Saudi Arabia (5.0%), Germany (4.8%), USA (3.3%), United Arab Emirates (3.1%).



Graph 1. Foreign tourist nights by country of residence, January - December 2022 and 2023
Source: Agency for Statistics of Bosnia and Herzegovina (2024)

These countries collectively accounted for 58.3% of all foreign overnight stays, while tourists from other countries contributed the remaining 41.7%.

Regarding the length of stay, foreign tourists who stayed the longest in Bosnia and Herzegovina came from: Kuwait – 3.8 nights, Qatar – 3.3 nights, Egypt & Ireland – 3.2 nights, United Arab Emirates & Iran – 3.0 nights each, France, Albania & Bahrain – 2.9 nights each.

In terms of accommodation types, the majority of overnight stays (94.3%) were recorded in the Hotels and similar accommodation category.

The strategic platform of the tourism product of BiH is reflected in the directions of action that include: radical improvement of the quality of life - restructure the security sector, and communal economy, accelerating the development of green industry and circular economy (return to nature and reuse of already used), new accommodation facilities (hotels, apartment complexes, car parks), improvement of the transport infrastructure for tourism (highways, airports, railways), services and hospitality - that they are recognizable and different from others, that they follow trends and respond to the demands of potential tourists, organizing various manifestations of culture, sports, etc. of events - with a predetermined calendar of events and a person who will accompany the event (coordinator), i.e. that activities take place in a planned manner and not ad hoc, strengthening the brand of nature (diversity of eco-climate, flora and fauna) and all its products during the promotion.

3. RESEARCH RESULTS

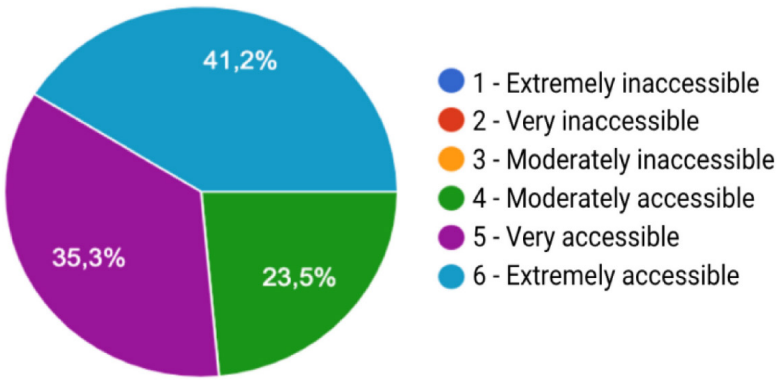
The original study, titled “Sports Tourism in Bosnia and Herzegovina,” involved 17 major sports clubs from various disciplines across the country and provided comprehensive insights into the field.

The study aimed to assess the current state of sports tourism in different cities, confirm the hypothesis that sports tourism in Bosnia and Herzegovina is underutilized, and conclude its prospects and potential development over the next five years.

Participants of the Study and their Cities:

- RK Konjuh (Handball Club, Živinice),
- Odbojkaški klub Krivaja (Volleyball Club, Zavidovići),
- FK Bosna Kalesija (Football Club, Kalesija),
- OK KAKANJ 78 (Volleyball Club, Kakanj),
- IOK "AUTO SERVIS HUSO" MAGLAJ (Sitting Volleyball Club, Maglaj),
- OK Gradina (Volleyball Club, Srebrenik),
- ŽOK Igman (Women's Volleyball Club, Ilidža),
- OK Čelik Volley (Volleyball Club, Zenica),
- OK Novi Grad - Sarajevo (Volleyball Club, Sarajevo),
- Karate Klub Konjuh Živinice (Karate Club, Živinice),
- RK Krivaja (Handball Club, Zavidovići),
- ŽOK "Crvena Zvijezda" Obudovac (Women's Volleyball Club, Šamac - Obudovac),
- Odbojkaški klub "Goražde" (Volleyball Club, Goražde),
- IOK Tigar 119 (Sitting Volleyball Club, Banovići),
- OKK Sloboda (Basketball Club, Tuzla),
- OK Radnik (Volleyball Club, Bijeljina),
- ŽOK Bihać (Women's Volleyball Club, Bihać).

In the research process, participants were asked the question "How would you rate the accessibility of the location where your sports club is located for sports tourists?" The responses of the respondents are shown in the following graph (Graph 2).



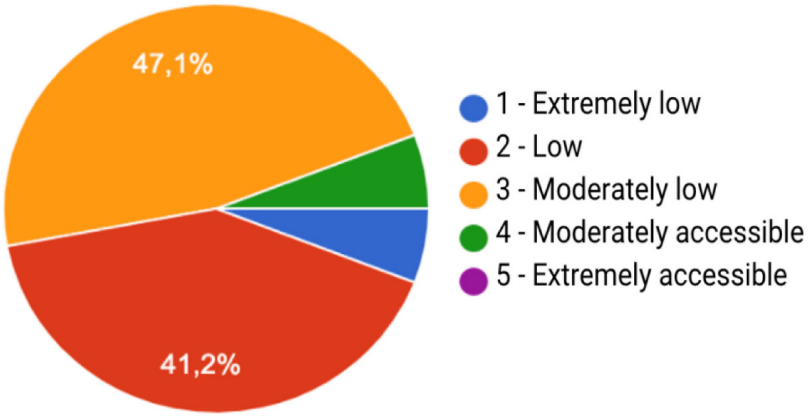
Graph 2. Accessibility of the club's location for tourists according to the respondents' assessment

Source: Own research

Respondents rated it as Extremely Inaccessible by 41.2%, Moderately Accessible by 35.3% of respondents, while 23.5% of those surveyed considered the location Very Accessible.

To the question: "What improvements would you suggest to increase the attractiveness of the area where your club is located for sports tourism?" - they answered: "To promote sports activities and tourism, it is necessary to improve accommodation capacities by providing larger and more accessible parking spaces, providing pedestrian and bicycle zones, building sports fields at picnic

areas, beach volleyball courts, modernizing sports facilities, improving training areas, engaging the local community, introducing new sports parks, increasing the number of sports halls in the investment plan, promotion and communication of the site and working on marketing efforts, especially during the summer season."



Graph 3. Respondents' assessment of the level of development of sports tourism in BiH
Source: Own research

Graph 3. shows the respondents' answers to the question "How would you assess the current level of development of sports tourism in Bosnia and Herzegovina?" The answers coincide with the hypothesis that the potential for sports tourism is not sufficiently exploited, i.e. 47.1% believe that sports tourism is moderately developed, while 41.2% believe that sports tourism is underdeveloped.

3.1. Conclusion of the Study

The survey results indicate a varied landscape of sports tourism opportunities within different clubs, highlighting the importance of infrastructure development, community engagement, and marketing strategies to enhance the attractiveness of localities, ultimately contributing to the promotion of sports tourism in Bosnia and Herzegovina, albeit with challenges such as insufficient information accessibility and the need for increased investment in sports and tourism infrastructure.

The biggest challenge to the development of tourism in Bosnia and Herzegovina is the lack of awareness about its offerings and potential.

In the European Union (EU), the standardization of tourist guide education has been adopted by the European Committee for Standardization (CEN). The tourism sector has the largest number of regulations worldwide.

Tourism professionals require continuous education on tourism products (Figure 1), while competent institutions must develop curricula and training programs for adults in the tourism sector (non-formal education). These programs should cover business managers, travel companions, local tourist guides, entertainers, and other tourism professionals, aligning with best practices in the EU.

The analysis conducted by UTA BiH aimed to identify potential areas for further development and increased competitiveness. It is intended to encourage the adoption of tourism development strategies at all levels of government - state, entity, and cantonal - to support the preparation of future strategic development documents in the tourism sector.



Figure 1. Tourism product
Source: UTA BiH (2019)

Bosnia and Herzegovina, compared to other countries in the region, invests significantly less in sports and its development. Due to the constitutional structure of the state, different levels of government in Bosnia and Herzegovina – state, entity, and cantonal – allocate varying financial resources annually for the development of sports.

The Ministry of Civil Affairs of Bosnia and Herzegovina (n.d.) has invested one and a half million BAM in sports over two years, equivalent to around 766 thousand euros.

The Federal Ministry of Sport allocated around 4.1 million BAM, or 2.09 million euros, while the Ministry of Sport in Republika Srpska allocated 5.1 million BAM, or 2.6 million euros.

Some cantons in the Federation allocated between 270 and 900 thousand BAM annually (138,000 to 460,000 euros). The Sarajevo Canton, which has the largest budget, allocated 6.7 million BAM, or 3.4 million euros, for sports needs in 2019. The Brčko District also allocated close to a million euros annually for sports.

According to estimates, various levels of government in Bosnia and Herzegovina allocate around 28 million BAM annually, or 14.3 million euros, for financing various sports events, clubs, and associations, as well as for the construction and renovation of infrastructure. Although precise data is not available, considering estimates of around 3.47 million inhabitants, it can be concluded that Bosnia and Herzegovina invests 4.1 euros per capita annually in sports.

4. FUTURE RESEARCH DIRECTIONS

Low growth, global economic stagnation, local wars, epidemics and other factors can negatively affect tourist movements. Nevertheless, from a long-term point of view, positive growth is certain and can contribute to the progress of Bosnia and Herzegovina. In the world, 10% of the global GDP is tourism, while the export of services and goods makes up one-third (about

30% of the world's export of services and 6% of the export of goods). Europe generates 41% of the world's income from tourism, and it grows at a rate of 3.5% to 4.5% per year and is the main factor in Europe's economic recovery. The European Union formed the Baltic macro-region, which consists of 8 EU countries and about 100 million inhabitants, the Danube region with 14 countries and about 115 million inhabitants, the Alpine macro-region with about 50 million inhabitants and the Adriatic-Ionian macro-region with about 70 million inhabitants, which consists of parts of Bosnia and Herzegovina, Serbia, Croatia, Slovenia, Italy, Montenegro, Albania and Greece). The development elements of the action plan of the Adriatic-Ionian macroregion were coordinated by pairs of states, consisting of 4 EU member states and 4 non-EU states:

- Slovenia and Bosnia and Herzegovina for "environmental quality",
- Italy and Serbia for "connecting the region" (transport and energy networks),
- Greece and Montenegro for "blue development",
- Croatia and Albania for "sustainable tourism".

It should be noted that Bosnia and Herzegovina directly borders Serbia, Montenegro and Croatia and that the neighbors treat the development of tourism as a strategic priority. Also, more broadly, it is surrounded by tourist mages like Italy, Greece, Austria, Hungary... Sports tourism is an activity that requires special resources. In addition, today's generations, unlike the previous ones, create a completely different approach to travel: they want to improve their physical and mental health, participate in a variety of activities from hiking and cycling, through yoga, to extreme sports. In addition to an active vacation, they have a unique experience of the destination, enjoying the beautiful nature, with a view of breathtaking landscapes, seasoned with an exceptional gastronomic offer, but also healthy food, a walk through history with a tour of cultural and historical sights and enjoying numerous facilities... Sports tourism is difficult to generalize and make decisions that can minimize the negative consequences of social development and tourism development.

Given that the infrastructural performance of business locations plays a significant role in attracting tourists and developing sports tourism in the future, it is necessary to study their causal relationship in more detail.

Many sports facilities in Bosnia and Herzegovina require modernization and renovation to meet the standards and needs of tourists. A lack of investment in maintenance and infrastructure improvement can hinder the development of sports tourism. Underdeveloped transportation and communication infrastructure can make access to certain sports destinations difficult, particularly in rural and mountainous regions.

The need for developing marketing strategies, collaborating with other countries to exchange expertise, jointly promoting sports tourism and creating regional tourism routes to attract more visitors, continuously monitoring global tourism trends and adapting the sports tourism offer in line with changing tourist preferences and market demands.

Understanding challenges and recognizing opportunities are crucial for the continued development of sports tourism in Bosnia and Herzegovina. Through strategic planning and targeted investments, the country can overcome obstacles and leverage its rich resources to establish itself as a leading sports tourism destination on the global stage.

5. CONCLUSION

This research indicates that a holistic approach to sports management and tourism is needed. The support and experiences of others in the world are realized through various support projects. In addition to financial support, projects should be implemented by managers. Bosnia and Herzegovina is rich in natural, cultural and historical heritage and has a lot to offer tourists. We can conclude that Sustainable development, respect for the local community and cultural values, as well as promoting inclusivity, are key to achieving long-term success in sports tourism in Bosnia and Herzegovina. Efforts should be directed towards creating a recognizable and sustainable tourist destination that will attract sports and nature enthusiasts from around the world. Through joint efforts and a visionary approach, Bosnia and Herzegovina can become a leading destination for sports tourism, ensuring prosperity and well-being for both residents and tourists.

References

Agency for Statistics of Bosnia and Herzegovina. (2024). Poslovne statistike-Turizam, Sarajevo

Bazzanella, F., Schnitzer, M., Peters, M., & Bichler, B. (2023). The role of sports events in developing tourism destinations: a systematized review and future research agenda. *Journal of Sport & Tourism 2023*, Vol. 27, No. 2, 77-109. https://doi.org/10.1080/14775085.2023.2186925

Borovčanin, D., & Lesjak, M. (2021). *Sportski turizam*. Univerzitet Singidunum, Caligraph, Beograd

Chalip, L., & Costa, C. A. (2005). Sport event tourism and the destination brand: Towards a general theory. *Sport in Society*, 8(2), 218–237 https://doi.org/10.1080/17430430500108579

Collins, A., Jones, C., & Munday, M. (2009). Assessing the environmental impacts of mega sporting events: Two options? *Tourism Management*, *30*(6), 828–837. doi:10.1016/j.tourman.2008.12.006

Fermeglia, M. (2017). The show must Be green. *Carbon & Climate Law Review*, *11*(2), 100–109. doi:10.21552/cclr/2017/2/6

Gammon, S., & Robinson, T. (1997). Sport and tourism: a conceptual framework. *Journal of Sport & Tourism*, *4*(3), 11–18. https://doi.org/10.1080/10295399708718632

Getz, D. (2003). Sport event tourism: Planning, development, and marketing in sport and adventure tourism (S. Hudson, Ed.) (pp. 49–85). New York: Haworth Hospitality Press.

Gibson, H. J. (1998). Sport Tourism: A Critical Analysis of Research. *Sport Management Review*, *1*(1), 45–76. https://doi.org/10.1016/S1441-3523(98)70099-3

Glyptis, S. A. (1982). Sport and Tourism in Western Europe. London: British Travel Education Trust.

Glyptis, S. A. (1991). Sport and tourism. In Progress in Tourism, Recreation and Hospitality Management, C Cooper. (ed.). Belhaven press: London; 3: 165–183.

Hautbois, C., Djaballah, M., & Desbordes, M. (2020). The social impact of participative sporting events: A cluster analysis of marathon participants based on perceived benefits. *Sport in Society*, *23*(2), 335–353. doi:10.1080/17430437.2019.1673371

Higham, J. (1999). Commentary - Sport as an Avenue of Tourism Development: An Analysis of the Positive and Negative Impacts of Sport Tourism. *Current Issues in Tourism*, *2*(1), 82–90. https://doi.org/10.1080/13683509908667845

Inoue, Y., & Havard, C. T. (2014). Determinants and consequences of the perceived social impact of a sport event. *Journal of Sport Management*, *28*(3), 295–310. doi: 10.1123/jsm.2013-0136

Jamieson, N. (2014). Sport tourism events as community builders—How social capital helps the "locals" cope. *Journal of Convention & Event Tourism*, *15*(1), 57–68. doi:10.1080/15470148.2013.863719

Klarić, D. (2012). *Sportski turizam na Crnogorskom primorju*. Budva: Fakultet za menadžment Herceg Novi, p. 63.

The Ministry of Civil Affairs of Bosnia and Herzegovina. (n.d.). https://www.mcp.gov.ba
Poczta, J., & Malchrowicz-Mośko, E. (2018). Modern running events in sustainable development - more than just taking care of health and physical condition (poznan half marathon case study). *Sustainability*, *10*(7), 2145. doi:10.3390/su10072145
Thomson, A., Cuskelly, G., Toohey, K., Kennelly, M., Burton, P., & Fredline, L. (2019). Sport event legacy: A systematic quantitative review of literature. *Sport Management Review*, *22*(3), 295–321. doi:10.1016/j.smr.2018.06.011
UTA BiH (Unija asocijacija turističkih agencija jugoistočne Evrope). (2019). Analiza turističkog proizvoda Bosne i Hercegovine i prepreke u razvoju, from https://uta.ba/cms/index.php/2019/10/04/analiza-turistickog-proizvoda-bosne-i-hercegovine-i-prepreke-razvoju/
Weed, M. (2009). Progress in sports tourism research? A meta-review and exploration of futures. *Tourism Management, 30*(5), 615–628. https://doi.org/10.1016/j.tourman. 2009.02.002

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Conceptualization of Religious Tourism in the Republic of Croatia

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Abstract:

Purpose. *Religious tourism requires a special approach to developing a tourist destination to meet the specific needs of believers and create a sustainable tourist community. Quality religious tourism should offer relevant and fulfilling content so that visitors can gain a deeper understanding of religious aspects and feel a connection with the spiritual, traditional, and cultural dimensions of the destination they are visiting.*

Results. *The lack of cooperation between tourist workers and religious institutions, represents a big problem since it makes it impossible to optimal and coordinate the creation of a tourist product, and the conceptualization of religious tourism. Absence of quality specialized and themed ones Because religious tourism in Croatia is so popular, there is an issue with its content. There is a single, widely recognized mold in which the content is created, but it would undoubtedly need to be modified because, in addition to the elderly, young people are becoming more and more interested in religious tourism; as a result, new content tailored to their age groups should be offered to them.*

Conclusion. *Strengthening cooperation with the local tourist community and strengthening promotion are key steps in the development of religious tourism. Establishing a joint strategy of the local and religious community and making investments are necessary for its further growth.*

1. INTRODUCTION

Most scientists agree that the main motives that motivate people to go on a tourist trip are the escape from routine, the well-established rhythm of everyday life, that is, relaxation outside the usual environment, preservation of health and the desire for new experiences. In addition to the main reasons that are most often mentioned, there are also cultural, sports, entertainment and environmental reasons. Selective types of tourism, to which religious tourism also belongs, appear as part of the system of macro-strategic development in tourism. The difference between mass and selective tourism is mainly that the mass concept of tourism development has given up on noticing the individual, and selective tourism precisely recognizes the individual and turns only to him, so faith is a strong motivator of the tourist movement. People who practice a particular religion often find inspiration, support and meaning in life in their religious beliefs. So, following the above, the most important characteristic of selective tourism is placing tourists in the focus of research and shaping the offer and tourist products themselves according to the specific needs of tourists.

The growing interest in religious tourism, i.e. cultural tourism that contains elements of religious tourism, is the result of the increased demand for trips that allow tourists to learn about the cultural

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and spiritual traditions of the destination, as well as the growing interest in religion, although not necessarily so institutionalized. The motivation for religious and religious travel can be the need for education, to experience something new in culture and people, especially through interaction with others, and the need to nurture a relationship with God, a sense of existence and sharing to understand faiths. with others and communicate. An important reason is spiritual renewal, which is often a combination of spiritual and physical activity, staying in quiet places, meditation and silence. The importance of pilgrimage tourism as an economic, social and spatial phenomenon does not.

2. ANALYSIS OF RELIGIOUS TOURISM RESOURCES

Religious tourism, according to Jackowski and Smith (1992), denotes travel that is driven by a desire to learn about spirituality. Religious tourism is defined by Rinschede (1992, p. 52) as travel to sacred locations that is at least partially driven by religious beliefs. According to the same author, religious tourists visit nearby sights (like cities) in addition to holy places, which suggests a close relationship between religious tourism, vacation tourism, and cultural tourism. Rinschede (1992) makes a distinction between short and longer religious trips based on the duration of stay. Furthermore, while longer religious journeys involve at least one overnight stay, shorter religious journeys are one-day affairs without an overnight stay (having the qualities of an excursion).

Furthermore, religious tourism is noted by Iliev (2020, pp.136–137) in relation to the interaction between mass tourism and niche (alternative) tourism. He claims that religious tourism is a distinct (alternative) type of travel that draws inspiration from aspects and characteristics of mass tourism. In this regard, he enumerates the characteristics and factors that give religious tourism the nature of mass tourism: its quick expansion, significant economic influence, volume of visitors, dense spatial concentration, and demand for mementos. However, the following traits of particular types of tourism predominate in religious tourism: small groups of travelers, spatial dispersion (spread of tourists), year-round travel (no seasonality), sustainability, market segmentation, high degree of authenticity, focus on experience, need for knowledge, and peaceful, considerate, and engaged travelers. While the potential for development is manifested through sports-recreational and rural tourism, which in turn are primarily defined by natural resources, the identification and analysis of key holy places in the context of religious tourism includes the observation of various destinations and places that have a special significance for believers. These places are defined by social resources. Given that a certain infrastructure has been developed over many years as a result of a large number of people being accepted in certain places, religious centers have historically evolved into commercial and cultural hubs. The tourism offer encompasses various segments, such as food and beverage, entertainment, cultural, lodging, and trade, among others, contingent on demand. All of these offerings contribute to the consumption of tourists. However, because they are an essential component of a country's culture and traditions, spiritual values (or religious values) have a special significance in the context of supply and demand in the tourism industry. Religious tourism does not rely solely on one market niche or market segment; rather, it shapes its offer in response to mass tourist demand and has its own unique tourist offer. As per Liutikas (2015), pilgrims usually travel for a variety of reasons, though sometimes they may have just one primary motivation. Without the traveler even realizing it, their motivations can shift from religious/pilgrimage to secular/tourist depending on the activities they participate in during the trip. While there are many similarities between pilgrimages and tourism, not every tourist is a pilgrim, and not every pilgrim is a tourist, as noted by Murray and Graham (1997) and Hovi (2010, p. 212). According to Cerović et al. (2021, p. 9), the pilgrim is a believer whose main reason for traveling is his faith, not just a tourist. The tourist is not a pilgrim; rather, he is a tourist with religious motivations if religion is his secondary motivation. Four primary

considerations need to be made when it comes to religious tourism: religious affiliation and the performance of religious rites; education and culture; professional occupation and income level; and the standard of infrastructure, or accessibility. Other factors that have a significant impact on the activities that tourists choose to do in their free time are similar languages, sharing a common culture, political stability, fashion, and inflation (Tala & Padurean, 2008). Those who work in the destination's management structure are frequently religious monks who regard themselves more as theologians or shrine guardians than as managers at all. For this reason, effective management of the sacred site depends on the cooperation of all parties involved. Unplanned and uncontrolled tourism development increases the risk of medium- and even long-term unsustainability when destination management is inadequate or nonexistent. The overall quality of a religious destination's tourism product must be closely monitored and managed to guarantee pilgrims a good experience and that locals are satisfied (Krešić et al., 2012).

3. THE ROLE OF RELIGIOUS CONTENT IN THE TOURIST OFFER IN THE REPUBLIC OF CROATIA

In the context of Croatian tourism, religious events through daily religious rites in Croatian sacred monuments or large traditional religious manifestations on the Adriatic and in the continental part of Croatia give the possibility of enhanced tourist valorization of the area where these take place, with a special emphasis on extending the tourist season and enriching tourist content. At the same time, tourism contributes to the discovery and revival of religious festivals as a specific cultural expression of the Croatian people (Geić, 2011).

As a country that abounds in historically and artistically extremely valuable sacred objects and already well-visited sanctuaries, Croatia has significant potential for developing religious tourism aimed at members of the Catholic faith. Croatian Marian sanctuaries play a special role in the development of religious tourism. Since these are predominantly one-day visits to certain Marian shrines, it is difficult to provide precise data on the number of visitors or pilgrims. Most of these visits take place during Christian holidays and special holidays, which, in terms of tourism, also gives them the character of seasonality. At the same time, three visits by Pope John Paul II. contribute to the recognition of Croatia as an interesting and important religious destination. Pilgrimage tourism could be one of the key reasons for overcoming the seasonal nature of Croatian tourism. Visiting sacred buildings can occur at any time of the year and does not have to be exclusively related to Christian holidays. Rich cultural and historical heritage and beautiful anthropogenic and natural beauty can be the keys to off-season tourism. Various tourist programs and contents can be designed with the cooperation of church authorities and local communities. It should be noted that each person, i.e. an individual, comes to any place because of their subjective curiosity and their interests. As for the experience of faith and travelling to a particular religious centre, socializing with the local population is also important for pilgrims. Often, on a pilgrimage, it is from the local population that certain legends related to the sanctuaries and sacred objects, customs and cultural habits of a certain region can be learned, as well as several other pieces of information that often cannot be read in brochures, tourist guides or other materials. There is also a popular proverb connected with this, which says: "Read tourist brochures but ask the host". On the side of contemporary tourist demand, religious tourism can be treated as a very significant marketing segment that has its own organizational forms (religious associations) and well-established habits of religious travel—pilgrimage. Based on these powerful incentives, original tourism tourist organizations (tour operators, agencies) create relevant content that, in collaboration with the tourism industry's players, provides, in addition to spiritual programs, all other content typical of modern tourism offer.

Religious tourism sites make an effort to link Marian shrines to their other tourist attractions. Every such location has a legend of its own, though. Although these legends frequently overlap and are similar to one another, they serve as a major basis for the growth of both the supply and demand for religious travel. A region's supply and demand for tourists are closely correlated with its churches and sculptures honoring the Blessed Virgin Mary, which are integral to the area's cultural and historical legacy. Many folk customs arise that become ingrained in a particular region's traditional heritage, often based on legends and stories that are passed down from generation to generation. The stakeholders in a destination's tourism offer bear a significant portion of the responsibility when a particular legend or story gains traditional recognition. To draw as many tourists as possible to their location, they have to advertise a particular tourism offer. While they frequently compete with one another, the carriers of the tourism offer have the responsibility of standing out on the market for travellers with their cutting-edge travel offerings. Even though it appears that all Marian sanctuaries offer the same or a similar experience for tourists, there are some distinctions when you examine them more closely. Specific tourist offerings are limited to specific areas of each holy place. The production of artisan souvenirs, the facilities, the standard of accommodation, the friendliness, the way guests are received, and the food that is usually only served in one place all add to the richness, diversity, and recognition of the religious tourism experience in Marian sanctuaries.

4. RESEARCH METHODOLOGY

For "conceptualizing religious tourism in the Republic of Croatia," primary research was conducted using the structured interview method, and a questionnaire was compiled for this purpose. The research aimed to find out the opinions and attitudes of the representatives of the religious communities of the Miraculous Lady of Sinj in the City of Sinj, in the Sanctuary of the Mother of God Trsatska, and in the Sanctuary of Maria Bistrica to get the opinions and attitudes of the representatives of the religious communities who will give grounded and relevant answers about the state of religious tourism in the Republic of Croatia. In the context of research on the state of religious tourism in the Republic of Croatia, the selection of provincials as participants in the in-depth interview was logical. Provincials, as leaders of religious communities, possess a unique combination of spiritual authority, managerial responsibility and experience in dealing with the challenges arising from the development of religious tourism. Their role in the Church and the wider social context makes them a key source of information on the state, potential and problems of religious tourism in Croatia. Provincials are the highest authorities within their religious communities and a key figure in the preservation of spiritual heritage. Their many years of experience in leading communities allow them to precisely articulate how religious tourism affects the preservation of religious identity, the development of local communities through interaction with pilgrims, and the promotion and understanding of cultural values. Following the above, research questions were asked of religious representatives in this in-depth interview:

- Research questions regarding the role and importance of religious places in your community:
  How do religious places shape the identity and tradition of the community/shrine?
- Research questions regarding the development of religious tourism:
  – *How has religious tourism evolved in the community over the past decades?*
  – *What key initiatives or projects contributed to the development of religious tourism?*
- Research questions regarding the positive consequences of religious tourism:
  – *How does religious tourism contribute to a community's economy?*
  – *How does religious tourism promote cultural diversity and understanding among visitors?*
- Research questions regarding the negative consequences of religious tourism:
  – *What are the main challenges or negative consequences that religious tourism brings to the community?*

– *How do you deal with issues such as over-commercialization, mass tourism or the loss of authenticity of religious sites?*

- Research questions regarding the perspective of the development of religious tourism:
  – *How do you see the future of religious tourism in the community/shrines?*

When asked about the future of religious tourism development, the provincials gave the following answers:

Provincial from the shrine of Our Lady of Sinj:

> *"I believe that the key to the future of religious tourism is preserving the spiritual identity and authenticity of the shrines. Regardless of the development of tourism and the increased number of visitors, shrines must remain, first and foremost, spiritual places, where people come for pilgrimage and prayer. It is important not to turn shrines into commercial attractions, but to respect the primary role of the shrine, which is a place of faith and spiritual renewal."*

Provincial of the Church of Our Lady of Trsat:

> *"I believe that the shrine of Our Lady of Trsat has great potential and should be promoted at the international level, whose historical and spiritual heritage will thus become more recognizable. Stronger cooperation with shrines in other European and world countries could lead to a greater number of pilgrims and visitors, which would enable a higher quality development of the shrine."*

Provincial Shrine of Our Lady of Bistrica:

> *"Everyone is talking about sustainable tourism and the sanctuary of Our Lady of Bistrica has the opportunity to develop the sanctuary and its surroundings according to the principle of sustainable tourism. I believe that this is the right path for its own development, and that means a balanced approach in which the development of tourist infrastructure and services will be adapted to the spiritual and ecological needs of the sanctuary. In this sense, investments in infrastructure are important, but not in a way that could disrupt the spiritual atmosphere or the environment. The development of the sanctuary is only possible with respect for the principles of respect, preservation and balance of spiritual needs in the first place, preservation of tradition and the environment, and only then with development that will bring economic benefits. Moderation is important!"*

The conversation with representatives of religious communities is important for the future development of religious tourism for several reasons:

- *Cultural heritage and authenticity:* Representatives of religious communities have a deep understanding of the cultural and spiritual significance of their shrines and places of pilgrimage. Through talking with them, he gained an insight into the authentic aspects of religious tourism and a sense of the necessity of securing and preserving the integrity and spiritual value of these locations.
- *Preserving tradition:* Religious tourism often involves traditional rites, ritual practices, and customs. Cooperation with representatives of religious communities helped the authors of the paper identify, preserve, and respect these traditions, ensuring that tourism is developed in a way that respects their authenticity and importance.

- *Ethical issues:* Religious tourism can raise several ethical issues, including respect for sacred sites, cultural norms, and the privacy of religious communities. Through a conversation with representatives of these communities, their concerns and values were determined, as was ensuring that tourist activities are carried out ethically and respectfully.
- *Economic benefits:* Religious tourism provides economic benefits to local communities, which religious representatives are also aware of, but it is important to ensure that these benefits are evenly distributed and that the economic rights and needs of religious communities are respected. Through the dialogue with the representatives, ways were identified that tourism can sustainably support the local economy.
- *Promotion of understanding and tolerance:* Religious tourism can serve as a bridge for intercultural exchange and understanding. A conversation with representatives of religious communities is necessary because it encourages the involvement of religious stakeholders can encourage dialogue, and promote tolerance and respect for diversity among visitors and the local population.

How would you describe the believers you meet who come on pilgrimage?

Provincial from the shrine of Our Lady of Sinj:

> *"In my opinion, the believers who come on pilgrimage to Our Lady of Sinj are people who are deeply connected to spiritual and religious values, and their journey is less touristic and more about a spiritual encounter. They have a strong sense of devotion and respect for the tradition of the shrine. And, interestingly, they have been coming for many years!"*

Provincial of the Church of Our Lady of Trsat:

> *"Recently, more and more young believers have been coming who are looking for spiritual support, but also want to connect their faith with a modern approach, that is, connect it with travel and getting to know the ololica. Many of them are looking for a place for personal meditation and reflection, while at the same time using modern technology to enhance their pilgrimage experience, such as mobile applications for guiding through the shrine or a virtual tour. These young believers, although less traditional in their approach to faith, also feel a strong connection to Trsat and are looking for spiritual inspiration, but in a somewhat more modern way!"*

Provincial Shrine of Our Lady of Bistrica:

> *"The faithful who come to the shrine of Our Lady of Bistrica, like other religious tourists, come with deep spiritual motives, but their motivation and demographic structure differ with regard to the significance of the shrine, its history and location. Among the faithful who regularly visit the shrine of Our Lady of Bistrica, many are devout pilgrims who come every year, especially during major holidays such as the Assumption, August 15, or the feast of Our Lady of Bistrica. These believers come with deep faith and gratitude towards Our Lady of Bistrica, who, according to their beliefs, helped them in life's difficulties!"*

The answers are all valid and complete and can be summarized in the following items:

The way believers perceive religious tourism - believers were the first tourists who made pilgrimages to the Holy Land and Rome, and it is not easy to classify them in any category. Religious

tourists can be divided into three categories: the first is the one in which pilgrims visit places seeking experiences of the living God, peace, joy and love. At the foundation of every pilgrimage is the longing for God, but there are also other motivations: fulfilling vows, hearing prayers and intentions, etc., visiting the shrine and participating in the Eucharist. The second category, apart from the primary ones, is looking for additional content such as local gastronomy and accommodation, and the third category of pilgrims is also looking for additional content such as natural or cultural sights, events or similar content. The term religious tourism itself is still not fully defined because the term religious tourism is also in use or is considered a part of cultural tourism.

Categories of content that need to be offered to visitors to achieve the quality of a religious destination - Pilgrims are primarily looking for an answer and comfort to the prayers and vows they come to a certain shrine with, so this would be the first category of pilgrims. The second category, in addition to the primary one, is looking for peace, security, quality, simple, and adequate accommodation, because precisely such accommodation facilities can improve the quality of a religious destination. They are also looking for a restaurant with local gastronomy. The third category is those who, in addition to primary and secondary, want to further explore the destination they came to, get to know cultural and/or natural sights and participate in events or similar activities that a certain destination has to offer.

Suggestions for the improvement of religious tourism - for the majority of respondents, the concept of religious tourism can be defined as an important part and potential of the tourist offer, as a phenomenon that presents culture and historical heritage, as part of a special tourist product that must be better shaped and offered as part of the tourist offers. At the same time, it is emphasized that it is necessary to protect the faithful first and thus show tourists what our strength is - better to present ourselves as part of the national and religious culture. Most respondents think that religious tourism should not be combined with pilgrimages.

Negative consequences generated by a large number of visitors in a religious destination - average Croatian sanctuaries where an in-depth interview with representatives of religious communities was conducted almost cite the same negative consequences, religious tourism takes place with an infrastructure that is set to certain parameters. With the increasing number of pilgrims arriving, problems stand out, such as traffic jams, the lack of previously mentioned parking spaces, or public toilets and infrastructure adapted to people with disabilities. Namely, during the novena and the Feast of Our Lady of Sinj / the Shrine of Our Lady of Trsat / the Feast of Maria Bistrica, tens of thousands of believers participate in holy masses, confessions, Communion is and the main procession on the Feast itself. At that time of high attendance, all institutions and services work to maintain the city and its streets, to make it passable, clean, and accessible, as well as the on-call services of the Health Center, Firefighters, Police Station, security guards, and utility workers, so that everyone has adequate care during the stay. If such a large number of visitors were more frequent, it could be impossible to provide and ensure the same conditions without engaging additional services, therefore one should think about the sustainability of the destination through the available carrying capacity.

Economic benefits in the function of increasing the quality of life of the local population - the majority of respondents believe that they are witnessing a time when tourism is becoming one of our most important economic branches and that the tourist offer in the form of sun and sea, although still the most represented, is no longer a sufficient form of tourism. With the development of a diverse tourist offer, the segment of religious tourism is also very significant. The Republic of Croatia has over 1,559 parishes (data from the Office for Church Statistics at the Secretariat of the Croatian

Bishops' Conference for the year 2000), this is a huge potential that can contribute to development in every segment. It is logical that the local population also wants to have an economic benefit by offering their services and products, as well as appropriate accompanying content.

The impact of religious tourism on the economic and social growth of a religious destination - the development of any form of tourism contributes to and affects the economic and social growth of the destination, and accordingly religious tourism. Of course, with the aim of sustainability, not to mix the commercial with the spiritual dimension, because here it should be noted that the spiritual dimension is primary, and all the good that results from it can bring benefit to the whole community, encourage the development of new content, employment of new staff and in ultimately improving the standards of the local population.

Table 1. Suggestions from the provincial governor regarding the development of religious tourism to the APH method

Scope of application of improvement proposals	Suggestions for improvement	Description / Priority Rank
Infrastructure	*Modernization of facilities*	
	Improving accessibility	*Install access paths for people with disabilities - urgent procedure*
Cooperation with other sanctuaries	*Exchange of experiences with European and world saints*	*The exchange of experiences between sanctuaries can be ranked according to various criteria that reflect the specific needs, resources and goals of each sanctuary. One of the key factors influencing the ranking is the importance of the cultural and religious traditions of each sanctuary.*
Enrichment of the offer	*Development of cultural and spiritual contents Various rites and rituals*	*Holding church music concerts, art exhibitions and theatre performances inspired by religious themes can be an attractive way to promote cultural values. Incorporating art into the daily activities of religious communities allows believers and tourists to experience and practice their faith through creative and aesthetic expressions.*
Spiritual and cultural exchange	*Establishing cultural programs and festivals Connecting with other religious communities*	*Launch cultural festivals that combine religious*

Source: Own research

The Roman Catholic Church and the monks of the Marian shrines are the majority opinion, so it must be true that all religious communities agree that the rise of religious tourism should be emphasized more and that most religious and sacred buildings should be opened more frequently and adapted to the needs and wishes of tourists. This is supported by the fact that 20 responses came from the perspectives of three different religious communities. Modern Stimu tourists seeking spiritual balance and tranquillity must be the focus of religious tourism. All respondents think that to improve the quality of their tourism offer and subsequently increase tourist consumption as part of sustainable tourism development, it would be better to educate the local population in a wider context and to better network with local authorities and institutions in the presentation of sacred heritage and religious events. To ensure that all members of the local community participate, religious tourism must be conducted with mutual respect and freedom from political, administrative, and religious authorities. Important figures from the hotel, cultural, and business sectors should also be involved. Families, adolescents, "civil servants" in the religious community, staff members of tourist hotels, tour guides, and administrators of regional and public services. Admins need to feel compelled to represent "open" projects to do this.

5. CONCLUSION

Religious tourism can overcome the seasonality of destinations because it has the potential to attract visitors throughout the year. In this way, it enables dispersion, i.e. a more even distribution of tourist demand and consumption. In designing a religious tourist product, it is possible (and necessary) to cooperate with other holders of the tourist offer in order to create a recognizable, unique and authentic product, which, depending on the occasion, combines religious, cultural, gastronomic heritage, as well as sports events and health aspects. The economic value of religious tourism derived from tourist consumption is reflected in the economic growth and development of religious tourism destinations, the creation of new jobs and the retention of existing ones, the development of infrastructure and the attraction of investments.

Investments and the return of invested funds through the consumption of visitors can have a positive effect on the development of less developed rural areas, as well as on the revitalization of existing, but inadequately used or neglected religious buildings. The preservation and revitalization of religious buildings, as well as the preservation and respect of local traditions and religious customs, contributes to efforts to create a sustainable (economic) society and gives religious tourism the character of sustainability. The repurposing of religious buildings or their use for the needs of religious tourism, especially in rural areas, can create new employment opportunities and reduce the emigration of the young population from such areas. The potential of religious tourism destinations is also visible in the merging of history and future through the use of virtual and augmented reality digital technologies, to create educational materials adapted to new generations of visitors to religious content.

References

Cerović, Z., Grudić Kvasić, S., Zanketić, P., & Korov, T. (2021). *Smjernice za razvoj vjerskog turizma Republike Hrvatske.* Ministarstvo turizma i sporta Republike Hrvatske.

Geić, S. (2011). *Menadžment selektivnih oblika turizma.* Sveučilište u Splitu.

Hovi, T. (2010). Dracula tourism as pilgrimage?. Scripta Instituti Donneriani Aboensis, 22, 211-227.

Iliev, D. (2020). The evolution of religious tourism: Concept, segmentation, and development of new identities. *Journal of Hospitality and Tourism Management, 45*, 131–140. https://doi.org/10.1016/j.jhtm.2020.07.012

Jackowski, A., & Smith, V. L. (1992). Polish pilgrim-tourists. *Annals of Tourism Research, 19(1)*, 92–106. https://doi.org/10.1016/0160-7383(92)90109-3

Krešić, D., Mikulić, J., & Miličević, K. (2012). Identifying critical pilgrimage destination attributes with neural network-based importance-performance analysis: the case of Medjugorje, Bosnia and Herzegovina. In 2nd International Conference Advances in Hospitality and Tourism Marketing & Management (pp. 1-7).

Liutikas, D. (2015). In search of miracles: Pilgrimage to the miraculous places. *Tourism Review, 70(3)*, 197–213.

Murray, M., & Graham, B. (1997). Exploring the dialectics of route-based tourism: The Camino de Santiago. *Tourism Management, 18(8)*, 513–524.

Rinschede, G. (1992). Forms of religious tourism. *Annals of Tourism Research, 19(1)*, 51–67. https://doi.org/10.1016/0160-7383(92)90106-Y

Tala, M., & Padurean, M. (2008). Dimensions of religious tourism. *Amfiteatru Economic, 10*, 242–253.

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Tourism and Libraries: Multiple Case Studies

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Abstract: *Thirty years ago, libraries - up to then undiscussed guardians of knowledge - around the world were facing problems, because their vital roles were being undermined. These roles, which include educating the population and informing the public, have been replaced by television, the Internet, and other tools. To fight for their survival and sustainability, libraries tried to determine what other role they could play. New initiatives have been launched to save libraries. In recent times, the concept of libraries has undergone a remarkable transformation. A wave of innovative, state-of-the-art library facilities has emerged across the globe, challenging traditional notions of what a library should be. These modern institutions are far from the quiet, book-filled spaces of yesteryear. Instead, they have evolved into dynamic hubs of activity, designed to captivate both local and international visitors. They have rooftop gardens, public parks, verandas, play areas, teen centres, cinemas, arcades, art galleries, restaurants, and more. In addition, libraries today are also becoming tourist attractions around the world, so their role is being transformed.*

The goal of this paper is to present case studies of libraries in tourism providing a discussion based on a comparison, of the modern roles of libraries and literary tourism reflecting perspectives of application in Croatia.

1. INTRODUCTION

The transformation of libraries is closely linked to the rise of literary tourism, where travellers visit locations with significant literary connections. Libraries, especially those with historical or architectural significance, have become prime destinations for book lovers and tourists alike. Visitors seek to experience the atmosphere of the places that have inspired great works of literature or served as settings for famous stories. This growing trend highlights the enduring importance of literary heritage and its ability to draw people into the world of books, even in an increasingly digital age.

This paper presents a series of case studies focused on the role of libraries in tourism. It gives an overview of libraries as tourist products and deals with the role of libraries in tourism, libraries as tourism attractions and tourism products, providing thus the basis for the development of cultural tourism and identity.

The first section provides an analysis of the challenges facing modern libraries and reading rooms, examining their evolving functions. The next chapter reviews the concept of libraries as a tourism product, discussing the role of libraries in tourism, their function as attractions and tourism products, and their potential as foundations for the development of cultural tourism and identity. The findings of this paper will contribute to the analysis and development of new tourism products, particularly in enhancing the tourism offerings of the Republic of Croatia.

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2. LITERATURE REVIEW: THE ROLE OF LIBRARIES

Libraries have long been pivotal institutions in social life, evolving to meet changing societal needs. Before modern communication technologies, libraries and reading rooms were central hubs for information sharing, gathering, and socializing (Rudan, 2012). Even hotels incorporated small libraries, providing guests with spaces for relaxation, activities, and social connection (Goeldner & Ritchie, 2009).

As tourism developed, libraries began to expand beyond their traditional roles, increasingly engaging with the tourism sector (Li, 2019). Hotels, often located outside urban centers, established reading rooms to cater to tourists' needs for information and leisure reading (Jelinčić, 2010). While these spaces have largely been repurposed in modern hotels, they once played a significant role in the hospitality offering.

Libraries continue to be essential to community life, contributing to education across all age groups, promoting democratic values, fostering literacy and information literacy, serving as cultural centers, supporting scientific research, and fulfilling various other roles (Lankes, 2011). Their impact often extends beyond their professional boundaries, providing care and support to their communities (Koontz & Gubbin, 2010).

As non-profit organizations, libraries operate with a focus on serving community needs rather than generating profit (Rubin, 2016). Their true value lies in the intangible benefits they provide to society, which are often difficult to quantify or measure in economic terms (Aabø, 2005).

Despite libraries fulfilling crucial needs for their patrons, their broader societal impact, including their potential value to tourism, often goes unrecognized by the general public and various social groups. The example of Croatia showed that the role of libraries in tourism is not recognised, nor sufficiently valorised. The majority of strategic and planning documents (Institute for Tourism, 1992, 2012; Tomljenović et al., 2003; Tomljenović & Boranić Živoder, 2015) for developing tourism or cultural tourism at national and regional scales frequently overlook libraries as potential contributors to the tourism landscape. The existing tourism strategic and developmental plans are mainly oriented towards economic indicators of demand and expenditure, socio-demographic indicators of tourists, different aspects of travel characteristics, length of stay, etc.

In Croatia, this potential has not been sufficiently exploited as the country has potential, for example, the National and University Library (NSK), the Croatian National Library and the Central Library of the University of Zagreb, the largest library in Croatia. Its creation is associated with the founding of the library of the Jesuit College in Zagreb (1607). In 1776, it became part of the newly founded Royal Academy of Sciences. As early as in 1816, a foundation was established for an "academic public library", and the Library obtained the right to free copies of the Budapest University Press publications (Croatian Encyclopaedia, 2022). This is a library that has a valuable cultural and historical heritage and is not promoted at all as a cultural good.

In total 1,781 libraries are evidenced in the Statistical Yearbook of the Republic of Croatia (DZS, 2015). There are 89 libraries in 42 towns enumerated in the Library directory (Ministry of Culture, 2016). A significant portion of the catalogued collections, about a quarter, hold provisional protected status as cultural assets. The remaining three-quarters have secured full protection. Notably, religious institutions such as monasteries, dioceses, and various faith communities house the majority of these registered collections, accounting for over 60% of the total.

3. LIBRARIES AS TOURISM PRODUCTS: CASE STUDIES

3.1. The Role of Libraries in Tourism

Cultural identity plays a crucial role in enhancing the appeal of tourism destinations, contributing to a unique visitor experience (Govers & Go, 2004). This identity serves as a magnet for tourists, drawing them to specific locations. Cultural heritage, a key component of this identity, extends beyond physical landmarks to encompass people's traditions, cuisine, attire, music, dance, and both oral and written cultural expressions (Jelinčić, 2010).

Global modernization has led to the deterioration of cultural heritage, prompting increased attention from policymakers, particularly in Europe. These initiatives aim to revitalize cultural heritage as a strategic asset for sustainable development and contemporary lifestyles while engaging stakeholders in its recognition and preservation.

Libraries play a vital role as custodians of literary heritage and cultural identity. They serve as cultural, educational, and informational hubs for their communities, providing access to diverse knowledge and resources (UNESCO, 1994). In the tourism sector, libraries contribute through their informative, educational, and cultural functions, potentially becoming attractions themselves and integral parts of heritage and literary tourism experiences.

Tourism and literature have a complex relationship, but literary tourism has become, without a doubt, a growing niche within cultural tourism (Ferreira et al., 2020; Potočnik Topler et al., 2024). The earliest instances of literary tourism are believed to have originated in the 15th century, linked to the works of Petrarch in southern Europe (Potočnik Topler, 2016). Over the subsequent centuries, literature continued to play a significant role in inspiring and guiding literary tours, with its influence particularly notable among the English upper class in recent centuries (Hendrix, 2009). However, some scholars argue that its origins can be traced back to ancient Rome (Smith, 2012; Potočnik Topler, 2016). This form of cultural travel encompasses a diverse array of experiences, from visiting author-related sites like statues, graves, and residences, to participating in themed tours and events celebrating literary figures and their creations (Potočnik Topler, 2016).

Literary tourists are drawn to locations that have inspired beloved stories or featured prominently in works of fiction. This niche travel sector appeals not only to dedicated literature enthusiasts but also to a broader audience of cultural travelers who appreciate the intersection of knowledge, experience, and emotion in their journeys (Potočnik Topler et al., 2024, p. 32).

Destinations such as the Shakespearean sites in Stratford-upon-Avon (Potočnik Topler, 2020) or Byron's Newstead Abbey (Busby & Shetliffe, 2013) exemplify how literary heritage can serve as a powerful draw for tourists. The appeal of literary tourism lies not only in the connection to the literary past but also in the immersive experience it offers, allowing visitors to step into the worlds of their beloved characters and narratives. Therefore, identifying and assessing a destination's literary heritage, followed by the development of literary maps and heritage-based tourism products, creates distinctive and unparalleled experiences that cannot be duplicated anywhere else in the world (Quinteiro et al., 2020). This trend has significant economic implications, as it contributes to the preservation of cultural heritage and supports local economies through increased tourism revenues. When developing literary tourism products, designers are encouraged to integrate this form of tourism with complementary experiences like active, wine, and culinary tourism. The

goal is to create multifaceted experiences that are not only informative and educational but also interactive, entertaining, and distinctively memorable. By thoughtfully balancing these elements and tailoring them to specific audience segments, literary tourism can become a more engaging and appealing travel option. (Potočnik Topler, 2022).

The role of libraries is outstanding as they have the tradition of gathering and keeping local collections and this is how they shape the cultural identity of a particular area, representing its culture in both the deepest and widest senses. It is possible to agree with the former director of the Croatian National and University Library, according to whom "the National and University Library is a temple and a treasury of the Croatian literary heritage, which best expresses and affirms the Croatian national identity and acknowledges its continuity".

Libraries serve as vital cultural bridges in tourism, fostering meaningful exchanges between visitors and locals while safeguarding community identity (Tokić & Kranjčević, 2018; Tokić & Tokić, 2017). Many of these institutions are housed in structures of considerable historical and architectural merit, often becoming iconic landmarks in their own right. Even contemporary library buildings are gaining recognition for their innovative designs, potentially joining the ranks of cultural treasures.

A select group of libraries worldwide have garnered attention for their exceptional architecture, as noted by Govers and Go (2004). These range from the modern Central Library in Seattle to the centuries-old Trinity College Library in Dublin. Other standout examples include the futuristic Geisel Library in San Diego, the sleek TU Delft Library in the Netherlands, and the reimagined Bibliotheca Alexandrina in Egypt. The list of architecturally significant libraries continues to grow, with additions like Copenhagen's striking "Black Diamond" Royal Library and the avant-garde University Library in Aberdeen. These structures underscore the evolving role of libraries as not just repositories of knowledge, but as captivating destinations in themselves, blending cultural significance with architectural innovation.

The transformation of Austria's Admont Abbey into a library stands as a remarkable example of repurposing historical spaces, resulting in one of the world's most stunning literary repositories. Croatia has also embraced similar adaptive reuse projects, as evidenced by the conversion of an industrial complex in Labin, recognized as a Cultural Good of Croatia in 2006.

While Croatian law permits the integration of libraries into tourism offerings, national tourism strategies and development plans have largely overlooked these institutions in their research and planning. Some tourism planners even suggest that libraries and archives may not be ideal cultural resources for attracting international visitors, primarily due to their content being presented in the local language.

The project Library of Croatia is worth mentioning as allows users to walk through a "virtual door" to the Croatian libraries. Croatia thus became the first country to facilitate access to an unlimited virtual library through open digital platforms and related applications. This continues to represent a huge potential for libraries in Croatia, but primarily for the tourism offer of the Republic of Croatia in the sense of exploitation of this potential.

Libraries have emerged as compelling destinations for tourists, offering a unique blend of cultural and historical significance. The Library of Alexandria in Egypt stands as a prime example of this

trend, playing a pivotal role in the country's cultural tourism landscape (Library of Alexandria Annual Report, 2012). Its appeal stems from various factors, including its striking architecture, rare collections, and cultural importance, as well as a range of additional amenities for visitors. The Library of Alexandria's annual reports highlight a diverse array of activities, including guided tours, educational programs, art exhibitions, and concerts. Several museums are also housed within the complex, enhancing its appeal. The Library's online presence is equally impressive, with its website attracting over 650 million annual visitors and 1.8 million daily users as of 2012 (Library of Alexandria Annual Report, 2012). The Library's status as a tourism icon for Egypt is underscored by its substantial ticket revenue, approximately 1.4 million euros annually, with 40-60% contributed by international tourists (Library of Alexandria Annual Report, 2012). This financial success not only demonstrates the Library's significance to the community but also its broader impact on Alexandria's tourism sector (Jelinčić & Zović, 2012).

Many renowned libraries worldwide, including the British Library, Library of Congress, National Library of France, and the National and University Library in Zagreb, demonstrate the significant role libraries play in tourism. These institutions attract visitors for several reasons. Architectural splendour is a major draw, with both exteriors and interiors showcasing cultural, historical, and monumental value. The buildings themselves often stand as architectural marvels, enticing tourists with their design and historical significance. Unique collections serve as another attraction, featuring local artifacts, rare books, manuscripts, and incunabula. Specialized scientific and professional collections, along with digitized archives, offer glimpses into cultural and intellectual heritage. Libraries also host a variety of events that appeal to tourists, such as educational workshops, concerts, art exhibitions, and literary gatherings. Guided tours provide insights into the library's history and operations. Lastly, many libraries have connections to famous historical figures, attracting visitors interested in exploring important milestones in the lives of these eminent individuals.

The legislation governing cultural heritage protection encompasses a wide range of institutions, including "restoration institutes, museums, galleries, archives, libraries, and other public cultural entities engaged in conservation and protection of cultural assets" (RoC Official Gazette, no. 69/1999, cl. 94). This law recognizes these organizations as crucial for safeguarding cultural treasures.

Furthermore, European Union regulations define certain items as national treasures, specifically mentioning "incunabula, manuscripts (including maps and musical scores), either individually or in collections, as well as books over a century old, whether as single items or collections" (cl. 2). This classification may explain why none of the 19 local library collections surveyed in this study have been officially registered in Croatia's Cultural Goods Registry, despite their potential historical significance.

3.2. Libraries as a Basis for the Development of Cultural Tourism

Libraries often serve as central hubs of cultural and public life within their communities, a role that is particularly evident in smaller or rural areas. However, there is a noticeable lack of methodical and scholarly research on the relationship between libraries and tourism. This topic remains underexplored by experts in both fields, with most studies focusing only on prominent libraries like the British Library, La Bibliothèque Nationale de France, and the Library of Alexandria, which attract significant numbers of visitors due to their global reputation. Libraries are also frequently used as the cultural and social epicenters of their communities, particularly in smaller

locales (McIntosh & Goeldner, 1984). However, the intersection of libraries and tourism remains a largely unexplored area of study, with limited scholarly research available. This knowledge gap is especially pronounced when compared to the attention given to renowned institutions like the British Library or La Bibliothèque nationale de France, which attract substantial visitor numbers. Interestingly, while museums and galleries often feature prominently in tourism strategies, libraries are often overlooked by local authorities and tourism organizations in their planning. This oversight persists despite the potential value of libraries in the tourism sector. As McIntosh and Goeldner (1984) point out, numerous libraries house specialized collections related to travel and tourism, which could prove invaluable to industry professionals, government officials, and academics alike. Goeldner and Ritchie (2009) further emphasize that although libraries and similar cultural institutions are not typically created with tourism in mind, they can significantly enhance a destination's appeal. Many libraries offer inviting spaces where visitors can delve into local history, culture, and traditions, providing a perfect refuge on inclement days. Moreover, the desire to explore a different language or culture often serves as a powerful motivator for travel, positioning libraries as potential catalysts for tourism experiences.

Whitman (2003) indicates that tourists can find local public libraries interesting as attractions or tourism destinations. With certain coordinated planning and preparation through a partnership among libraries, ministries of culture and tourism visitor centres or DMOs, more tourists could visit local libraries abroad and, in that way, discover the live dimension of the local culture. The stamp collection in the National Library in Turkey fits the tourism offer and can be attractive to tourists. Libraries are recognised as a concrete part of the tourist potential in Safranbolu, Turkey. In Poland, there are many renovated libraries which are now tourist attractions. In practice, some of the libraries have the role of tourist attractions but remain in the shade of other tourist attractions. In Italy, there is the possibility of linking culture, education, tourism and information and communication technologies (Whitman, 2003).

The intersection of cultural tourism and libraries has garnered increasing attention in recent years. A study focusing on the State Library of Queensland in Australia (Carson et al., 2013) highlights the significant role libraries can play in literary tourism. This research emphasizes the importance of fostering emotional connections between tourists and the cultural, literary, and community aspects of a destination, while also stressing the value of community engagement in tourism initiatives.

In a separate study, Spentza and Kyriakaki (2013) examined the Adamantios Koraes Library in Greece. Their findings suggest that incorporating this library into international tourist guidebooks could significantly enhance its appeal to visitors, particularly those with cultural and educational interests. This underscores the potential for libraries to serve as key attractions in cultural tourism landscapes.

At the beginning of the '60s, Antić and Pavlinić (1962) and later on Pavlinić (1964) explored libraries as important tourism resources in Croatia. Two expert conferences were organised: Libraries in Tourism Offer, at the Town Library "Ivan Goran Kovačić" in Karlovac (2007) and Libraries and Continental Tourism, in Beli Manastir (2016), with case study reports (Petrić, 2016). With their cultural heritage, libraries can be appealing also to users who are looking for specific points of interest. The global appeal of libraries as tourist attractions is evident in numerous examples worldwide. The Library of Alexandria in Egypt, for instance, plays a significant role in the country's cultural tourism development (Lazarević, 2010). This trend extends to various types of libraries, including those in convents and memorial libraries dedicated to authors and other notable public figures.

Research by Zović (2011) examining public libraries in Istria County reveals that their potential for cultural tourism remains underutilized. Further investigation by Jelinčić and Zović (2012) into Istrian public libraries' role in cultural tourism concludes that their contribution is suboptimal, approaching the topic from the perspective of libraries as cultural attractions.

Libraries contribute to the tourism industry through their core functions: informative, cultural, and educational. Beyond these, libraries offer additional resources such as unique architecture, events, concerts, film screenings, exhibitions, workshops, and meetings, which can appeal to tourists. They play a crucial role in societal and local economic development. Libraries not only preserve cultural heritage and promote community identity but also provide opportunities for lifelong learning and technological support for local entrepreneurs.

3.3. Libraries as a Basis for Building Cultural Identity

Tourism has been widely recognized as a catalyst for integrating local populations into regional economic activities, as evidenced by successful developments in various tourism segments like cultural, rural, and cyclotourism (Goeldner & Ritchie, 2009). When managed effectively, the tourism industry, particularly when linked with culture, can serve as a foundation for sustainable economic development in local communities (UNWTO, 2018).

Cultural heritage encompasses a broad spectrum of inherited resources, including tangible and intangible forms, as well as collections maintained by public and private institutions such as museums, libraries, and archives (UNESCO, 2003). These resources hold significant value for society from cultural, ecological, social, and economic perspectives, necessitating their protection and increased community awareness (Throsby, 2010). Culture is inherently a cross-cutting and integrative phenomenon, with cultural change and development intrinsically linked to educational, economic, and social sectors (Nurse, 2006). The European Union emphasizes the intersectoral political relevance, positive economic and social influence, and sustainable development potential of cultural heritage (European Commission, 2014).

The EU promotes innovative utilization of cultural heritage to foster economic growth, job creation, social cohesion, and environmental sustainability (European Union, 2018). Cultural heritage, often misconstrued as merely an expense or limited to identity-related aspects, has multifaceted impacts:

- Economic: Encouraging innovative finance, investment, management, and business models to enhance cultural heritage's efficiency as an economic driver (CHCfE Consortium, 2015).
- Social: Promoting innovative use of cultural heritage to stimulate integration, inclusion, cohesion, and participation (Murzyn-Kupisz & Działek, 2013).
- Environmental: Advancing innovative and sustainable use of cultural heritage to realize its full potential in contributing to sustainable development across European countries, cultural landscapes, and environments (Nocca, 2017).

Croatia's tourism industry plays a vital role in the country's economic landscape, serving as a key catalyst for various socio-economic developments. Its significance is particularly evident in its substantial contributions to both employment and the nation's gross domestic product. (Škrinjarić, 2018). A discussion has been going on in the last ten years about how to further develop this economic sector, its offers and possibilities so that its full potential could be used (Škrinjarić, 2018).

Croatia's tourism model predominantly focuses on "sun and sea," characterized by extended stays concentrated along the coast during the summer months (Kožić, 2013). The country exhibits the

most pronounced seasonal tourism profile in the European Union, despite the rich historical and cultural offerings of Mediterranean countries (European Commission, 2018). This seasonality poses challenges for the tourism industry and local economies.

In the era of globalization, tourism is increasingly international, yet paradoxically, there's a growing interest in local culture and features (Urry & Larsen, 2011). The cultural identity of destinations enhances the tourism product, providing unique experiences (Richards, 2018). However, the potentially destructive nature of tourism necessitates the protection and preservation of cultural identity (Jelinčić, 2010).

Despite the potential of cultural heritage as an economic asset, tourist attraction, and identity factor that can contribute to social cohesion, the cultural heritage potential of libraries remains underutilized and undervalued in Croatia's tourism offerings. Current strategic and developmental tourism plans in Croatia primarily focus on economic indicators, tourist demographics, travel characteristics, and length of stay (Croatia National Tourist Board, 2024). Libraries are rarely mentioned, except in relation to cultural employment statistics, which are considered "less important for tourism product creation" (Ministry of Tourism of the Republic of Croatia, 2013). Recent research indicates that foreign visitors are dissatisfied with the diversity of cultural offerings, particularly during adverse weather conditions (Gržinić & Vojnović, 2014). This highlights a gap in Croatia's tourism product, especially for "rainy day" activities (Gerard Jeuring, 2017).

Libraries, with their resources and community-oriented activities, have the potential to enrich and enhance the tourist experience (Rudan, 2012). By organizing events and programs for both locals and visitors, libraries can contribute to sustainable tourism development and help address the current limitations in Croatia's cultural tourism offerings (Jelinčić, 2010).

4. CONCLUSION

Croatian libraries possess untapped potential as tourist attractions, particularly those with buildings and collections recognized in the National Register of Cultural Goods. Even libraries not officially designated as protected cultural heritage, such as the modern structures housing the National and University Library in Zagreb and the University Library in Split, offer architectural interest and cultural significance to their respective locations.

Many libraries, regardless of their official heritage status, curate local collections that play a crucial role in preserving national heritage and fostering cultural identity. These collections often represent invaluable resources for understanding and appreciating the local history and culture. The appeal of book collections extends beyond traditional library settings. Noteworthy collections can be found in various contexts, including religious institutions, private holdings, and community-based assemblages. This diversity of locations and custodians adds depth to the potential for literary and cultural tourism experiences in Croatia.

By recognizing and promoting these assets, Croatia could enhance its cultural tourism offerings, providing visitors with unique insights into the country's rich literary and cultural landscape.

In different case studies, it is noted that libraries can be used as a considerable tourism potential. Libraries can be used as attractions and tourism products; they can be used as a basis for the development of cultural tourism and as a basis for building cultural identity. Although this study was

conducted to enable recognition of the full potential of libraries as tourism products, it, however, has certain shortcomings. Only publicly available case studies were used in this research, in both Croatian and English languages. It is to be supposed that there is a series of research which tackle similar issues in similar countries, such as is the case in the Republic of Croatia, and which are not accessible. Also, in this paper, a systematic analysis was not conducted of all the factors that can lead to the exploitation of libraries for tourism purposes. Future research should review the role of libraries in tourism in Croatia and the improvement of the tourism offer and income from tourism. Future research should connect with specific libraries in countries where success has been recorded in this sector to determine what exact factors are responsible for the successful use of libraries for tourism purposes.

References

Aabø, S. (2005). Are public libraries worth their price? *New Library World, 106*(11/12), 487-495.

Antić, V., & Pavlinić, V. (1962). Knjižnice i čitaonice u turističkim mjestima na Jadranu. *Vjesnik Bibliotekara Hrvatske*, 8, 1-2.

Busby, G., & Shetliffe, E. (2013). Literary tourism in context: Byron and Newstead Abbey, *European Journal of Tourism, Hospitality and Recreation*, *4*(3), 5-45.

Carson, S., Hawkes, L., Gislason, K., & Martin, S. (2013). Practices of literary tourism: an Australian case study. *International Journal of Culture, Tourism and Hospitality Research, 7*(1), 42-50.

CHCfE Consortium. (2015). Cultural Heritage Counts for Europe.

Croatia National Tourist Board. (2024). https://croatia.hr

Croatian Encyclopaedia. (2022). *Knjižnica* (mrežno izdanje). Leksikografski zavod Miroslav Krleža. https://www.enciklopedija.hr/natuknica.aspx?ID=32130

DZS. (2015). https://dzs.gov.hr/

European Commission. (2014). Towards an integrated approach to cultural heritage for Europe.

European Commission. (2018). European Economy Economic Briefs.

European Union. (2018). European Framework for Action on Cultural Heritage.

Ferreira, A., Alén, E., Liberato, P., & Liberato, D. (2020). Literary Tourism: A Cultural Trip?. In: Rocha Á., Abreu A., de Carvalho J., Liberato D., González E., Liberato P. (eds) Advances in Tourism, Technology and Smart Systems. *Smart Innovation, Systems and Technologies, 171*. Springer, Singapore. https://doi.org/10.1007/978-981-15-2024-2_44

Gerard Jeuring, J. H. (2017). Weather perceptions, holiday satisfaction and perceived attractiveness of domestic vacationing in The Netherlands. *Tourism Management*, *61*, 70-81.

Goeldner, C. R., & Ritchie, J. R. B. (2009). Tourism: Principles, practices, philosophies. John Wiley & Sons.

Govers, R., & Go, F. M. (2004). Cultural identities constructed, imagined and experienced: a 3-gap tourism destination image model. *Tourism*, *52*(2): 165-182.

Gržinić, J., & Vojnović, N. (2014). Sustainable event tourism: Case study City of Pula, Croatia. *UTMS Journal of Economics, 5*(1), 53-65.

Hendrix, H. (2009). From early modern to romantic literary tourism: a diachronical perspective. In: Watson, N. J. (Ed.). *Literary Tourism and Nineteenth-Century Culture*. Basingstoke: Palgrave Macmillan, 13-25.

Institute for Tourism. (1992). Tourism master plan for Croatia (Generalni plan razvoja turizma Hrvatske). [Report]. https://repozitorij.iztzg.hr/islandora/object/iztzg:728

Institute for Tourism. (2012). Master plan and tourism development strategy of the Republic of Croatia. https://repozitorij.iztzg.hr/islandora/object/iztzg:278

Jelinčić, D. A. (2010). Kultura u izlogu: kratki vodič za upravljanje kulturnim dobrima. Meandarmedia.

Jelinčić, D. A., & Zović, I. (2012). Knjižnice u turizmu: Shhhh, Quiet please! Nein, herzlichwillkommen! Si accomodi! *Liburna*, 1 (1), 37-47., 10.15291/lib.913
Koontz, C., & Gubbin, B. (Eds.). (2010). IFLA public library service guidelines. Walter de Gruyter.
Kožić, I. (2013). Kolika je sezonalnost turizma u Hrvatskoj? *Ekonomski vjesnik, 26*(2), 470-480.
Lankes, R. D. (2011). The atlas of new librarianship. MIT Press.
Lazarević, S. (2010). The role of libraries in the development of cultural tourism with special emphasis to the Bibliotheca Alexandrina in Egypt. *UTMS Journal of Economics*, *1*(2), 107-114.
Li, Y. (2019). Library + Tourism. IFLA WLIC 2019 - Athens, Greece.
Library of Alexandria Annual Report. (2012). https://www.bibalex.org/Attachments/Publications/Files/2013011015545420497_ANNUALREPORT2012small.pdf
McIntosh, R. W., & Goeldner, C. R. (1984). Tourism: Principles, practices, philosophies. Grid Pub.
Ministry of Culture. (2016). https://min-kulture.gov.hr
Ministry of Tourism of the Republic of Croatia. (2013). Tourism development strategy of the Republic of Croatia until 2020. https://mint.gov.hr/UserDocsImages/arhiva/Tourism_development_strategy_2020.pdf
Murzyn-Kupisz, M., & Działek, J. (2013). Cultural heritage in building and enhancing social capital. *Journal of Cultural Heritage Management and Sustainable Development*.
Nocca, F. (2017). The role of cultural heritage in sustainable development: Multidimensional indicators as decision-making tool. Sustainability.
Nurse, K. (2006). Culture as the fourth pillar of sustainable development. Commonwealth Secretariat.
Pavlinić, V. (1964). Biblioteke i čitaonice u turističkim mjestima Kotara Rijeka. *Vjesnik bibliotekara Hrvatske*, *10*, 3-4.
Petrić, D. (2016). Zavičajni odjel – promotor kulturnog turizma. In 1. stručni skup s međunarodnim sudjelovanjem: Knjižnice i kontinentalni turizam, Zbornik radova (pp. 121-130). Beli Manastir: Gradska knjižnica Beli Manastir, Središnja knjižnica Mađara u RH.
Potočnik Topler, J. (2016). Literary tourism in Slovenia: the case of the Prežihov Voranc cottage = Književni turizam u Sloveniji: primjer muzeja pisca Prežihovog Voranca. *Informatologia. 2016*, 49 (3/4),129-137. ISSN 1330-0067. http://hrcak.srce.hr/index.php?show=toc&id_broj=14035.
Potočnik Topler, J. (2020). *Literarni turizem in priložnosti za njegov razvoj v Sloveniji: Louis Adamič - pisatelj z zgodbo, ki povezuje Slovenijo, Balkan in Združene države Amerike*. 1. izd. Maribor: Univerzitetna založba Univerze, 2020. 132, ilustr. ISBN 978-961-286-408-8. https://press.um.si/index.php/ump/catalog/book/519, DOI: 10.18690/978-961-286-407-1.
Potočnik Topler, J. (2022). Literary tourism and literary routes. In: Potočnik Topler, J. (Ed.): *Cultural tourism as a tool for sustainable development of rural areas*. Maribor: Maribor University Press, str. 25-39.
Potočnik Topler, J., Baleiro, R., Capecchi, G., & Mansfield, C. (2024). *Researching Literary Tourism: A Handbook for Students and Supervisors*. Maribor: University of Maribor, University Press.
Quinteiro, S., Carreira, V., & Rodrigues Gonçalves, A. (2020). Coimbra as a literary tourism destination: landscapes of literature. *International Journal of Culture, Tourism and Hospitality Research*, *14*(3), 361-372. https://doi.org/10.1108/IJCTHR-10-2019-0176
Richards, G. (2018). Cultural tourism: A review of recent research and trends. *Journal of Hospitality and Tourism Management, 36*, 12-21.
RoC Official Gazette. (1999). Zakon o zaštiti i očuvanju kulturnih dobara (OG 69/99), Zagreb.
Rubin, R. E. (2016). Foundations of library and information science. American Library Association.
Rudan, E. (2012). Razvojne perspektive kreativnoga turizma Hrvatske. *Ekonomska misao i praksa*, (2), 713-730.
Škrinjarić, T. (2018). Evaluation of environmentally conscious tourism industry: Case of Croatian counties. *Tourism, 66*(3), 254-268

Smith, Y. (2012). *Literary Tourism as a Developing Genre: South Africa's Potential*. Pretoria: University of Pretoria (dissertation).

Spentza, E., & Kyriakaki, A. (2013, June). The role of libraries in the tourism development: the case of Koraes library on Chios Island, Greece. In 5th International Scientific Conference" Tourism Trends and Advances in the 21st Century": conference proceedings.

Throsby, D. (2010). The Economics of Cultural Policy. Cambridge University Press.

Tokić, K., & Kranjčević, J. (2018). Potential of libraries as tourist attractions: case study of Croatia. In A. Mašek Tonković (ed.), 7th International scientific symposium Economy of Eastern Croatia - Vision and Growth (pp. 913-921). Osijek: Sveučilište Josipa Jurja Strossmayera u Osijeku Ekonomski fakultet u Osijeku.

Tokić, K., & Tokić, I. (2017). Cultural heritage in libraries as a resource for the development of tourism: the case of eastern Croatia. In A. Mašek Tonković (ed.), 6th International scientific symposium Economy of Eastern Croatia - Vision and Growth (pp. 123-132). Osijek: Sveučilište Josipa Jurja Strossmayera u Osijeku Ekonomski fakultet u Osijeku.

Tomljenović, R., & Boranić Živoder, S. (2015). Akcijski plan razvoja kulturnog turizma. Ministarstvo turizma. Retrieved February 25, 2025, from http://www.mint.hr/UserDocsImages/arhiva/001_160128-AP_kulturni.pdf

Tomljenović, R., Marušić, Z., Weber, S., Hendija, Z., & Boranić, S. (2003). Strategija razvoja kulturnog turizma – Od turizma i kulture do kulturnog turizma. Institut za turizam.

UNESCO. (1994). Manifesto of Public Libraries. UNESCO.

UNESCO. (2003). Convention for the Safeguarding of the Intangible Cultural Heritage.

UNWTO. (2018). Tourism and Culture Synergies. World Tourism Organization.

Urry, J., & Larsen, J. (2011). The tourist gaze 3.0. Sage Publications.

Whitman, J. Q. (2003). The two western cultures of privacy: *Dignity versus liberty. Yale LJ*, 113, 1151.

Zović, I. (2011). Model razvoja narodnih knjižnica u kulturnom turizmu Istarske županije: doktorski rad. Zagreb: Filozofski fakultet.

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Innovation in Gastronomic Tourism: The Impact of Value Chain Stages on the Tourist Experience

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Abstract: *Gastronomic tourism has gained significant importance in the tourism industry, offering a unique experience for travellers to delve into the culture, traditions, and flavours of a destination. This study examines the role of the value chain in gastronomic tourism, with a focus on the city of Shkodra, Albania. Through a comprehensive investigation of the stages of the value chain, encompassing food production, preparation, distribution, and consumption, the study aims to comprehend their impact on visitors' gastronomic experiences. Objectives include identifying current trends in gastronomic tourism, such as technological advancements and tourists' preferences for authentic cuisine, as well as pinpointing innovations and assessing economic impacts at the local level. This study utilizes a regression model to analyze the value chain within a specific context. The authors aim to identify how these interpretations can inform the understanding of various factors influencing gastronomic tourism analysis and inform the development of appropriate strategies for its future growth.*

1. INTRODUCTION

Gastronomic tourism, a rapidly growing segment of the global tourism industry, offers travelers the opportunity to explore and experience the culinary heritage of different cultures. This form of tourism not only satisfies the gastronomic desires of tourists but also serves as a vehicle for cultural exchange, economic development, and sustainable practices. As the demand for authentic and unique culinary experiences continues to rise, innovation within the gastronomic tourism value chain has become crucial for destinations seeking to differentiate themselves and enhance the overall tourist experience. The value chain in gastronomic tourism encompasses multiple stages, including food production, preparation, distribution, and consumption. Each of these stages plays a critical role in shaping the tourist experience, from the sourcing of local ingredients to the final presentation of dishes in dining establishments. Innovations across these stages can significantly impact the quality, authenticity, and sustainability of the gastronomic offerings, thereby influencing tourists' perceptions and satisfaction. Recent studies have highlighted the importance of innovation in gastronomic tourism, particularly in the context of sustainable practices and technological advancements. For instance, the use of organic farming methods and the promotion of farm-to-table dining have been recognized as key innovations that enhance the authenticity and environmental sustainability of gastronomic tourism (Hall & Gössling, 2020). Similarly, the integration of digital technologies in food discovery and dining experiences has transformed the way tourists interact with local cuisines, offering new opportunities for personalization and engagement (Sthapit & Williams, 2021). This paper aims to explore the impact of innovations within the gastronomic tourism value chain on the overall tourist experience, with a specific focus on the city of Shkodra, Albania. By analyzing the stages of food production,

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preparation, distribution, and consumption, this study seeks to identify (i)current trends in gastronomic tourism, including technological advancements and tourist preferences for authentic cuisine (ii) how these innovations contribute to the enhancement of gastronomic tourism and its potential for future growth, (iii) to assess the economic impacts of gastronomic tourism at the local level in Shkodra. Through a combination of empirical research and statistical analysis, this paper will provide insights into the key factors driving innovation in gastronomic tourism and stakeholders seeking to capitalize on these trends. This paper will review the relevant literature on gastronomic tourism and value chain innovations, outline the research methodology, present the findings, and discuss the implications for the tourism industry and local economies.

2. LITERATURE REVIEW

Gastronomic tourism is increasingly recognized as a powerful means of experiencing a destination's culture and plays a vital role in the economy, cultural preservation and sustainability. According to Dixit (2019), the concept of gastronomic tourism extends beyond the simple consumption of food to include a deep engagement with the entire food system, from production to plate. The value chain in gastronomic tourism includes different stages, including the production, processing, distribution and consumption of food, all of which contribute to the overall tourist experience. Richards and Wilson (2020) emphasize the integration of local food systems in tourism products, suggesting that the authenticity and quality of the gastronomic experience are directly influenced by each stage of the value chain. They argue that innovations in food production and distribution, such as the use of organic ingredients or the promotion of local food markets, increase the perceived authenticity and sustainability of the tourism experience. Innovation in food production, especially through sustainable practices, has become an essential aspect of the growth of gastronomic tourism. Hall and Gössling (2020) discuss how technological advances in agriculture and food processing have allowed regions to differentiate their gastronomic offerings. These innovations include the development of organic farms, the use of heritage crops, and the adoption of sustainable agricultural practices, all of which contribute to the uniqueness of a destination's culinary identity. Furthermore, Del Valle and Garcia (2019) emphasize the importance of culinary innovation in the preparation stages. They argue that the incorporation of modern cooking techniques and the fusion of traditional and contemporary flavors can enhance the tourist experience by offering new and exciting gastronomic encounters. Such innovations not only attract food enthusiasts but also help preserve the culinary heritage by adapting it to modern tastes. The distribution of gastronomic products is another critical stage in the value chain that significantly affects the tourist experience. Ruiz and Lopez (2022) examine how distribution networks, including local markets, food festivals and direct farm-to-table initiatives, influence tourists' perceptions of authenticity and quality. They find that tourists are more satisfied when they can trace the origin of their food and when they are engaged in the distribution process, such as attending local food markets or visiting farms. In terms of consumption, Nunkoo and Pratt (2019) argue that the environment in which food is consumed plays a crucial role in shaping the tourist experience. Restaurants that emphasize local cuisine, traditional dining practices, and a strong connection to the community tend to provide more memorable experiences. The authors suggest that innovations in restaurant design, menu development, and service can further enhance the tourist experience by making it more immersive and reflective of the destination's culture. Technological advances have been essential in driving innovation at all stages of the value chain in gastronomic tourism. Sthapit and Williams (2021) discuss how digital technologies, such as mobile food discovery apps, online reservations and virtual culinary experiences, have transformed the way tourists interact with food. These technologies not only increase convenience but also allow greater personalization and customization of the gastronomic experience. Furthermore, sustainability has become a central

theme in the discourse of innovation within gastronomic tourism. Hall and Gössling (2018) explore how sustainable practices in food production, packaging and waste management contribute to the long-term sustainability of gastronomic tourism. They argue that tourists are increasingly valuing sustainability in their food choices, and destinations that adopt sustainable practices are more likely to attract environmentally conscious travelers. The economic and cultural impacts of innovations in gastronomic tourism are profound. Lazzeretti and Capone (2021) analyze how innovations in the value chain contribute to regional economic development by creating new jobs, promoting local products and fostering entrepreneurship. They also emphasize the role of gastronomic tourism in preserving cultural heritage by promoting traditional food practices and supporting local artisans. Hjalager (2018) emphasizes the cultural importance of gastronomic tourism. She argues that innovations in this sector not only enhance the tourist experience but also strengthen the cultural identity of the destination. By promoting unique culinary traditions and fostering a deeper understanding of local culture, gastronomic tourism can play a crucial role in cultural preservation and promotion.

3. METHODOLOGY AND DATA ANALYSES

This study aims to analyze the influence of value chain stages on the tourist experience in the context of gastronomic tourism. The research adopts a quantitative approach using a survey-based method to collect data from 100 tourists who have experienced gastronomic tourism in Shkodër, Albania. The survey results are then analyzed using a simple regression model to determine the relationship between value chain stages (independent variables) and overall tourism experience (dependent variable). The target population for this study consists of tourists who have engaged in gastronomic experiences in Shkodra. A sample of 100 respondents was selected through convenience sampling, focusing on tourists who visit popular gastronomic spots such as local restaurants, food markets and food cultural events. The survey is administered both in person and online in order to capture a diverse group of tourists.

3.1. Survey Instrument

The survey is designed to measure the tourists' experiences related to various stages of the value chain in gastronomic tourism. The instrument is divided into four key sections representing the value chain stages:

1. **Food Production**: Questions focus on tourists' perceptions of the quality and authenticity of locally sourced ingredients, as well as their awareness of sustainable practices.
2. **Food Preparation**: Questions address the significance of traditional and innovative cooking techniques, the quality of food preparation, and the involvement of local chefs.
3. **Food Distribution**: This section covers tourists' experiences with local food markets, farm-to-table practices, and the accessibility of local products.
4. **Food Consumption**: Questions explore the tourists' satisfaction with the dining experience, including the ambiance, service quality, and the authenticity of local dishes.

3.2. Hypotheses

- **Food Production**
  Null Hypothesis (H0): Food production does not have a significant effect on the overall tourist experience in gastronomic tourism.
  Alternative Hypothesis (H1): Food production has a significant effect on the overall tourist experience in gastronomic tourism.

- **Preparation**
  Null Hypothesis (H0): Food preparation does not have a significant effect on the overall tourist experience in gastronomic tourism.
  Alternative Hypothesis (H1): Food preparation has a significant effect on the overall tourist experience in gastronomic tourism.

- **Distribution**
  Null Hypothesis (H0): Distribution does not have a significant effect on the overall tourist experience in gastronomic tourism.
  Alternative Hypothesis (H1): Distribution has a significant effect on the overall tourist experience in gastronomic tourism.

- **Consumption**
  Null Hypothesis (H0): Consumption does not have a significant effect on the overall tourist experience in gastronomic tourism.
  Alternative Hypothesis (H1): Consumption has a significant effect on the overall tourist experience in gastronomic tourism

3.3. Model Specification

To analyse the value chain in gastronomic tourism and its impact on the overall tourist experience, we will construct a simple linear regression model. The dependent variable in this model will be the overall tourist experience, while the independent variables will be the stages of the value chain: food production, preparation, distribution, and consumption.

$$\text{Overall Tourist Experience} = \beta_0 + \beta_1 \text{Food Production} + \beta_2 \text{Preparation} + \beta_3 \text{Distribution} + \beta_4 \text{Consumption} + \epsilon$$

Where:

β_0 is the intercept.
$\beta_1, \beta_2, \beta_3, \beta_4$ are the coefficients for the independent variables
ϵ is the error term

3.4. Interpreting the Results

The regression output provides coefficients for each independent variable, the intercept, and various statistics.

- **R-squared**: Indicates the proportion of the variance in the dependent variable that is predictable from the independent variables.

- **Coefficients**: Show the expected change in the dependent variable for a one-unit change in the respective independent variable.

- **P-values**: Test the hypothesis that each coefficient is different from zero. A small p-value (typically ≤ 0.05) indicates strong evidence against the null hypothesis.

Table 1. OLS Regression Results

Variable	Coefficient	Standard Error	t-Statistic	p-Value	95% Confidence Interval
Constant	0.1023	0.293	0.349	0.741	[-0.816, 1.021]
Food Production	0.2460	0.158	1.556	0.212	[-0.259, 0.751]
Preparation	0.3897	0.142	2.743	0.070	[-0.057, 0.836]
Distribution	0.1389	0.158	0.879	0.434	[-0.366, 0.644]
Consumption	0.4087	0.201	2.033	0.137	[-0.210, 1.028]

Source: Own research

Table 2. Model Statistics value

Model Statistics	Value
R-squared	0.85
Adjusted R-squared	0.80
F-statistic	17.45
Prob (F-statistic)	0.003
Log-Likelihood	-2.1323
AIC	12.26
BIC	11.47
Durbin-Watson	1.581

Source: Own research

Statistical Test:

Omnibus Test**: 0.126 (p = 0.939)**
Jarque-Bera Test**: 0.249 (p = 0.883)**
Skewness**: -0.111**
Kurtosis**: 2.110**
Condition Number**: 1.63**

Below is a detailed explanation of the key components:

- **R-squared (0.85):** Indicates that 85% of the variance in the overall tourist experience is explained by the independent variables (Food Production, Preparation, Distribution, and Consumption). This is a high value, suggesting a strong fit of the model.
- **Adjusted R-squared (0.80):** Adjusts the R-squared value for the number of predictors in the model. An adjusted value of 0.80 still indicates a good model fit, accounting for the number of independent variables.
- **F-statistic (17.45):** Evaluates whether the model is statistically significant overall. A higher value suggests that at least one independent variable significantly predicts the dependent variable.
- **Prob (F-statistic = 0.003):** Indicates the p-value for the F-statistic. A p-value of 0.003 is statistically significant, meaning the overall regression model is meaningful.

Based on our output, we interpret the results for each hypothesis:

- **Food Production**: **Coefficient** = 0.2460, **p-value** = 0.212
  Since the p-value is greater than 0.05, we fail to reject the null hypothesis. Food production **does not have a statistically significant** effect on the overall tourist experience.
- **Preparation**: Coefficient = 0.3897, p-value = 0.070
  The p-value is slightly above 0.05, indicating a trend towards significance. While we do not have strong enough evidence to reject the null hypothesis at the 0.05 level, preparation appears to have a **potential impact** on the overall tourist experience.

- **Distribution**: Coefficient = 0.1389, p-value = 0.434
  Since the p-value is greater than 0.05, we fail to reject the null hypothesis. **Distribution does not have a statistically significant** effect on the overall tourist experience.

- **Consumption**: Coefficient = 0.4087, p-value = 0.137
  While the p-value is greater than 0.05, it is relatively close, suggesting **a potential effect**. However, we fail to reject the null hypothesis at the 0.05 level, indicating that consumption shows potential significance.

4. FUTURE RESEARCH DIRECTIONS

For future research, the authors suggest several directions that not only highlight potential areas for expanding current research but also underline the interdisciplinary nature of innovation in gastronomic tourism, including technology, culture, sustainability and economics.

1. **Technological Integration in the Value Chain:** Future studies can explore the role of advanced technologies, such as AI-driven personalization, blockchain for food traceability, and augmented reality (AR) for enhancing tourist experiences. Researchers could analyze how these technologies can be integrated at various stages of the value chain and their subsequent impact on tourists' satisfaction.
2. **Cross-Cultural Comparative Studies:** Conducting comparative studies between different cultural and regional contexts can provide insights into how value chains differ across gastronomic tourism sectors. Future research could explore how local cuisines and food traditions in different parts of the world influence the value chain and tourist experience.
3. **Sustainability and Environmental Impact:** Investigating the role of sustainability practices within the value chain stages, particularly in production and distribution, can provide a deeper understanding of how environmentally-friendly innovations affect the tourist experience and decision-making in gastronomic tourism.
4. **Longitudinal Studies on Trends and Consumer Preferences:** To identify evolving trends in gastronomic tourism, longitudinal research could monitor changes in consumer behavior, preferences for authentic experiences, and the impact of value chain innovations over an extended period. This would offer a more dynamic view of how the industry adapts to shifts in demand.
5. **Analyzing the Role of Stakeholders:** Future research could delve deeper into the roles of various stakeholders, such as local communities, businesses, and policymakers, in shaping the value chain in gastronomic tourism. Understanding the collaboration between these stakeholders can provide insights into enhancing regional competitiveness and promoting local culinary traditions.
6. **Impact of Crisis Situations on the Value Chain:** Given recent global challenges like the COVID-19 pandemic, examining the resilience and adaptability of the value chain in gastronomic tourism under crises could be a critical research area. Future studies could assess how disruptions affect each stage of the value chain and propose strategies for recovery.
7. **Consumer Perception and Sensory Analysis:** Research could also focus on exploring how tourists perceive different stages of the value chain, particularly through sensory analysis. Investigating how factors like taste, presentation, and ambiance influence tourist satisfaction would provide practical insights for businesses seeking to enhance their offerings.
8. **Economic Impact Analysis:** Future studies can assess the economic impact of innovations in gastronomic tourism at the regional or national level, focusing on how improvements in the value chain translate into economic growth, job creation, and sustainable investments.

5. CONCLUSION

Based on the hypothesis testing, we conclude the following:

- Food preparation and consumption show potential trends toward significance but do not meet the strict threshold of 0.05 in this analysis. Further research with a larger sample size may help clarify their impact.
- Food production and distribution do not have statistically significant effects on the overall tourist experience in the given sample.

These insights inform our recommendations to focus on enhancing food preparation techniques and promoting unique consumption experiences, as these areas show potential for improving the overall tourist experience in gastronomic tourism in Shkodra. By implementing the strategies, stakeholders in Shkodra can effectively support the value chain to encourage gastronomic tourism, benefiting local businesses, the community, and visitors, and has proven effective in attracting tourists. The economic benefits extend beyond the tourism sector, impacting local agriculture, hospitality, and retail industries.

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References

Dixit, S. K. (Ed.). (2019). *The Routledge handbook of gastronomic tourism*. Routledge.

Hall, C. M., & Gössling, S. (2018). *Sustainable culinary systems: Local foods, innovation, tourism and hospitality*. Routledge.

Hall, C. M., & Gössling, S. (2020). *Food tourism and regional development: Networks, products, and trajectories*. Routledge.

Hjalager, S. (2018). Gastronomy, tourism, and cultural identity: A review of innovations and trends. *Annals of Tourism Research*, 72(3), 101-115. https://doi.org/10.1016/j.annals.2018.04.003

Lazzeretti, L., & Capone, F. (2021). *Gastronomic tourism: Comparative studies of culinary traditions and experiences*. Springer.

Nunkoo, R., & Pratt, S. (2019). *Gastronomy and tourism: The global perspective*. Springer.

Richards, G., & Wilson, J. (2020). The role of local food and culinary innovation in tourist experiences: Insights from gastronomic tourism. *Tourism Management*, 31(4), 15-28. https://doi.org/10.1016/j.tourman.2020.1014

Ruiz, L., & Lopez, M. (2022). Understanding the impact of the value chain on tourist satisfaction in gastronomic tourism. *International Journal of Hospitality Management*, 34(2), 97-105. https://doi.org/10.1016/j.ijhm.2022.1234

Sthapit, E. A., & Williams, A. M. (2021). Innovation and value creation in gastronomic tourism: A systematic review. *Journal of Travel Research*, 60(7), 123-140. https://doi.org/10.1177/004728752098304

Valle, M. D., & Garcia, A. (2019). Innovation in gastronomic tourism: Exploring the role of technology and authenticity. *Journal of Sustainable Tourism*, 27(3), 452-470. https://doi.org/10.1080/09669582.2019.1578367

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An Empirical Study of Virtual Tour Experience in Tourism Context

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Abstract: *Technologies like virtual reality have the potential to create new ways of interaction between tourists and different tourist attractions. In this context, virtual tours can emerge as an innovative promotional tool that offers immersive experiences and provides a comprehensive understanding of a particular destination.*

This study aims to examine experience factors that influence satisfaction with virtual tours in several tourism sectors, namely, museums, national and nature parks, and tourism destinations. To measure variables in the research model, previously validated scales from the literature were adopted. Data was collected using an online questionnaire and analyzed with descriptive and multiple regression analyses.

The results reveal the significant impact of virtual tour experience on satisfaction, explaining how virtual tour features can enhance satisfaction with presented virtual content. Therefore, these results can benefit both academics and practitioners, by extending the present knowledge of virtual tour experience and measurement.

1. INTRODUCTION

The development of digital technologies like virtual reality supports and facilitates the creation of innovative tourism products and services that create immersive tourism experiences. Specifically, virtual tours serve as an effective promotional tool that may attract visitors to the destination, as well as an innovative and appealing way to experience tourism attractions in advance, that is in pre-journey phase. Accordingly, virtual tours allow users to experience attractions and destinations without actually physically visiting them. In this vein, El-Said and Aziz (2022) demonstrated that virtual tours are valuable promotional tools for creating future demand, they allow the location to be discovered by people who do not have the opportunity to visit the actual location in person, and are relevant for educational purposes, as well. Thus, the use of such a state-of-the art digital technology can be beneficial to both, tourism service providers, as well as to tourists and destination visitors.

The virtual tour is a simulation of an existing location that is composed of a sequence of video images (Osman et al., 2009), using sound effects, audio guidance, or text descriptions (El-Said & Aziz, 2022). In the tourism context, a virtual tour provides potential visitors destination experience, presented in the virtual environment (Huang et al., 2016).

Virtual tours may be experienced through the internet using a computer or using advanced technologies such as virtual reality (El-Said & Aziz, 2022). Indeed, virtual reality represents the main technical support for virtual tours, making virtual tours one of the most promising immersive technologies that can present both tangible and intangible attributes of a real location.

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This research aims to answer the call of Oklevik et al. (2021) for experience research based on multi-case research studies. Thus, to gain comprehensive insights into the tourism context, virtual tours from different tourism sectors were used (museums, national and nature parks, and tourism destinations). Furthermore, according to Panduputri and Novani (2021), the virtual tour experience has received little attention applying experience economy theory. Therefore, the present study incorporated four experience economy dimensions in the virtual tours experience context. In addition, past studies (e.g. El-Said & Aziz, 2022; Mastroberardino et al., 2022) addressed the topic of virtual tour experience in the context of the COVID-19 crisis, while the present study focuses on virtual tours as an integral, innovative part of the tourism offer.

Building on these assumptions, current research aims to address the following research questions:

RQ1: How do users perceive the virtual tour experience?

RQ2: What aspects of the virtual tour experience are important for achieving satisfaction with presented virtual content?

To answer these research questions, an empirical study was conducted, using virtual tours of museums, national and nature parks, and tourism destinations.

2. CONCEPTUAL FRAMEWORK

Mastroberardino et al. (2022) stated that experiences present personal creation with an emotional nature, generated by the interaction between the individual and the offer. Pine and Gilmore (1999) created experience economy theory and described experiences as the combination of four dimensions, namely, entertainment, education, aesthetics, and escapism. In the tourism context, experiences are the essence of travel and the key component of tourism product development (Stasiak, 2019).

Virtual reality (VR) refers to interactive display technologies that provide users with an immersive experience of exploring a virtual world (An et al., 2021). Specifically, the virtual tour itself can be considered an experience for the individuals who participate in it (Panduputri & Novani, 2021). In addition, virtual tour experiences involve direct users' interaction with virtual tours and represent their subjective responses. El-Said and Aziz (2022) found that perceived usefulness, perceived enjoyment, and perceived ease of use are important features of virtual tour design. The current study considers virtual tour experiences as a combination of basic experience economy elements, extended with the particular features of the technology environment. Therefore, for the present research, virtual tour experiences are conceptualized as a combination of education, entertainment, escapism, aesthetics, and ease of use, thus creating a five-dimensional construct.

In general, satisfaction can be defined as the overall evaluation of the experience of using a product or service (Kao et al., 2006). In the digital technology perspective, virtual reality experiential satisfaction reflects the satisfaction perceived from the VR content (Wu et al., 2020). Therefore, in the present research virtual tour satisfaction refers to the level of users' satisfaction with virtual tour experience.

In addition, experiences have a significant role in enhancing customer satisfaction. According to Pine and Gilmore (1999), customers who encounter a unique experience, maximize their satisfaction. Furthermore, in the context of adopting digital technology in tourism, past studies revealed that digital technology experiences directly impact tourist satisfaction. For instance, Pai et al. (2020) showed a significant association

between smart tourism technology experience and travel experience satisfaction. Rahimizhian et al. (2020) reported that experience dimensions of perceived enjoyment, autonomy, usefulness, and ease of use are significant predictors of satisfaction with 360-degree video experience. An et al. (2021) found a significant relationship between telepresence and focused attention as VR simulation experience dimensions, and satisfaction in VR travel context. Panduputri and Novani (2021) found that entertainment, aesthetics, and escapism as experience economy dimensions positively affect virtual tour satisfaction.

Therefore, the present study aims to test the following hypothesis:

Hypothesis One: Virtual tour experience dimensions have a significant effect on virtual tour satisfaction.

3. METHODOLOGY

Following the methodology from Panduputri and Novani (2021) using virtual tours of different types of destinations (e.g., cultural and historical, city and urban, nature and landscape, and thematic attractions), this study aims to examine experience factors that influence satisfaction with virtual tours in several tourism sectors, namely, museums, national and nature parks, and in tourism destinations. Selected virtual tours were designed as navigable reproduction with 360-degree view, offering reality impressions, and allowing users to individually explore the presented site.

To measure variables in the research model, previously validated scales from the literature were adopted. The virtual tour experience was operationalized with five dimensions (education, entertainment, escapism, aesthetics, and ease of use), adopted from Panduputri and Novani (2021) and El-Said and Aziz (2022). The virtual tour satisfaction construct was measured with three items from Rahimizhian et al. (2020). Both, virtual tour experience and virtual tour satisfaction were assessed on a scale from "strongly disagree" (score 1) to "strongly agree" (score 5).

An online questionnaire with a snowball sampling technique was used to collect the data. E-mails with links leading to virtual tours in several tourism sectors and links with questionnaires, accompanied with the invitation for participation in the survey, as well as requests for forwarding the e-mail were sent to randomly selected contacts. Data collection ended with 205 valid questionnaires.

Although the research is based on a convenience sampling procedure, s multiple case studies approach was used to meet the research objective and to obtain the data from different tourism sectors, which would lead to more comprehensive insights into the virtual tour experience in the tourism context. Namely, the data was collected based on virtual tours representing museums, national and nature parks, and tourism destinations.

Data was described with descriptive statistical analysis. In addition, Cronbach's alpha coefficients were calculated to assess the reliability of research constructs. For testing the main study hypothesis, multiple regression analysis was performed.

4. RESULTS

This section presents sample description, reliability scores for research constructs, perceived experience and satisfaction mean scores, as well as hypothesis testing results. Analysis was performed on 205 valid questionnaires.

The sample structure consisted of predominantly female respondents (68.3 per cent). In terms of age distribution, the majority was between 21 and 30 years of age (56.1 per cent), followed by those older than 41 (30.3 per cent). Most of them completed secondary school (56.6 per cent) or college or a higher level of education (41.4 per cent). Respondents were predominantly employed (55.1 per cent) or reported a student status (37.1 per cent).

In terms of virtual tour experience characteristics, the sample consisted of respondents who predominantly experienced a particular virtual tour for the first time (87.8 per cent), mostly up to 3 minutes (46.3 per cent), or between 4 and 5 minutes (39.0 per cent). The majority of the respondents accessed the particular virtual tour via mobile phone (58.0 per cent).

Table 1 summarises results of descriptive and reliability analyses for research constructs.

Table 1. Descriptive and reliability analyses' results

Constructs and dimensions	Mean	Standard deviation	Cronbach alpha	Number of items
Virtual tour experience	*3.69*	*0.843*	*0.957*	*17*
Education	3.58	0.969	0.892	4
Entertainment	3.87	0.929	0.853	3
Escapism	3.28	1.024	0.881	4
Aesthetics	3.89	0.946	0.894	3
Ease of use	4.00	0.917	0.860	3
Virtual tour satisfaction	*4.06*	*0.922*	*0.906*	*3*

Note: numbers in italics represent overall values for each construct

Source: Own research

As reported in Table 1, values of Cronbach's alpha coefficient are very high for both constructs, as well as for individual dimensions. These results meet recommendations from Hair et al. (2010), and suggest strong internal consistency and reliability of research constructs and dimensions.

With regard to descriptive analysis, mean scores reveal positive overall virtual tour experience (mean = 3.69), with "ease of use" and "aesthetics" as the best assessed virtual tour experience dimensions (mean = 4.0, and mean = 3.89, respectively). In addition, the overall mean score appointed to the virtual tour satisfaction construct reveals highly satisfied virtual tour participants.

Next, the impact of virtual tour experience dimensions on virtual tour satisfaction was examined, testing the main research hypothesis. For this purpose, multiple regression analysis was performed. In the regression model, virtual tour experience dimensions "education", "entertainment", "escapism", "aesthetics", and "ease of use" were independent variables, while the virtual tour satisfaction construct was the dependent variable. Table 2 presents multiple regression analysis results.

Table 2. Multiple regression analysis results

Independent variables	b	Beta	t	Sig.
Constant	0.451		2.839	0.005*
Education	0.131	0.138	2.149	0.033**
Entertainment	0.143	0.144	1.981	0.049**
Escapism	-0.065	-0.072	-1.336	0.183
Aesthetics	0.316	0.324	3.880	0.000*
Ease of use	0.391	0.389	5.864	0.000*
$F(5, 199) = 111.677$, $p < 0.01$; $R = 0.859$; $R^2 = 0.737$				

Note: dependent variable is virtual tour satisfaction; * - significant at 0.01 level; ** - significant at 0.05 level

Source: Own research

Results presented in Table 2 show that the relationship between virtual tour experience dimensions and virtual tour satisfaction is positive, strong and significant ($R = 0.859$, $p < 0.01$). What is more, F-statistics is significant, meaning that the model's independent variables significantly predict the dependent variable. In addition, virtual tour experience dimensions explained 73.7 per cent of the variance in the virtual tour satisfaction construct.

The highest individual significant impact on virtual tour satisfaction was demonstrated by the dimension "ease of use" ($\beta = 0.389$, $p < 0.01$), followed by the dimensions "aesthetics" ($\beta = 0.324$, $p < 0.01$), "entertainment" ($\beta = 0.144$, $p < 0.05$), and "education" ($\beta = 0.138$, $p < 0.05$). Only the dimension "escapism" did not demonstrate an individual significant impact on virtual tour satisfaction ($p > 0.05$).

According to the reported results, virtual tour experience dimensions (namely the combination of education, entertainment, escapism, aesthetics, and ease of use) are significant predictors of virtual tour satisfaction. These results confirm the main research hypothesis.

5. CONCLUSION

This research was conducted to highlight the factors of virtual tour experience that would influence virtual tour satisfaction in the context of the tourism sector. The results provide perceptions of virtual tour experience, assessment of satisfaction level, as well as support that the combination of virtual tour experience dimensions positively affects virtual tour satisfaction.

In particular, the results showed that about 74 per cent of virtual tour satisfaction is explained through the overall impact of the five experience dimensions included in the research model. This result reflects the strength of the proposed research model in predicting users' satisfaction with virtual tours and suggests that the combination of education, entertainment, escapism, aesthetics, and ease of use represents important and powerful virtual tour experience features that significantly affect users' satisfaction with virtual tours in the tourism context. Hence, the research hypothesis is supported.

To address the research questions proposed in this paper, the individual importance of each experience dimension will be analysed. Results showed a satisfactory level of overall virtual tour experience, revealing ease of use as the best-perceived feature of virtual tours, as well as the most dominant individual attribute in creating high levels of user' satisfaction. This result implies that virtual tour creators should consider simplicity, flexibility to different levels of technology competence, as well as ability for interaction when designing virtual tours.

Similarly, aesthetics was a highly perceived experience feature that had a significant individual impact on virtual tour satisfaction. This result indicates that virtual tours should be attractive, with a pleasing environment, and close attention to detail.

Next, entertainment was assessed as an important experience feature and demonstrated a significant individual effect in enhancing satisfaction with virtual tours. This result suggests that feelings of enjoyment, fun, amusement and pleasure, as well as unusual experiences, are important elements of virtual tour design.

In addition, education was a positively perceived feature of the virtual tour experience, and exhibited a significant individual effect on virtual tour satisfaction, as well. This result shows the

importance of learning experiences that should be incorporated in virtual tours, enabling users to learn something new, to make them more curious, and to acquire new knowledge or to expand the existing one.

On the other hand, although previous studies (e.g. Trunfio et al., 2019; Guo et al., 2023) reported escapism as an important dimension of digital experience, the results of the present study showed that the individual impact of the escapism dimension on virtual tour satisfaction was not significant. This may be explained by the fact that virtual tours in the present study were not designed to involve all the senses. Namely, according to Mastroberardino et al. (2022), virtual tours that use specially developed interfaces that involve all the senses in a realistic way (e.g. gloves, headphones, visors, etc.) create virtual interactions that provide users more sensory, interactively, and participatory involved experience.

This study contributes to virtual tour experience literature by applying a combination of experience economy theory dimensions (namely, education, entertainment, escapism, and aesthetics) in a virtual reality context and by extending the combination of these dimensions with the dimension "ease of use", as an important feature of digital technology experience. Additionally, this study empirically tested the role of these dimensions in creating virtual tour users' satisfaction. Current findings provide evidence that virtual tour experience dimensions are significant factors that have an impact on users' satisfaction, suggesting that positive virtual tour experience leads to highly satisfied virtual tour users. According to these results, virtual tours should be user-friendly, aesthetically appealing, entertaining, and educational to create highly satisfactory experiences that enhance the satisfaction of virtual tour users.

However, several limitations can be addressed by future research. Although the sample structure allows generalizability of the results since it includes several tourism sectors, future studies could be designed on larger samples that would allow comparison between particular tourism sectors. Besides, future research can test the role of other virtual tour experience features in predicting virtual tour satisfaction, as well as investigate experience and satisfaction constructs as antecedents of behavioral intentions in the virtual tour context.

References

An, S., Choi, Y., & Lee, C.-K. (2021). Virtual travel experience and destination marketing: Effects of sense and information quality on flow and visit intention. *Journal of Destination Marketing & Management, 19,* 100492, https://doi.org/10.1016/j.jdmm.2020.100492

El-Said, O., & Aziz, H. (2022). Virtual Tours a Means to an End: An Analysis of Virtual Tours' Role in Tourism Recovery Post COVID-19, *Journal of Travel Research, 61*(3), 528-548.

Guo, K., Fan, A., Lehto, X., & Day, J. (2023). Immersive Digital Tourism: The Role of Multisensory Cues in Digital Museum Experiences. *Journal of Hospitality & Tourism Research*, *47*(6), 1017-1039. https://doi.org/10.1177/10963480211030319

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate Data Analysis: A Global Perspective.* 7th Edition, New Yersey: Pearson Education Inc., Upper Saddle River

Huang, Y. C., Backman, K. F., Backman, S. J., & Chang, L. L. (2016). Exploring the implications of virtual reality technology in tourism marketing: an integrated research framework. *International Journal of Tourism Research, 18*(2), 116–128

Kao, Y. F., Huang, L. S., & Yang, M. H. (2006). Effects of experiential elements on experiential satisfaction and loyalty intentions: A case study of the super basketball league in

Taiwan. *International Journal of Revenue Management, 1*(1), 79–96. https://doi.org/10.1504/IJRM.2007.011195

Mastroberardino, P., Calabrese, G., Cortese, F., & Petracca, M. (2022). New perspectives of experiential tourism: an exploratory analysis of live virtual tours during the COVID-19 outbreak, *The TQM Journal, 34*(6), 1732-1751, DOI 10.1108/TQM-06-2021-0164

Oklevik, O., Kwiatkowski, G., Preuss, H., & Kurdyś-Kujawska, A. (2021). Contextual engagement in event visitors' experience and satisfaction, *Scandinavian Journal of Hospitality and Tourism,* DOI: 10.1080/15022250.2021.1927829

Osman, A., Wahab, N. A., & Ismail, M. H. (2009). Development and Evaluation of an Interactive 360 Virtual Tour for Tourist Destinations. *Journal of Information Technology Impact,* 9(3), 173–82.

Pai, C. K., Liu, Y., Kang, S., & Dai, A. (2020). The role of perceived smart tourism technology experience for tourist satisfaction, happiness and revisit intention. *Sustainability, 12*(16). https://doi.org/10.3390/su12166592

Panduputri, T. U., & Novani, S. (2021). Examining Experience Economy Dimensions on Virtual Tour Satisfaction and Destination Visit Intention. *Journal of Integrated System*, *4*(2), 101–114. https://doi.org/10.28932/jis.v4i2.4155

Pine, B., & Gilmore, J. (1999). *The Experience Economy: Work Is Theatre and Every Business a Stage*, Boston: Harvard Business Press.

Rahimizhian, S., Ozturen, A., & Ilkan, M. (2020). Emerging realm of 360-degree technology to promote tourism destination, *Technology in Society, 63*, 101411.

Stasiak, A. (2019). "Creating tourism experiences – theoretical foundations", in Jelincic, D. A. and Mansfeld, Y. (Ed.), Creating and Managing Experiences in Cultural Tourism, World Scientific Publishing, Singapore, New York, and London, pp. 17-41.

Trunfio, M., Campana, S., & Magnelli, A. (2019). Measuring the impact of functional and experiential mixed reality elements on a museum visit, *Current Issues in Tourism*, https://doi.org/10.1080/13683500.2019.1703914

Wu, H.-C., Ai, C.-H., & Cheng, C.-C. (2020). Virtual reality experiences, attachment and experiential outcomes in tourism. *Tourism Review, 75*(3), 481-495. DOI 10.1108/TR-06-2019-0205

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The Impact of COVID-19 on Destination's Life Cycle (The Case of Samokov Municipality, Bulgaria)

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Abstract: *The life cycle of a destination is a concept used by Butler (1980) to examine and analyze tourism evolution in specific destinations.*

With the beginning of the COVID-19 pandemic world tourism arrivals and revenues decreased, occupancy rates fell, and international markets shifted.

The paper aims to examine the extent of these changes and the pandemic effect on the life cycle in one of the most popular winter ski and sports destinations in Bulgaria – Samokov municipality. The methods used are based on statistical data provided by the Bulgarian Statistical Institute.

The main results of the research are that Bulgarian tourism in general is recovering quickly and successfully after the COVID-19 pandemic and that the life cycle of a destination is not limited only to the changing numbers of tourist arrivals to it. There is a need to review the classic model of Butler and introduce more indicators to be used.

1. INTRODUCTION

Tourism is a high-priority economic sector in Bulgaria producing 10% of the country's GDP. Its tourism destinations are at various stages of development and of their life cycles.

The life cycle of a destination is a concept used by Butler (1980) to examine and analyse tourism evolution in specific destinations regarding their development as a clearly expressed continuous process. This concept has a graphic interpretation and the life cycle as a whole can be represented by several consecutive stages called introduction, growth, maturity, stagnation and decline.

With the start of the COVID-19 pandemic tourism in Bulgaria as in many other European countries drastically changed – tourism arrivals and revenues decreased, occupancy rates fell, and international markets shifted. These phenomena brought a very significant change in the life cycles of many destinations and the sequence of their stages.

The paper aims to examine the extent of these changes in one of the most popular winter ski and sports destinations in Bulgaria – Samokov municipality where the oldest ski resort in the country (Borovets) is situated.

To achieve this aim several tasks are formulated and performed: primary and secondary data are gathered and analysed to describe the temporal development and changes of various tourism indicators (No of beds, nights spent, tourist arrivals, revenues, tourist function, lodging index, etc.). Statistical data is provided by Bulgarian Statistical Institute and graphics are widely implemented to reveal the changes and the period when they have been observed.

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Based on tourism recovery in the investigated destination which is illustrated again by statistical data of recent years and based on the results of the analyses done conclusions are drawn that confirm the following work hypotheses:

- Bulgarian tourism is recovering quickly and successfully after the COVID-19 pandemic. According to the latest UNWTO barometer in 2023, the No of tourist arrivals is 27% higher than in the pre-pandemic 2019 which puts the country in the 6th position in the world; and the revenues show a 21% increase for the same period placing the country in the 10th position in the world (Investor Media Group, 2023);
- After the end of the pandemic tourism destinations in general are likely to recover quickly and resume their previous life cycle stage;
- The life cycle stage of a destination should not be determined only by its quantitative characteristics and indicators.

The main result of the present research is that the life cycle of a destination is not limited only to the changing numbers of tourist arrivals to it in various periods. There is a need to review the classic model of Butler and to introduce more qualitative indicators to it.

2. SAMOKOV DESTINATION

Samokov municipality is situated some 60 km away from Bulgaria's capital Sofia in the highest mountain on the Balkan peninsula Rila. It is one of the oldest tourism destinations in the country still attracting many one-day and overnight visitors from the country and abroad.

Although it was first developed as a summer destination, nowadays winter mountain ski tourism is prevailing. Throughout the years several tourism centers were formed:

- Borovets – the oldest ski resort in Bulgaria. Founded in 1896 as a summer holiday destination for the royal family it is now an established national resort with over 4 thousand beds and 430 000 registered overnights.
- Malyovitsa – is another famous resort in the destination which is recently renovated.
- Several villages at the feet of the mountain develop mostly rural, eco-tourism and second homes.
- The town of Samokov – famous for its cultural heritage, sports facilities and event tourism.
- Belchin baths – a new center developing SPA and balneological tourism.

Thanks to the beautiful nature, unique location and rich cultural heritage, Samokov and the region are attractive places to visit and relax. The year-round development of various forms of tourism is appropriate.

The development of tourism in the municipality over the last 25 years has been at a significantly slower pace. This speaks of a certain saturation of the tourist potential of the destination and of the stage of its life cycle in which it is, namely slow and small development with a transition to stagnation. The negative rates of increase in the average stay of tourists also speak for this.

There is a tendency to decrease the length of stay and increase weekend visits, which is explained by the proximity to the capital and the preference of its residents for a weekend in nature and skiing, spa without unnecessary loss of time on the road. The number of vacations during the year has increased at the expense of their length, which is another trend characteristic of the new generation of Millennials. Another factor that has contributed to this line of development is low-cost airlines, which have created additional convenience and opportunity for international travelers (Table 1).

Table 1. Tourism indicators of destination Samokov

Year	2018	2019	2020	2021	2022	2023	Growth rate (%)
No of beds	5102	5212	5403	5284	5827	5195	26,4
No of nights	537 897	548 531	369 657	370445	520813	501574	34,7
-Bulg.	283265	289634	161146	294242	302399	284314	65,1
-Intnl	254632	258897	208511	76203	218414	217260	8,5
No of tourists	194 530	232 474	111 564	148993	189595	181627	75,9
-Bulg.	131513	146730	65932	127375	136909	128226	77.8
-Intnl	63017	85744	45632	21618	52686	53401	71,6
Revenues (leva)	26625580	28952287	22390532	20911773	37460458	39524578	1 311,4
Average stay	2,7	2,4	3,3	2,5	2,8	2,8	-22,2
-Bulg.	2,2	2	2,4	2,3	2,2	2,2	-8,3
-Intnl	4	3	4,6	3,5	4,2	4,1	-35,9
Occupancy	33,7	33,9	30,9	22,8	31	31,1	11,5
No of nights/bed	105,4	105,2	68,4	70,1	89,4	96,5	6,5
Bed density/km^2	4,2	4,3	4,5	4,4	4,8	4,3	26,5
Tourist function	0,127	0,130	0,130	0,130	0,146	0,133	52,9
Tourist intensity	15,34	15,79	10,23	10,47	15,24	14,77	20,9

Source: NSI, 2024; Own calculations

The municipality continues to have a pronounced two-season tourism - strong winter ski tourism and weaker summer mountain tourism, with the main part of overnight stays (with a predominant percentage of foreigners) taking place in the national resort of Borovets, while visits by Bulgarians prevail in the villages. The number of overnight stays realized in the town of Samokov is insignificant.

Continued slow development of tourism in the municipality of Samokov can be expected, as the main prerequisite for this will be the new forms and types of tourism that will be implemented and will attract tourists without further increasing the tourist super- and infrastructure to future sustainable tourism development in it.

The possibilities for future development of tourism in the municipality are related to:

- the skilful combination of tourist development with the protection of the natural environment and respect for the way of life and culture of the local population;
- the use of National Park "Rila" for reorientation towards new alternative and modern forms of ecotourism and implementation of ecologically oriented projects;
- improving the summer operation of the resorts and diversifying the offered tourist products with forms of summer sports and activities;
- development of small and medium-sized tourism businesses with active involvement of the local population in the tourism process;
- attraction of funding sources in the tourism sphere from European funds.

3. TOURISM AREA LIFE CYCLE (TALC)

The concept of life cycles was first mentioned by Levitt (1965), adapted and used by Butler for tourism research in the 1980's (Butler, 1980). Butler (1980) conceptualized a Tourist area an evolutionary cycle

(tourist area life cycle or TALC), which describes the development of a destination area in terms of a series of stages defined by visitor numbers and infrastructure developed. The 'exploration', 'involvement', 'development" and 'consolidation' phases of the model signify growth, while the 'stagnation' stage represents a gradual decline. As the consolidation stage is entered the number of visitors declines. A major part of the area's economy is tied to tourism, while in the stagnation stage, the peak number of visitors will have been reached. The area is well developed but no longer in fashion. The end of the cycle is marked by the 'post-stagnation' phase, which comprises a set of five options that a destination may follow. The decline may ensue if the market continues to wane and the destination is not able to compete with newer attractions.

However, if counter-measures are adopted, such as the reorientation of tourist attractions, environmental enhancement, or the repositioning of destinations within an overall market, the decline may be offset and varying degrees of rejuvenation and stimulated (Butler, 1980; Agarwal, 1997). It is now more than four decades since the original Tourism Area Life Cycle (TALC) article first appeared (Butler, 1980), and rather surprisingly the model proposed in that article is still being cited and used in tourism research. It attempts to portray a common pattern of the development of tourist resorts, a pattern which argues is common to many resorts throughout the world (Butler, 2011).

Despite some heavy criticisms from various researchers, Butler's destination-life-cycle concept is used frequently in the tourism literature. Several researchers have adopted the lifecycle concept to the life cycle of resorts (e.g. Agarwal, 2002; Andriotis, 2003). Others focused on the life cycles of destinations or regions (e.g. Faulkner, 2002). Most researchers agree that in the life cycle of destinations, some stagnation or decline will eventually appear. Therefore, it is crucial to recognize the signs of stagnation and alert core stakeholders of their presence. It needs to be emphasized that stagnation can only be averted if it is realized that the approaches of the past will not work in the future (Faulkner, 2002).

The concept of Buhalis (2000) and the matrix developed by him makes it possible to determine the stage of development of the destination, which reflects on the wholesome development of tourism – tourism impacts, marketing responses, etc., and in general can be used as a tool for strategic planning, which makes it extremely valuable for academic and practical application purposes.

The TALC concept was used by many Bulgarian scientists (Dogramadjieva, 2013; Marinov et al., 2016; Assenova, 2013; Mitova, 2020; Kotsakov, 2024; etc.) to determine the life cycle stages of various tourism destinations in the country.

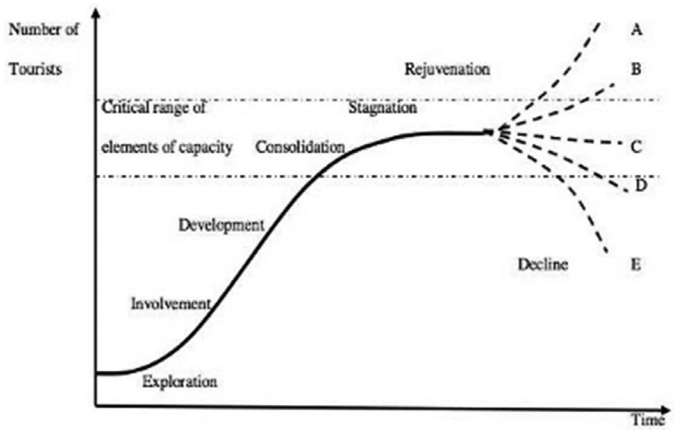


Figure 1. Tourism Area Life Cycle

Source: Butler, 1980

All analyses carried out so far lead to the conclusion that the tourist destination municipality of Samokov is generally in the stage of consolidation from 2006 to 2019. After the pandemic, in which a decline in almost all indicators was noted, a stage of recovery began, which has not yet been completed and it cannot be determined whether it will continue as growth (revival) or remain in the stagnation stage.

Some new tourism products and some tourism territorial entities in the destination though are now showing signs of growth. SPA and balneological tourism, rural and cultural tourism, ecotourism are in the development phase, and adventure, event and golf tourism are in the introduction phase.

4. COVID-19 PANDEMIC AND TOURISM

The coronavirus (COVID-19) pandemic not only had a significant impact on public health, but it also affected one of the linchpins of the global economy, the tourism industry. As many countries introduced travel restrictions to contain the spread of the virus, domestic and international travel significantly declined in early 2020. The financial repercussions of the pandemic manifested later that year when the total travel and tourism spending worldwide more than halved between 2019 and 2020, decreasing from over five trillion U.S. dollars to 2.44 trillion U.S. dollars.

The COVID-19 pandemic has impacted the tourism industry due to the resulting travel restrictions as well as slump in demand among travelers. The tourism industry has been massively affected by the spread of coronavirus, as many countries have introduced travel restrictions in an attempt to contain its spread. The United Nations World Tourism Organization estimated that global international tourist arrivals could have decreased by 58% to 78% in 2020, leading to a potential loss of US $0.9–1.2 trillion in international tourism receipts (UNWTO, 2024).

In many of the world's cities, planned travel went down by 80–90%. Conflicting and unilateral travel restrictions occurred regionally and many tourist attractions around the world, such as museums, amusement parks, gyms and sports venues closed down. After March 2020, tourist firms' connectivity has skyrocketed. Restaurants are the most significantly impacted subsectors of tourism, followed by airline firms. UNWTO reported a 65% drop in international tourist arrivals in the first six months of 2020. Air passenger travel showed a similar decline. 2020 international travel declined by 72% worldwide and the number of events declined by 90%.

The United Nations Conference on Trade and Development released a report in June 2021 stating that the global economy could lose over US$4 trillion as a result of the pandemic (UNWTO, 2021).

In Bulgaria, the first state of emergency was announced on March 13, 2020, and on June 14, 2021, Bulgaria was enrolled in the list of countries with a high risk of Coronavirus contamination (Robert Koch Institute – Germany). On October 24, 2022, over 1,284,051 confirmed Coronavirus cases (Ministry of Health). The epidemiological situation was officially canceled on April 1, 2022. Bulgaria is at 87 place in the world by the number of contaminated persons.

After June 14, 2020, only business trips were allowed. Tourism was blocked – totally or partially. Hotels were not officially closed but many of them closed down due to the lack of tourists. Tour operators ceased their activities but did not reimburse tourists. Insurers refused to pay insurance caused of force majeure circumstances. Finally, it was decided that vouchers should be issued to

tourists. Strict measures were imposed on hotels, restaurants and visitor attractions. Prices went up due to high exploitation costs and low number of clients.

5. FINDINGS AND DISCUSSION

The municipality of Samokov has well-developed tourism, considering that it is home to the national resort of Borovets and its relatively high tourism function - 0.133.

Conditionally, we can divide the analysis of the values of tourism indicators before and after 2019, since the emergence of the pandemic has changed the way of travel and vacation for people all over the world. Until 2019, a steady growth of both tourists and overnight stays was noted. After the sharp decline in 2020, we can report growth in 2021, 2022 and 2023.

A significant decline in the tourism development of Samokov municipality was observed during the Coronavirus pandemic - especially in 2020. It is noticeable in all indicators of the structure and type of tourist development (Fig. 3 and Fig. 5) and in all absolute indicators except the number of beds in accommodation (Fig. 2). Some indicators of the intensity of tourist development in the municipality also have not changed – e.g. tourist function (Fig.4).

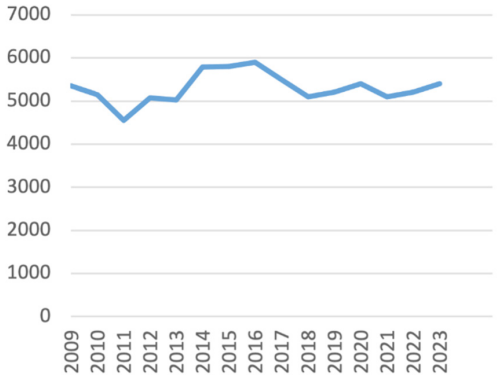


Figure 2.
Dynamics of bed numbers



Figure 3.
Dynamics of nights spent and tourist numbers

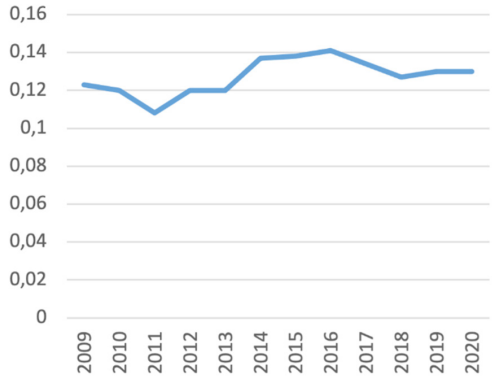


Figure 4.
Dynamics of the tourist function

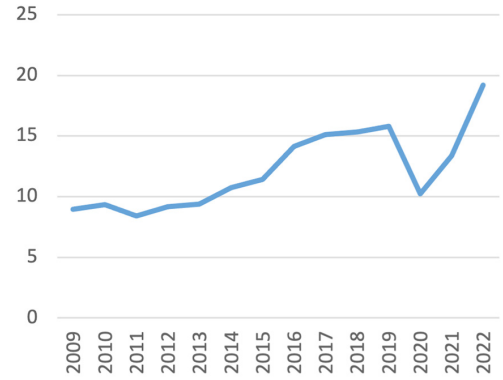


Figure 5.
Dynamics of the tourism intensity

Source: Own processing

In terms of new projects and investments in tourism, the COVID-19 crisis had also some positive aspects, which allowed the modernization of accommodation and the adaptation of supply to new consumer demands.

1. The Lyon, Breza, Ella, etc. hotels were completely or partially renovated in the Borovets resort.
2. The Malovitsa resort complex started the 2021-2022 season with a completely renovated ski area. Malovitsa Hotel and Alpinist Hotel were renovated with a new museum dedicated to mountaineering in Bulgaria, restaurants, a large parking lot and numerous summer sports activities for children and adults.
3. SPA complex "Belchinski Izvor" was opened in 2020 in the village of Belchin. It is the newest specialized balneological 4-star complex in the municipality, offering a year-round combination of balneo, SPA, rural, event and cultural tourism.
4. Okol Lake Park is a priority investment project on an area of 3,000 acres, which aims to build an 18-hole golf course, a five-star hotel complex "Pullman Resort" and a village of 650 single-family houses according to an individual project. The start of the golf course was on July 3, 2024, and the opening of the hotel and the adjacent accommodation villas will be on January 1, 2025.
5. Project "SamElion" is a multifunctional complex in the southernmost part of the city of Samokov next to the Iskar River and Lago Park, which includes the construction of sports and conference halls, SPA and wellness hotel and housing - houses and apartments. Its launch date is September 2024.

Dramatic changes such as climatic changes, epidemics, wars, etc. can significantly change the dynamics in numbers of tourists and hence create an impression that the lifecycle has changed or has been interrupted. The research revealed that some characteristic indicators such as No of beds or tourist function remain unchanged and thus place the destination at the same stage of its life cycle.

The relatively long period of stagnation in which the destination is located should serve as an incentive for the governing bodies, tourism organizations and individual entrepreneurs to look for ways to move towards the revitalization of the destination, so as not to reach its ultimate decline. It should not be forgotten that, while in the case of TALC, there is an opportunity for the next stage of revitalization after the maturity or consolidation, in the case of the Tourist Product Life Cycle there is no such possibility. This means that either new products must be introduced or the quality and focus of existing products with all their tangible and intangible components must be fundamentally changed.

The individual tourist areas in Samokov destination are also at different stages of their life cycle – national resort Borovets (stagnation) with some elements of renewal (updated bed base and new activities, e.g. Theater in the Mountain), the villages (accelerated growth) and the town of Samokov (moderate growth).

There was a significant period (until 2015-2019) during which the destination relied on only a few types of tourism - summer, winter, sports, hunting and fishing. Since 2019, a highly dynamic development of alternative types of tourism by-products has begun, with the latest ones showing a significant growth rate. At the same time, mass tourism is stagnating and declining.

A positive moment that can contribute to revitalizing the destination, avoiding the next stage of decline and reaching a stage of rejuvenation, is the introduction of new products and new types of tourism in it - golf tourism, balneo and spa tourism, summer mountain, alternative winter sports in Maliovitsa and others.

6. CONCLUSION

The conclusions drawn are related to two subjects:
- The effect of the COVID-19 pandemic on tourism evolution in destination Samokov;
- The life-cycle stage of destination Samokov.

Bulgarian tourism is recovering quickly and successfully after the COVID-19 pandemic. According to the latest UNWTO barometer in 2023, the No of tourist arrivals is 27% higher than in pre-pandemic 2019 which puts the country in the 6th position in the world by speed of recovery; and the revenues show a 21% increase for the same period placing the country in the 10th position in the world by speed of recovery (UNWTO, 2024).

Recovery after COVID-19 is difficult and ambiguous, the municipality does not see a perspective for now, but knows the direction and has a strategy and planning documents with scheduled development measures (PIRO, 2021), Program for the Management of Cultural Heritage and Tourism in Samokov Municipality for the period 2021-2030 (2021). The public-private partnership is difficult, the local population is not always included in the tourism planning processes, the private initiative is more flexible and effective than the municipal authorities, and there is certain corruption, but there are partial successes and good practices.

COVID-19 has positive changes, although the period has been difficult for the municipality, its population and tourism in particular - bankruptcies, inflation, the war in Ukraine, restructuring of ownership, restructuring of markets, new investments and projects in the works, by-products, which are year-round and meet the new consumer requirements, etc. The development of new tourist year-round sub-products with a vision, provides an opportunity for optimism, as well as the conclusion that the municipality is working in the right direction - for sustainable, an environmentally friendly, highly effective tourist product that meets the new needs of tourists.

It has been established that the two-year period of the COVID-19 pandemic in Bulgaria did not lead to a complete cessation of the evolution of the destination municipality of Samokov, which already managed to recover, albeit not fully, the level of its development.

It can be argued that the COVID-19 pandemic, in addition to being a crisis, has provided an opportunity for the restructuring of products, markets and the development of territorial entities specializing in new and modern types of tourism – resort complex Maliovitsa, Belchin and Belchin baths, Okol Lake Park and other new projects.

So it seems that after the end of the pandemic tourism destinations are likely to recover quickly and resume their previous life cycle stage.

It has been proven that the life cycle stage of a destination should not be determined only by its quantitative characteristics and indicators.

References

Agarwal, S. (1997). The resort cycle and seaside tourism: an assessment of its applicability and validity. *Tourism Management*, 18 (2), 65-73.

Agarwal, S. (2002). Restructuring seaside tourism: The resort lifecycle. *Annals of Tourism Research*, *29*(1), 25-55.

Andriotis, K. (2003). Coastal Resorts Morphology: The Cretan Experience. *Tourism Recreation Research, 28*(1), 67-76.

Assenova, M. (2013). Models of Rural Tourism Development in Mountain Villages. *Ankara University Journal of Environmental Sciences, Volume 5, Number* 1.

Buhalis, D. (2000). Marketing the Competitive Destination of the Future. Tourism Management, Vol. *21* (1), pp. 97-116. https://www.academia.edu/164837/Marketing_the_competitive_destination_of_the_future

Butler, R. W. (1980). The concept of the tourist area life-cycle of evolution: implications for management of resources. *Canadian Geographer, 24*(1), 5-12. http://onlinelibrary.wiley.com/doi/10.1111/j.1541-0064.1980.tb00970.x/abstract

Butler, R. W. (2011). *Tourism Area Life Cycle,* Contemporary Tourism Reviews, Published by Goodfellow Publishers Limited, Woodeaton, Oxford, OX3 9TJ http://www.goodfellow-publishers.com

Dogramadjieva, E. (2013). Field Research of Tourism Supply and Demand in Mountain Villages: The Case of West Rhodope Architecture Reserves. *Ankara University Journal of Environmental Sciences.* Vol. 5, Issue 5, pp. 61-74, DOI:10.1501/Csaum_0000000074

Faulkner, B. (2002). Rejuvenating a maturing tourist destination: The case of the Gold Coast. *Current Issues in Tourism, 5*(6), 472-520.

Investor Media Group. (2023, September 13). https://www.investor.bg/a/522-turizam/378753-prihodite-ot-turizam-v-balgariya-se-ochakva-da-stignat-114-mlrd-lv-prez-2023-g

Kotsakov, V. (2024). *Tourism Human Resource Management in Bulgaria – National Challenges and Local Characteristics*, PhD thesis, Sofia.(in Bulg.)

Levitt, T. (1965). Exploit the Product Life Cycle. *Harvard Business Review, 43*(Nov.-Dec.), 81 94.

Marinov, V., Assenova, M., & Dogramadjieva, E. (2016). Small-Scale Mountain Tourism in Bulgaria: Development Patterns and Sustainability Implications. In: B. Koulov and G. Jelezov (eds), *Sustainable Mountain Regions: Challenges and Perspectives in Southeastern Europe*. Springer International Publishing, Switzerland, pp. 107-122. https://doi.org/10.1007/978-3-319-27905-3_8

Mitova, R. (2020). *A Concept for Tourism Sustainable Development on Vitosha Mountain*. Sofia. ISBN: 978-954-07-5065-1 (in Bulg.)

NSI. (2024). National Statistical Institute, Tourism Statistics.

PIRO. (2021). *Plan for Integrated Development of Samokov Municipality 2021-2028* (in Bulg.)

Program for the Management of Cultural Heritage and Tourism of Samokov Municipality for the period 2021-2030. (2020).

UNWTO. (2021). Tourism Market Analysis.

UNWTO. (2024). Tourism Market Analysis.

https://doi.org/10.31410/ERAZ.2024.633

Reproduction and Preservation of Albanian Handicraft Accessories Through Additive Manufacturing

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Keywords:
Handicrafts;
Prototyping;
Additive manufacturing;
3D software;
Preserving

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Abstract: *The development of craftsmanship of silver and gold ornaments and the minting of silver coins in the country have their origins in ancient times. The first objects made of precious metal in the form of ornaments from the Bronze Age were two gold balls made of spiral wire.*

The reproduction of traditional objects in 3D form has now become an urgent necessity for the creation of a new method of cataloging cultural heritage in Albania, ensuring its preservation for future generations.

This technology, with its innovative capabilities, provides new opportunities for studying and processing the acquisition and preservation of geometric forms of damaged museum objects in cultural institutes. It is a thrilling and important innovative technique in the restoration, documentation and preservation of the original objects.

This paper presents the approach of prototyping traditional accessories by scanning and modelling them with 3D software for the reproduction of realistic 3D models of folkloric objects for cataloging to be preserved for the future.

We worked with two methods, 3D scanning objects with a Konica Minolta Scanner and 3D modelling with Zbrush Software, to obtain 3D models with high resolution and real dimension. These models were then sent directly to the 3D printers for fabrication of the original object.

The software used was PET, for scanned objects to export the data in standard formats: DXF, STL, CAM, and CAT 3-D, and convert, save, or send for reproduction in 3D printers with real-dimension objects.

Comparing the two methods, it was obvious, that 3D objects can also be obtained through modeling, even though it requires more time to acquire the object in 3D. This shows that inexpensive desktop production equipment with suitable software can provide accurate data at a low cost in preserving folk accessories.

1. INTRODUCTION

Albanian folk costumes and accessories have played and continue to play an essential role in revealing the values and expressing the identity of our country's culture and history.

The primary objective of this study is to showcase the potential of 3D technologies. These technologies have the power to revolutionize the processes of conserving, storing, and cataloguing folk objects. 3D Additive manufacturing, commonly known as 3D printing, is a vital tool in this process, transforming digital forms of folk accessories, preserving the original object, and facilitating mass production. This potential is not just theoretical, but a beacon of hope for the future of cultural preservation.

3D scanners are devices that analyse objects in real time to collect data about their shape and appearance (Vilbrandt et al., 2011). The potential of 3D scanners is immense, as it is based on

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their ability to acquire many 3D points in a very short time, also called clouds (Addison, 2000; Scopigno et al., 2014). The use of large-scale 3D scanners to create virtual models with real dimensions is considered at the peak of its use of the fourth industrial revolution for the preservation and documentation of the cultural heritage, of 3D points (Vilbrandt et al., 2008; Stone & Wood, 2000). The collected data is then used to build virtual 3D models, which can be used for a variety of applications. Some of the fields of use of 3D scanning technology are medicine, science, engineering, gastronomy, fashion industry, etc. This step is not just a part of the process, but a crucial element in the journey of preserving cultural heritage.

Experiments on scanning, modelling, and 3D printing systems were carried out in the Laboratory of CAD/CAM and Clothing Technology at the Department of Textiles and Fashion at the Polytechnic University of Tirana (Universitatea Politehnica Timișoara, n.d.).

2. METHODOLOGY AND EXPERIMENTS

In this paper were shown two techniques for modelling 3-D objects and two different printers for fabrication to encourage practical and easy ways of moving between the virtual and physical world. This study aims to show the impact of 3D imaging software on modelling and design methods for the sculptural process of traditional accessories. The experiments have been conducted on scanning, reconstruction, and rapid prototyping (3D printing) of cultural heritage objects.

One aspect of the study delves into the practicality of 3-D modelling and printing. Due to its precise sizing, measuring, it was used the 3D Scanner, Zbrush and 3d Max software to obtain 3d real data. The 3D modelling includes two components: object scanned or modeled and object edited. The study falls into two distinct categories in this field. The first methods were by using the Konica Minolta Vivid 910 laser scanner, a system based on triangulation, and a 3D printer, available in the Laboratory of CAD/CAM Garment Production Technology, at the Polytechnic University of Tirana. The second method involved modelling the objects in software like Zbrush and 3D Max finding the most suitable solution. The case studies covered the entire process, from the initial stages to the final 3D printing model.

The 3-D printing technology, also known as additive manufacturing is known for rapid prototyping and production. The printer used was, a 3d Cartesian coordinate system printer plastic filament fabrication (FFF) and ELEGOO Saturn 2- 3D printer resin. The model obtained was a 3D photo-realistic, which led to the realization of a hyper-realistic museum.

3. RESULTS AND DISCUSSION

This study is focused on 3D scanning, modelling, and 3D printing. The first experiments were made with Konica Minolta 3D Scanner and after there are used 3D software lowest-cost methods to obtain realistic objects. In Using these two methods, were analysed the specifics of each technique as mentioned below:

- 3D scanning operations through the Konica Minolta Vivid 910 I 3D scanner.
- 3D modelling accessories in Zbrush Software.

Experiments on scanning, modeling, reconstruction, and rapid prototyping (3D printing) of cultural heritage objects are presented below.

3.1. 3D Scanning Operations Through the Konica Minolta Vivid 910 I 3D Scanner

The first object of this study was a Silver plate folk object material by handicraft artisans. We used a Konica Minolta Vivid 910 laser scanner, a system based on triangulation. The number of scans for an object varies from 4 to 12, depending on the details of the object scanned. The objective of multiple scans is to have an accurate surface of the object scanned with no holes or gaps. The compatible software for the laser scanner during the surveying step was the Polygon Editing Tool (PET). It can be registered with multiple scans and merged into a poly mesh. We also used Mesh Lab and 3D Max for texture, material, and rendering.



Figure 1. Konica Minolta Vivid 910 I 3D scanner (a), Silver plate folk object (b)
Source: Own research

The Konica Minolta scanner's compatible software is the Polygon Editing Tool. The main window of the software linked with the scanner is presented in the figure below.

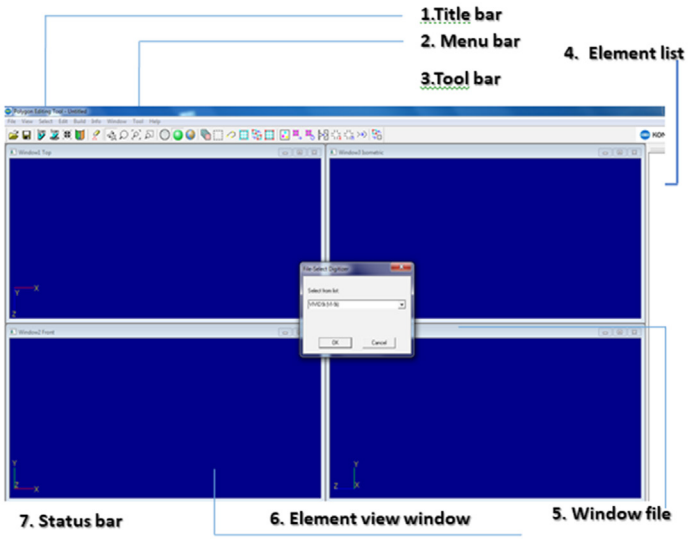


Figure 2. Polygon Editing Tool Software
Source: Own research

The figure below shows the scanned object from different angles (6 scans were done to obtain the 3D data) using the manual scan command File—Import—Digitizer—One Scan. Other steps were registration, filling holes, merging, and converting into a polygon mesh.

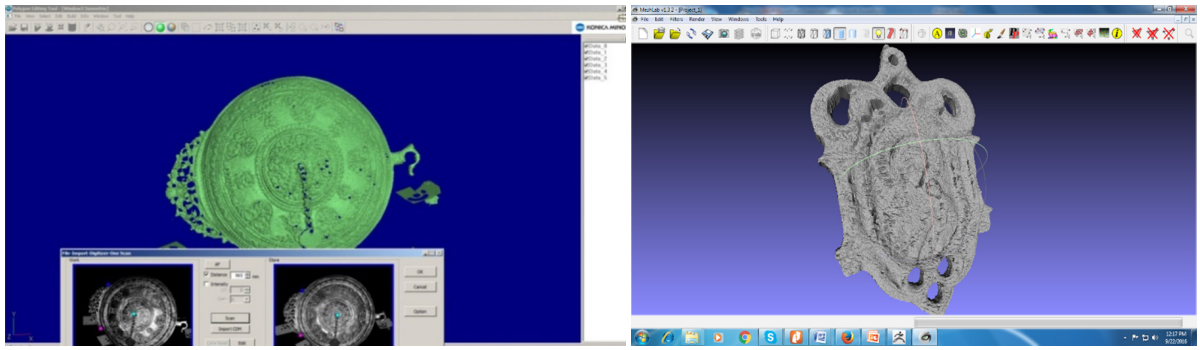
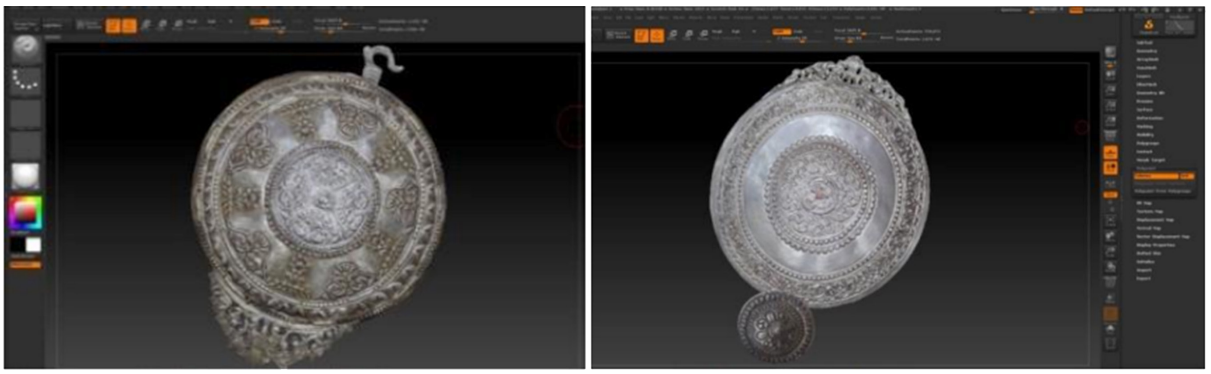


Figure 3. Scanned objects from different angles

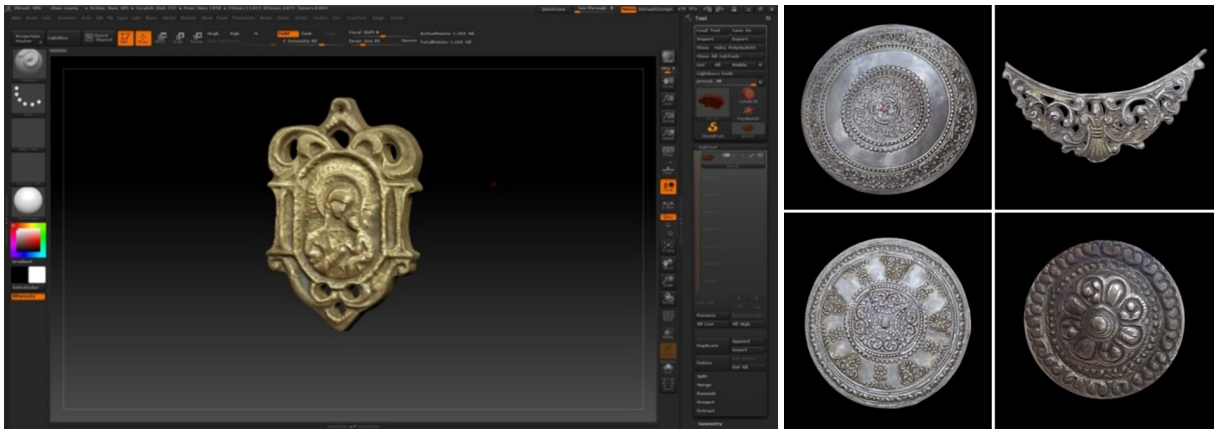
Source: Own research

3.2. Modelling Silver Plate Object in Zbrush 3D Software

The second method to obtain 3D realistic data on handicraft objects was modelling them by using Zbrush Software.



(a)



(b)

Figure 4. Plate in silver, icon necklet modelled in ZBrush

Source: Own research

3.3. 3D Printing of the Object

The 3D printers used were: ELEGOO Saturn 2, resin Printer and Cartesian PLA 3D Printer.

3.3.1. 3D Printing of the Object with ELEGOO Saturn 2

The ELEGOO Saturn 2, resin 3D printer offers enhanced toughness and resistance to impact, making it ideal for functional parts and prototypes.

ELEGOO Saturn 2 is perfectly suited for both professional designers and enthusiastic hobbyists alike. It offers limitless creative possibilities. This printer has high-resolution precision, printing time reduction, speed, and innovation to deliver exquisite prints with exceptional detail. This Equipment has a printing size of 219mm, 123mm, 250mm, to print larger models.

The ELEGOO Saturn 2 MSLA 3D Printer features a 10-inch 8K monochrome LCD COB screen, providing exceptional clarity and precision in every print, along with odour reduction.

This printer produces detailed prototypes that closely resemble the final product.



Figure 5. Preparing ELEGOO Saturn 2 for object printing

Source: Own research

The STL files are imported into the ChiTubox - Slicing software which plays a crucial role in 3D printing. It determines the layering and decides how each layer will be deposited while printing.

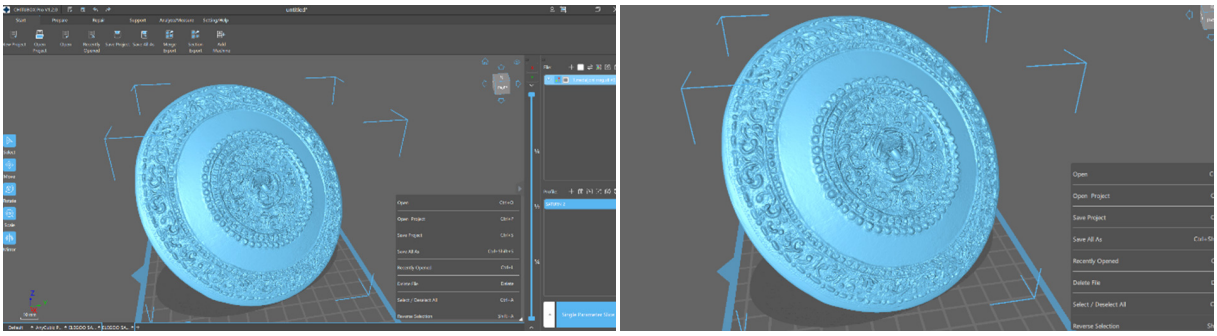


Figure 6. Stl files imported in ChiTubox - Slicing software

Source: Own research

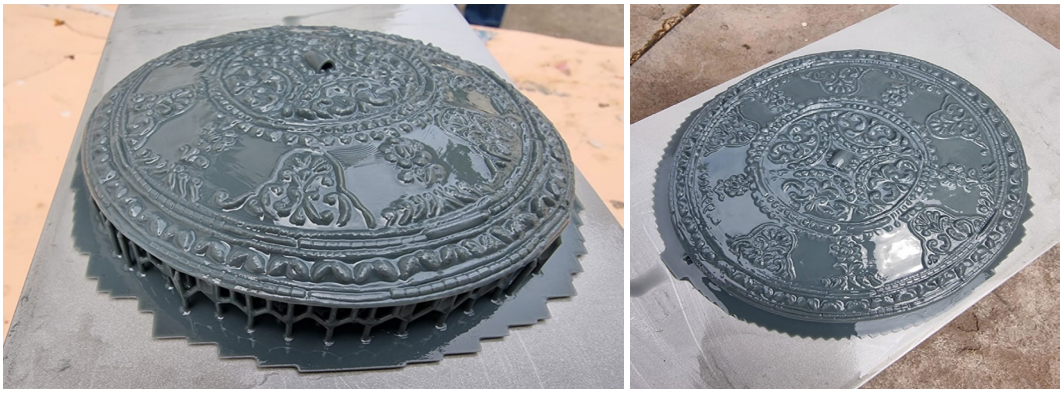


Figure 7. Object printed in Elegoo - Saturn 2
Source: Own research

3.3.2. Fused Dépositions Modelling (Fdm) or Fused Filament Fabrication (Fff) – Pla 3D Cartesian Printer

Plastic filament PLA is melted down and extruded through a nozzle. The nozzle and/or build platform move to print each layer. The material is heated to its melting point and deposited in layers. Cartesian printer (PLA) has a standard input in the form of the STL file.

The STL files are imported into the standard Cura 14.12 software package. The printer creates a 3D model by melting thermoplastic material and carefully layering it from the bottom up.

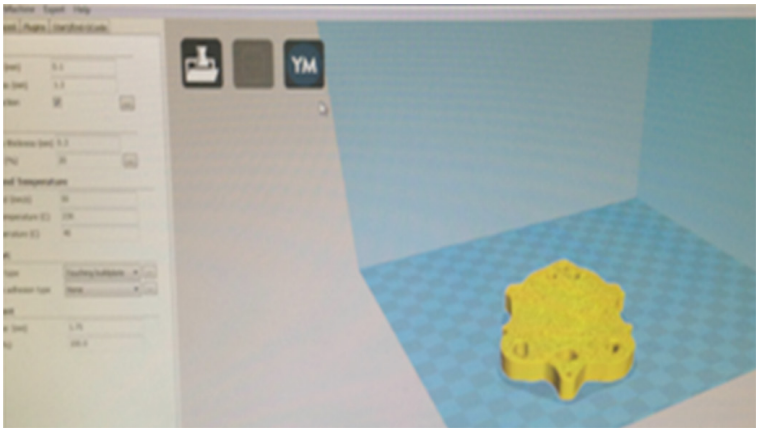


Figure 8. Stl files imported in Cura 14.12 software
Source: Own research



Figure 9. 3D Printed Objects in PLA 3D cartesian printer
Source: Own research

4. CONCLUSION

3D Scanning, modeling and 3D printing nowadays cover a wide range of uses such as in cultural heritage, various fields of industry, art, medicine, architecture, etc. for fabrication, reproduction, preservation, restoration and digitization.

Digital fabrication continues to gain attention moving beyond its traditional uses for prototyping and industrial manufacturing.

The purpose of this study was to obtain the 3D model by means of two scanning methods of the traditional object software modeling, as an efficient method with low cost and accurate reproduction.

The objects modeled in the 3D Zbrush software are as realistic and accurate as the polygon mesh object taken in the Konica Minolta scanner.

Another purpose was to compare ELEGOO SATURN 2 3D printer with a PLA 3D printer to determine the best fit, based on object structure, surface, and details.

In the experiments conducted with the two printers, it was noted that the ELEGOO Saturn 2, printer is more accurate in printing objects with tiny details.

ELEGOO 3D resin printer compared to PLA printer has these advantages and disadvantages:

Advantages:
- High-resolution printing for exceptional detail,
- Fast printing speed for improved efficiency,
- Odor reduction equipment for a pleasant working environment,
- Spacious printing size for larger-scale projects,
- Durable construction for long-lasting performance;

Disadvantages:
- Compared to entry-level 3D printers it has a relatively high initial investment,
- Requires technical knowledge for initial use,
- It has limited compatibility with file formats other than STL, OBJ, and AMF.

PLA (Polylactic acid) 3D Printer has the following advantages and disadvantages:

Advantages:
- Great for Beginners,
- Affordable,
- Environmentally friendly: composition from plant-based sources, making it a sustainable material,
- Biodegradable,
- Inexpensive: One of the cheapest 3D printing filaments,
- No Noxious Fumes;

Disadvantages
- Sensitivity to Heat: low melting point (between 180°C and 230°C),

- Brittle compared to ABS materials,
- Low Impact Resistance,
- Low Chemical Resistance.

With affordable desktops, it is possible to preserve the living traditions of crafts while providing new approaches to their design and production.

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References

Addison, A. (2000). Emerging trends in virtual heritage. *IEEE Multimedia, Special Issue on Virtual Heritage, 7*(4), 22–25.

Scopigno, R., Cignoni, P., Pietroni, N., Callieri, M., & Dellepiane, M. (2014). Digital fabrication technologies for cultural heritage. *EUROGRAPHICS Workshops on Graphics and Cultural Heritage.*

Stone, R., & Wood, K. (2000). Development of a functional basis for design. *Artificial Intelligence for Engineering Design, Analysis and Manufacturing, 122*(4), 359–370.

Vilbrandt, T., Malone, E., Lipson, H., & Pasko, A. (2008). Universal desktop fabrication, in objects modelling and applications. *Springer-Verlag, 4889*, 259–284.

Vilbrandt, T., Vilbrandt, C., Pasko, G., Stamm, C., & Pasko, A. (2011). Digitally interpreting traditional folk crafts. *IEEE Computer Graphics and Applications, 31*(4), 12–18.

Universitatea Politehnica Timișoara. (n.d.). Textilmoda. Retrieved from http://www.upt-textilmoda.org

Additional reading

Peysakhov, M., & Regli, W. C. (2003). Using assembly representations to enable evolutionary design of Lego structures. *Artificial Intelligence in Engineering, 17*(2), 155–168.

Shatz, I., Tal, A., & Leifman, G. (2006). Paper craft models from meshes. *The Visual Computer, 22*(9), 825–834.

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Quantifying the Multiplier Effect of the Hospitality Sector

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Abstract: *This research examines the economic impact of tourism in N. Macedonia, focusing on the hospitality sector (hotels and restaurants). Using Symmetric Input-Output (SIOT) tables, the study quantifies the multiplier effect by analyzing the direct and indirect impacts of the hospitality sector on the national economy. The study reveals that the hospitality sector has the highest multiplier (2.293) compared to all other sectors, underscoring its crucial role in stimulating economic activity. A change in tourist expenditure within this sector triggers a significant ripple effect, generating increased demand for goods and services across various industries that support the hospitality sector. This finding highlights the importance of creating a prosperous and sustainable hospitality sector. Policymakers and industry stakeholders can use its high multiplier effect to promote economic growth and development across a wide range of interconnected industries within the national economy.*

1. INTRODUCTION

The tourism sector, with the hospitality industry at its core, is widely recognized as a critical driver of economic development in many countries. In the context of N. Macedonia, the hospitality sector—comprising hotels, restaurants, and related services—has been identified as a significant contributor to the national economy (Trajkov & Biljan, 2019). The complex connections between this sector and other economic activities highlight its potential to stimulate growth, create employment, and foster overall economic prosperity (Trajkov et al., 2019). Understanding these relationships requires sophisticated analytical tools that can capture the complex interactions within the economy.

One such tool is input-output analysis, which has been extensively employed in economic studies to assess the interdependencies between different sectors. This method enables the precise determination of the necessary input from one sector required to produce a unit of output in another, thereby providing a clear picture of how economic activities are interconnected (Surugiu, 2009). By calculating multipliers, input-output analysis also facilitates the quantification of both direct and indirect impacts of a sector on the broader economy. These multipliers are particularly important in understanding how initial changes in spending within one sector, such as tourism, can have far-reaching effects across various other industries.

The study applies symmetric input-output (SIOT) tables to the hospitality sector in N. Macedonia to quantify its multiplier effect. The hospitality sector's ability to generate significant economic impact through both direct spending and its ripple effects on related industries underscores its

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importance within the national economy. By examining how increased tourist spending in hotels and restaurants can cascade through the economy, we aim to explain the sector's role in stimulating demand across various interconnected industries. This analysis provides insights into the sector's capacity to generate economic growth beyond its immediate contributions.

The impact of the hospitality sector extends beyond the margins of hotels and restaurants, resulting in many supplier industries. For instance, higher tourist spending in the hospitality sector increases demand for goods and services from suppliers such as food producers, cleaning services, and other auxiliary industries. This increased demand leads to job creation and income generation in these supplier industries, which in turn stimulates further spending and economic activity across the economy. The multiplier effect, therefore, not only reflects the direct economic contributions of the hospitality sector but also highlights its broader role in supporting interconnected industries and driving overall economic development.

While a higher multiplier effect indicates a more interconnected economy, it also suggests potential challenges regarding value-added within the hospitality sector itself. The extensive diffusion of economic benefits across various industries may lead to a lower concentration of value-added within the hospitality sector, raising important considerations for policymakers. This study aims to provide a comprehensive overview of how the hospitality sector in Macedonia can be utilized to maximize its economic contributions while addressing potential challenges related to value distribution and sectoral interdependencies.

2. LITERATURE REVIEW

The multiplier effect in economic analysis is a widely studied concept that reflects how initial spending in one sector can generate additional economic activity across other sectors (Trajkov et al., 2019). This concept has been extensively applied in the study of tourism and hospitality due to the sector's capacity to stimulate economic growth, create employment, and enhance the overall economic development of a region or country (Nugraha & Veronika, 2022).

Research has consistently demonstrated that the hospitality sector, encompassing hotels, restaurants, and related services, serves as a significant driver of economic growth (Majeed, 2023). It contributes significantly to a nation's economy through direct spending by tourists. There are studies that emphasize the hospitality sector's ability to generate both direct and indirect economic benefits (Khan et al., 1995). Direct impacts include the immediate revenue generated by hospitality services, while indirect impacts arise from the increased demand for goods and services supplied to the sector (Surugiu, 2009). These findings align with the broader understanding of tourism's role as a catalyst for economic development, particularly in regions where the sector represents a substantial portion of the national economy (Sibel & Arslanturk, 2012).

The application of input-output analysis to quantify the multiplier effect of the hospitality sector is well-established in the literature. Leontief (1936) originally developed the input-output model, which has since been adapted for various sectors, including tourism and hospitality. Key components of the I-O model include the transaction matrix, final demand vector, and total output vector. The I-O model is used to calculate multipliers, which measure the impact of a change in one sector on the overall economy (Nguyen & Tetsuo, 2017). Certain studies highlight that the Input-Output (I-O) framework as a valuable tool for economic analysis still has certain limitations. The model assumes homogeneous sector output, fixed commodity input structure, and constant

return to scale. These limitations mean the I-O model may not capture real-world complexities, such as changes in production ratios or price fluctuations. However, understanding these limitations allows researchers to present their findings in perspective (Hara, 2012).

Studies by Fletcher (1989), Kim and Byung-Gook (2015) have shown that input-output analysis can effectively measure the economic linkages between the tourism and hospitality sector and other industries. These studies highlight that the hospitality sector often has a high multiplier effect, meaning that spending in this sector significantly influences the broader economy. Certain studies use the I-O framework to calculate income, output, and employment multipliers, which quantify the broader economic effects of tourist spending. The income multiplier measures the increase in total income, the output multiplier measures the increase in total output, and the employment multiplier measures the increase in employment resulting from an initial increase in tourist spending. These interconnected multipliers provide a comprehensive understanding of the economic impact of tourism on a region or country. (Khan et al., 1995)

In the context of N. Macedonia, recent studies have begun to explore the economic impact of the tourism sector using symmetric input-output (SIOT) tables. Research by Trajkov et al. (2019) has underscored the tourism sector's pivotal role in driving economic activity in N. Macedonia. The study demonstrated the sector's strong interconnections with other economic sectors and its significant multiplier effect. Given the recent release of new symmetrical I-O tables by the State Statistical Office, it would be valuable to calculate the multiplier effects of the hospitality sector using this updated data and expand the analysis to include a broader range of industries that interact with the hospitality sector. This would provide a more comprehensive and accurate assessment of the sector's economic impact and inform policy decisions accordingly.

The existing literature provides a robust foundation for understanding the economic impact of the hospitality sector through the lens of the multiplier effect. The application of input-output analysis, particularly using symmetric input-output tables, has proven to be a valuable method for quantifying these effects. As evidenced in studies of various economies, the hospitality sector's high multiplier emphasizes its crucial role in stimulating economic growth, creating jobs, and driving broader economic development. Targeted policies and investments in the hospitality sector could provide significant economic benefits, making it a crucial area of focus for both researchers and policymakers.

3. METHODOLOGY

The methodology for the research is based on input-output analysis, which examines inter-sectoral relationships within a national economy. Input-output analysis determines how much input from one economic sector is required to produce a unit of output in another sector and calculates multiplication coefficients for specific sectors. These coefficients help measure both the direct and indirect impacts of each sector on the overall economy.

The European System of Accounts recommends using statistical tables of supply and use of goods and services to construct analytical input-output tables (State Statistical Office, 2013). The analysis relies on symmetrical input-output tables that describe technological and economic relationships in the national economy. There are two main types of symmetrical input-output tables: "activity-by-activity" tables and "product-by-product" tables. Activity-by-activity tables describe the relationships between different activities, such as the use of products from other activities, while

product-by-product tables illustrate the relationships between products, indicating how much of each product is required to produce other products.

In Macedonia, the State Statistical Office produces product-by-product tables. These tables can be integrated into macroeconomic models to analyze relationships between supply and use, focusing particularly on final use components and industrial production levels. SIO tables contain data on around 100 products that are produced across different economic activities (SSO, 2024). For the purposes of this research, an aggregation of these products has been carried out based on economic activities, following the National Classification of Activities (NKD Rev. 2) (SSO. n.d.) and the Classification of Products by Activity (KPD2015) (SSO, 2016) as provided in Table 1.

Table 1. Sectoral aggregation by product

KPD2015	Code	Description
A	A01	Agriculture, hunting, forestry, fishery and pisciculture
B	A02	Mining and quarrying
C	A03	Manufacturing
D	A04	Electricity, gas, steam and air-conditioning supply
E	A05	Water supply and waste management
F	A06	Construction
G	A07	Trade (wholesale and retail)
H	A08	Transport and storage
I	A09	Hotels and restaurants
J	A10	Information and communication
K	A11	Financial intermediations
L	A12	Real estate services
M(69-70)	A13	Legal and accounting
M(71-75)	A14	Professional, scientific and technical activities
N	A15	Administrative and support services
O-U	A16	Other activities of national economy

Source: Own processing

The aggregated input-output table provides significant information about intersectoral dependencies and allows for the calculation of output multipliers within a given economic sector. The table shows the total intermediate consumption at basic prices, which is essentially the sum of consumption in each of the analyzed economic sectors, and the total final use at basic prices. The sum of intermediate consumption and total final use gives us the total use of goods and services at basic prices.

The equation is:

$$X=FU+E+BI+FCE+IC \quad (1)$$

where:

X – Total use of goods and services at basic prices
FU – TTotal final use at basic prices
E – TExports of goods and services (FOB)
BI – TGross investments (investments in fixed assets + changes in inventories)
FCE – Total final consumption expenditures (households, government consumption, non-profit institutions)
IC – TIntermediate consumption

Additionally, for each product within a given economic activity, the total supply at basic prices is provided, which includes total production and imports, represented as:

$$Y=P+I \tag{2}$$

where:
Y is the total supply,
P is total production, and
I is imports.

Furthermore, total production (P) is defined as:

$$P=VA+IC \tag{3}$$

where:
VA is the added value, and
IC is intermediate consumption at purchase prices (including taxes on products minus subsidies).

Finally, the added value (VA) is defined as:

$$VA=CE+T+CFC+NOS \tag{4}$$

where:
CE represents compensation of employees,
T represents other net taxes on production,
CFC is consumption of fixed capital (depreciation), and
NOS is net operating surplus.

The previously calculated data in aggregated symmetrical I-O tables can be used to compute the technical coefficients, or the so-called input-output coefficients, for each economic sector using the following formula:

$$a_{ij} = \frac{x_{ij}}{Y} \tag{5}$$

where:
a_{ij} is the technical or input-output coefficient,
x_{ij} is the interindustry transaction (intermediate input from sector *i* to sector *j*), and
Y is the total output of sector *j*.

After calculating all the a_{ij} values, they can be arranged in a matrix A. This matrix shows the direct input requirements for each sector, with each row representing inputs from one sector and each column representing outputs to another sector. These coefficients are crucial for understanding the flow of goods and services in an economy and for conducting further analyses, such as assessing the impact of changes in final demand on output across sectors (multiplier effects). From the Matrix A containing the technical coefficients, a multiplier for each economic sector can be determined using the following model:

$$q = [I - A]^{-1} * f$$

where:

q total output vector
f final demand vector,
A is the matrix of technical coefficients, and
I is the identity matrix.

The result q is a vector that shows the total output required in each sector to satisfy the final demand f. The matrix $[I - A]^{-1}$ is also known as the Leontief inverse matrix, which is used to determine both the direct and indirect intersectoral effects. The multipliers derived from the Leontief inverse provide a comprehensive measure of the total economic impact of changes in a sector. These multipliers indicate how much the total output in the economy will change in response to a change in final demand in a particular sector.

4. RESULTS

Our analysis reveals a critical finding: the hospitality sector has the highest multiplier effect (2.293) compared to any other sector in Macedonia's economy. This means that for every unit of expenditure in the hospitality sector, the economy experiences a significant increase in total output, nearly 2.3 times the initial spending. The magnitude of this multiplier highlights the sector's extensive linkages with other industries, making it a powerful driver of economic growth. A small change in tourist spending within hotels and restaurants, therefore, triggers substantial indirect demand across various sectors that provide goods and services to the hospitality industry.

Table 2. Output multipliers of the sector Hotels and restaurants in Macedonian economy

	Direct effects	Indirect effects	Combined impact
Agriculture, hunting, forestry, fishery and pisciculture	0.107	0.147	0.254
Mining and quarrying	0	0.009	0.009
Manufacturing	0.137	0.305	0.442
Electricity, gas, steam and air-conditioning supply	0.113	0.152	0.265
Water supply and waste management	0.009	0.014	0.023
Construction	0.011	0.029	0.04
Trade (wholesale and retail)	0.127	0.18	0.307
Transport and storage	0.011	0.04	0.051
Hotels and restaurants	0.01	1.022	1.032
Information and communication *	0.045	0.064	0.109
Financial intermediations	0.017	0.035	0.052
Real estate services	0.028	0.035	0.063
Legal and accounting	0.073	0.092	0.165
Professional, scientific and technical activities	0.059	0.077	0.136
Administrative and support services	0.042	0.054	0.096
Other activities of national economy	0.023	0.038	0.061
Gross Value Added	0.188		
OUTPUT MULTIPLICATOR	1	2.293	3.293

Source: Own calculations

Manufacturing emerges as the most influential sector in the hospitality industry, with a direct effect of 0.137 and an indirect effect of 0.305. This relationship suggests that manufacturing supplies essential goods such as furniture, kitchen equipment, and linens, which are critical for hotel and restaurant operations. The high indirect effect underlines the pivotal role manufacturing plays in sustaining the broader supply chain of the hospitality sector, thus supporting the industry's ability to function effectively and meet consumer demands.

The trade sector, comprising wholesale and retail activities, also plays a crucial role, with a combined direct and indirect effect of 0.307 on the hospitality industry. Wholesale suppliers are responsible for providing key inputs such as food, beverages, and other consumables, while retail outlets serve as distribution points for consumer goods required by hotel guests. This significant combined effect illustrates the importance of a well-functioning trade sector in ensuring the availability of essential products that enable the hospitality industry to thrive.

The utilities sector, which includes the supply of electricity, gas, steam, and air-conditioning, significantly impacts the hospitality sector with a combined effect of 0.265. These utilities are indispensable for maintaining operational efficiency and ensuring guest comfort within hotels and restaurants. The strong link between utilities and hospitality underscores the critical nature of infrastructure support in enabling the sector to provide quality services, thereby enhancing the overall guest experience and sustaining the industry's contribution to the economy.

Legal and accounting services have a significant impact on the industry, with direct and indirect effects quantified at 0.073 and 0.092 respectively. Legal services play a crucial role in navigating regulations and managing contracts, while accounting ensures financial compliance and integrity. Information and communication technologies also hold considerable importance, with direct and indirect impacts of 0.045 and 0.064, respectively. These technologies facilitate efficient reservation management, effective guest communication, and robust marketing strategies. Lastly, the transport and storage sector is vital, with direct and indirect impacts of 0.011 and 0.04. This sector is essential for the timely delivery of goods, the smooth movement of guests, and effective inventory management.

5. CONCLUSION

In conclusion, the research points out the significant role of the hospitality sector in the Macedonian economy, highlighting its high multiplier effect of 2.293. This metric reveals how changes in tourist spending within hotels and restaurants create a substantial ripple effect, stimulating demand across diverse industries such as manufacturing, trade, utilities, legal and accounting services, information and communication, and transport and storage. The hospitality sector's influence extends far beyond its immediate boundaries, impacting a wide range of sectors and driving overall economic growth.

The findings indicate that the hospitality sector is a crucial driver of economic development in N. Macedonia. Using the sector's high multiplier effect, policymakers and industry stakeholders can effectively stimulate economic activity and promote sustained growth. Investments in infrastructure, such as the development of tourist destinations, and strategic tourism promotion can enhance the visitor experience, thereby amplifying the sector's positive economic impact.

For policymakers, this research provides valuable insights into the potential benefits of prioritizing the hospitality sector in economic planning. Funding for infrastructure projects, targeted marketing campaigns to attract tourists, and initiatives to improve the tourist offerings are practical applications of these findings. These investments not only enhance the hospitality sector but also contribute to greater economic prosperity and job creation across other industries.

Industry stakeholders can leverage the research to develop more effective marketing strategies by emphasizing the sector's broader economic benefits. By collaborating with local suppliers and promoting the hospitality sector's role in driving regional economic growth, businesses can

strengthen their positioning and contribute to a thriving local economy. Additionally, future research could explore how different types of tourism impact the multiplier effect and examine how government policies and industry practices affect the sector's efficiency and sustainability.

References

Fletcher, J. E. (1989). Input-output analysis and tourism impact studies. *Annals of Tourism Research, 16*(4), 514-529. doi: https://doi.org/10.1016/0160-7383(89)90006-6

Hara, T. (2012). Introduction to Input-Output Framework for Analysis of Tourism as an Industry. U M. Kasimoglu (Ur.), *Visions for Global Tourism Industry - Creating and Sustaining Competitive Strategies* (str. 49-72). 10.5772/37109. doi: 10.5772/37109

Khan, H., Phang, S.-Y., & Toh, R. (1995). The multiplier effect: Singapor ect: Singapore's hospitality industr s hospitality industry. *Cornell Hotel and Restaurant Administration Quarterly, 36*(1), 64-69. doi: 10.1016/S0010-8804(99)80060-3

Kim, H., & Byung-Gook, K. (2015). Economic impacts of the hotel industry: an input-output analysis. *Tourism Review, 70*(2), 132-149. doi: https://doi.org/10.1108/TR-11-2014-0056

Leontief, W. (1936). Quantitative input and output relations in the economic systems of the United States. *The review of economic statistics, 18*(3), 105-125. doi: https://doi.org/10.2307/1927837

Majeed, A. (2023). Management of Hospitality Industry: The Indian Perspective. *International Journal for Research in Applied Science & Engineering Technology (IJRASET), 11*(III), 517-521. doi: https://doi.org/10.22214/ijraset.2023.49472

Nguyen, V., & Tetsuo, S. (2017). Input-Output Table for Transportation and Tourism Analysis: Construction and Applications. *Journal of the Eastern Asia Society for Transportation Studies, 12*, 2117-2132. doi: https://doi.org/10.11175/easts.12.2117

Nugraha, Y., & Veronika, A. (2022). Economic Impact of Tourism Development in Coastal Area: A Multiplier Effect Analysis Approach. *Proceedings of the International Conference on Applied Science and Technology on Social Science 2021 (iCAST-SS 2021)*, 127-133. doi: 10.2991/assehr.k.220301.022

Sibel, A., & Arslanturk, Y. (2012). Tourism and Economic Growth Nexus: An Input Output Analysis in Turkey. *Procedia - Social and Behavioral Sciences, 62*, 952-956. doi: https://doi.org/10.1016/j.sbspro.2012.09.162

SSO. (n.d.). *National Classification of Activities - NKD Rev.2.* Taken from April 2024, 12 sa State Statistical Office: https://www.stat.gov.mk/KlasifikaciiNomenklaturi/NKDRev2.zip

SSO. (2016). *Classification of products by activity, KPD 2015.* Taken from sa State Statistical Office, Republic of Macedonia: https://www.stat.gov.mk/KlasifikaciiNomenklaturi/KPD-2015.pdf

SSO. (2024). *Supply and use tables and input-output tables.* Taken from April 12, 2024 sa State Statistical Office: https://www.stat.gov.mk/IOTabeli_eng.aspx

State Statistical Office. (2013). *Symmetric input-output tables for the Republic of Macedonia, 2010.* Taken from sa State Statistical Office: https://www.stat.gov.mk/Publikacii/3.4.13.04.pdf

Surugiu, C. (2009). The Economic Impact of Tourism. An Input-Output Analysis. *Romanian Journal of Economic, 29*, 142-161.

Trajkov, A., Andreeski, C., & Marinoski, N. (2019). Analyze of the Economic Impact of Tourism in Municipality of Ohrid. Ohrid, Macedonia: Municipality of Ohrid, Faculty of Tourism and Hospitality Ohrid.

Trajkov, A., & Biljan, J. (2019). Impact of Tourist Arrivals' Reduction on the Travel Services Export in Macedonia. *Contemporary Economic Trends: Technological Development and Challenges of Competitiveness. 50th International Scientific Conference* (str. 49-56). Nis: Faculty of Economics, University of Nis, Serbia.

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Laboratory Testing for Evaluating Bio-Based Building Materials Behavior Subjected to near Pyrolysis Temperature

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Abstract: *This paper is based on the background offered by an extended research project aiming to analyze and develop a testing system for the mechanical behavior of some new configurations of bio-based composite materials (more specifically glued laminated timber) when subjected to high temperatures.*

The need for this type of materials is becoming more topical due to the attempt to replace the building materials whose production is energy-intensive (especially steel and concrete) with bio-renewable building materials (as, for example, wood) within the framework of the European "Green New Deal" policy to reduce greenhouse gas emissions, of which the construction industry is considerably responsible. Current engineering practice focuses on normal environmental temperatures, however radical behavior changes may occur during a fire. The subject of the present paper deals with the assessment of changes occurring in the mechanical parameters of massive wood products (more specifically glued laminated timber-glulam) due to temperature variation, especially close to pyrolysis temperature.

The testing samples were prepared using current adhesive solutions and wood essences as in the case of the real-scale structural glulam elements.

The heating gear was embedded in the glued midplane of the sample to apply different temperatures. Tests were performed in direct shearing equipment, where the glued section was fitted in the middle of the shear box.

Changes in the mechanical behavior of wood at high raised temperatures are monitored but the focus is on the variation of the adhesive parameters during testing.

1. INTRODUCTION

In the context of climate change, the reduction of gas emissions while building (Parlato & Pezzuolo, 2024) and creating new bio-degradable materials is essential for the creation of a sustainable economy. These materials have lower global warming characteristics due to the property of absorption of carbon from the atmosphere (Sudhoff, 2024) and are becoming an alternative for friendlier environments (Anwar et al., 2024).

Glued laminated timber (glulam) elements have gained significant popularity in recent years and widespread use globally for several key reasons: their design flexibility, no restrictions concerning the dimensions of the elements (Lestari et al., 2018), dimensional stability, better properties due to the elimination of defects (Pulngern et al., 2020), strength-to-weight ratio, sustainability, and why not visual appeal.

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These advantages, combined with advancements in manufacturing techniques and an increasing awareness of sustainable construction practices, have played a crucial role in the global acceptance and success of glulam structures.

When talking about fire, and high temperatures applied on wooden elements, the research campaigns are significant in order to find the perfect combination and dimensions of elements formed by timber and adhesives. Heated glulam elements subjected to shear forces necessitate thorough attention to their mechanical properties, the impact of temperature, and possible reinforcement strategies. Grasping these factors is crucial for maintaining the structural integrity and safety of Glulam in scenarios where they might be exposed to heat and shear stresses (Swedish Wood, 2024).

In the same time, thermal modification technology can improve wood properties by enhancing its dimensional stability and resistance to deterioration, as well as minimizing shrinkage and swelling caused by changes in moisture content in the environment (Udtaranakron et al., 2023).

Concerning pyrolysis, the process takes place when a material is heated without the presence of oxygen, leading to its decomposition into char, tar, and combustible gases (Barnasan et al., 2017). The general definition of pyrolysis is a thermochemical conversion process that transforms biomass into energy and fuel by exposing it to high temperatures in an inert atmosphere. The type of biomass combined with the reactor and the operating mode of the pyrolysis together with the parameters used in the process are contributing to the changes in the properties of the material (Valois et al., 2024). The behaviour of pyrolysis is influenced by factors such as temperature, duration of exposure, and the presence of any fire retardants (Jones & Brischke, 2017). This is why laboratory pyrolysis testing serves as an essential method for assessing the fire performance and safety of bio-based building materials when exposed to high temperatures. The data obtained from these tests aids in enhancing material selection and optimizing designs for improved fire resistance.

2. MATERIALS AND METHODS

2.1. Materials Used for the Experiments

The experimental campaign has been made on samples of glued laminated timber elements formed by wood elements and commonly used adhesives for this composite material such as Melamine Urea Formaldehyde (MUF).



Figure 1. Samples of wood laminated timber with adhesives

Source: Own illustration

These samples considered for this project seen in Figure 1 are parallelepiped in shape, with dimensions of 600x600x20 mm following the Eurocode 5 requirements as the existing mechanical drive system of the shear box has a side of 600 mm.

For the whole experimental campaign, a total of 40 active samples were utilized, of which only 7 samples were recycled. These samples incorporated a Nickel Chromium resistance element glued within the glued laminated timber in a predetermined pattern, designed to facilitate uniform heat transfer between the adhesive and the wood component.

2.2. Preliminary Tests

The experimental campaign has been carried out in the Geotechnics laboratory of UTCB-Technical University of Civil Engineering Bucharest.

In order to create the final shear box in which the force has been applied to the wooden samples, other 2 boxes were created that did not withstand the force when it was applied. For the first one, it was considered sufficient to make a frame from aluminum elements. For the second, a system was designed and built from steel metal profiles to withstand the stresses necessary for shearing the wood sample, respectively a shear force of up to 5000kPa and an axial pressure of up to 2500kPa. Even this failure system failed, the oversizing factor not being sufficient to take over the material nonlinearities of the wood, which caused the failure of the shear system to occur in the presence of knots in the wood samples. The configuration of the boxes can be seen in Figure 2.

Finally, in the last stage, shearing equipment for ballast samples was adapted with an oversizing factor of 3 compared to the maximum possible strength of the wood. Under these conditions, all the tests proposed in this stage were carried out.

The adaptation of the ballast shear box to the wooden samples was done by means of an intermediate reduction system.

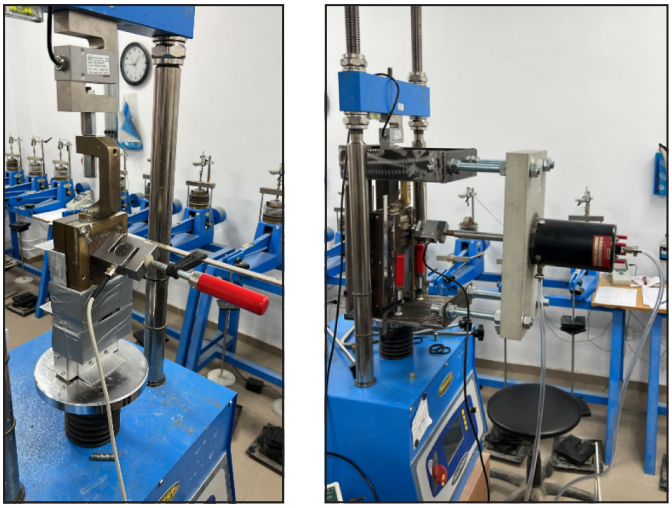


Figure 2.The first two wood sample shear boxes
Source: Own illustration

For the analysis of the loss of volatile elements, samples were made from the wooden samples, and subjected to feasible target temperatures for the present project, using ovens. Through successive

weighings of the samples seen in Figure 3, no notable change in mass was observed, which shows that for the temperatures to be analyzed in the present project, the loss of volatile elements is not a determining factor.

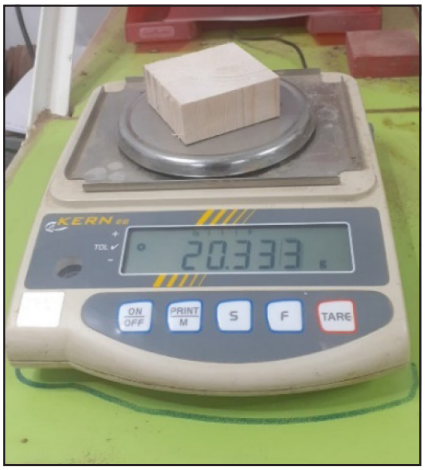


Figure 3. Mass loss assessment
Source: Own illustration

Another preliminary test made before the start of the actual experimental campaign was the verification experiment that was designed to replicate the setup used during the mechanical testing of the system. The thermal mass was heated using a resistor made from a Nickel-Chromium alloy, while the temperature was monitored by a previously calibrated sensor. For this verification experiment seen in Figure 3, the target temperature was established at 40°C, and the NiCr resistor was energized with an external electrical voltage of 30V. The system functioned properly, achieving the target temperature of 40°C within the specified tolerance of 0.5°C.

This has been made in order to find the most relevant resistance arrangement for obtaining a more uniform distribution of temperatures along the targeted surface where it is desired to study the behavior of composed element depending on shear stress and temperature.

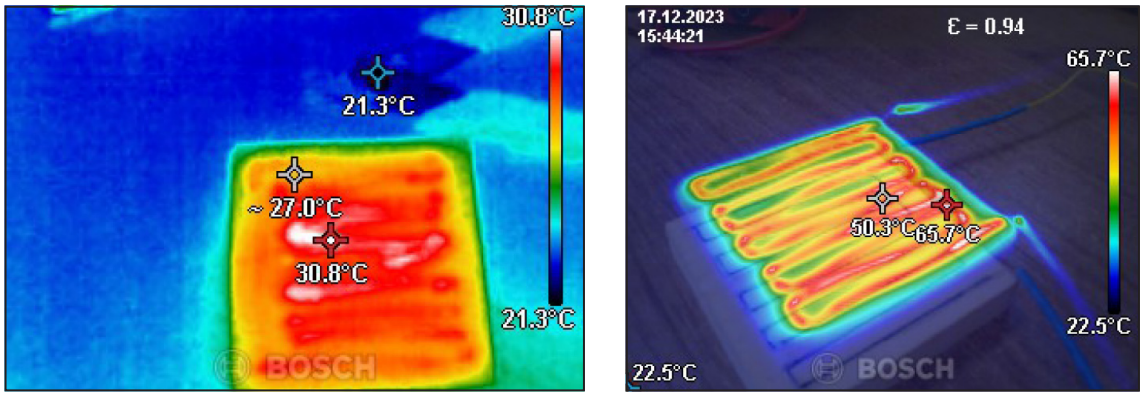


Figure 4. Verification of the temperature maintenance system on a wooden sample
Source: Own illustration

The system was tested on a wood sample, in order to obtain a Nickel-Chromium resistance arrangement, seen in the figure above, that would lead to a more uniform distribution of temperatures at the level of the heated surface, namely the surface filled with adhesive, where it is desired to study the behavior of the adhesives according to the shear and temperature stress.

3. EXPERIMENTAL CAMPAIGN

For the actual experimental campaign, the last shearing box configuration seen in Figure 5 that resisted the application of the force has been used. The tests were performed in direct shearing equipment, where the glued section was fitted in the middle of the shear box.

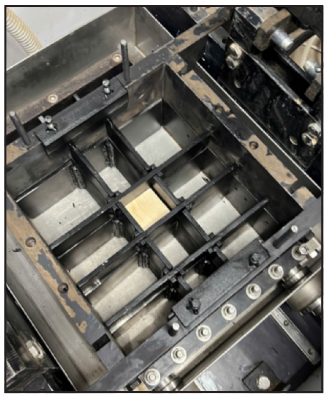
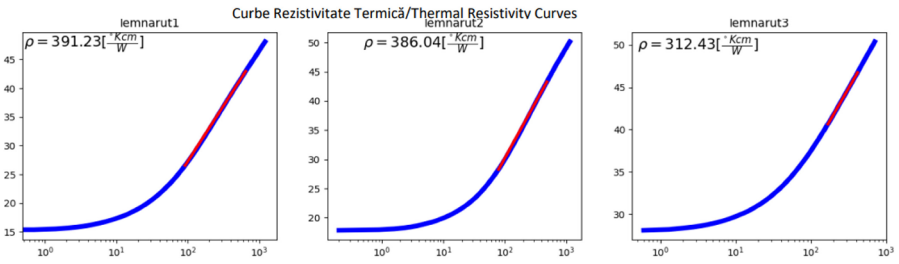


Figure 5. Final box configuration used for the experimental campaign
Source: Own illustration

The wooden element disposed in the shear box has been exposed to thermal energy by the heating device at certain values of temperature found in a range of 40°C up to 120°C helped by the NiCr device embedded in the element.

Finally, the force was applied to the element until the breaking point to see which part of the composed element, the wooden piece or the adhesive, did not resist this combination of force and high temperature.

The heating gear was embedded in the glued midplane of the sample to apply different temperatures. The measured temperature values during the test were transmitted via a serial port and recorded in the terminal, which were also displayed via an LCD screen, which allows programming of the target temperature.



	#1	#2	#3	
Timp total incercare / Total test time (s):	1200.00	1200.00	1200.00	
Inceput regim permanent/Beginning of steady state (s):	91.00	79.00	168.80	
Interval de timp / Time lapse (s):	553.00	404.60	249.90	
Diferenta de temperatura / Temperature gradient (K):	16.40	14.98	6.08	
Rezistivitate termica / Thermal resistivity (K·cm/W)	391.23	386.04	312.43	
		363.24		**Media / Average**

Figure 6. Wood thermal resistivity analysis report
Source: Own illustration

Figure 6 presents some preliminary results of 3 sample elements tested in the shear box where the thermal resistivity curves can be seen with readings of the time of the test, temperature and resistivity. It can be seen that when the density of the element is lower, the average values for the preliminary results are also lower.

4. CONCLUSION

This experiment is used in order to analyze and develop a testing system for the mechanical behavior of some new configurations of bio-based composite materials (more specifically glued laminated timber) when subjected to high temperatures and temperature variation.

Until now, in the research campaigns presented in the literature, the mechanical behavior of wood-adhesive composite material is poorly studied one of the reasons being the fact that it requires thermo-mechanically coupled laboratory tests. Also, it is not recommended to subject glued areas to high temperatures due to the possibility that they give off harmful compounds.

At the same time, if the combination of the wooden sample, the adhesive and the high temperature applied on the element works, the focus will be on the attempt to replace the building materials whose production is energy-intensive (especially steel and concrete) with bio-renewable building materials.

The application of this type of wooden element is in sustainable structures because it can replace materials whose production is energy-intensive in the form of cement or steel with bio-renewable materials such as wood.

The evaluation of the above-mentioned behavior and the evaluation of compounds obtained by pyrolysis of these structural elements, but also the follow-up of newly emerged materials from this point of view, is an objective of maximum interest.

Acknowledgments

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References

Anwar, K., Mahidin, M., Ramli, I., Faisal, M., & Sitorus, A. (2024). Impact of Pyrolysis Temperature and Jatropha Seed Adhesive on the Properties of Bio-charcoal from Young Coconut Waste. Jurnal Teknik Pertanian Lampung *(Journal of Agricultural Engineering), 13*(4), 1372. https://doi.org/10.23960/jtep-l.v13i4.1372-1382

Barnasan, P., Davaajav, Y., Sanjaa, B., Ariunaa, A., Namkhainorov, J., Jargalmaa, S., Tsatsral, G., Bat-Ulzii, B., Erdenechimeg, R., Munkhtaivan, B., Budeebazar, A., Batkhishig, D., & Jigjidsuren, D. (2017). Investigation on pyrolysis of some organic raw materials. *Mongolian Journal of Chemistry, 17*(43), 5–10. https://doi.org/10.5564/mjc.v17i43.739

Jones, D., & Brischke, C. (Eds.). (2017). *Test methods for bio-based building materials*. In *Performance of Bio-based Building Materials* (pp. 385–481). Woodhead Publishing. https://doi.org/10.1016/B978-0-08-100982-6.00007-0

Lestari, A., Hadi, Y., Hermawan, D., & Santoso, A. (2018). Physical and mechanical properties of glued laminated lumber of pine (*Pinus merkusii*) and jabon (*Anthocephalus cadamba*).

Journal of the Korean Wood Science and Technology, 46(2), 143–148. https://doi.org/10.5658/WOOD.2018.46.2.143

Parlato, M. C. M., & Pezzuolo, A. (2024). From Field to Building: Harnessing Bio-Based Building Materials for a Circular Bioeconomy. Agronomy, 14(9), 2152. https://doi.org/10.3390/agronomy14092152

Pulngern, T., Udtaranakron, T., & Chanto, K. (2020). Physical and mechanical behaviors of thermally modified rubberwood glulam beam under sustained cyclic loading. *Wood and Fiber Science: Journal of the Society of Wood Science and Technology, 52*(3), 298–312. https://doi.org/10.22382/wfs-2020-028

Sudhoff, P. (2024). Modeling the Fire Behavior of Bio-Based Insulation Materials. *Conference: The 4th International Symposium on Fire Safety of Facades (FSF)*. ISBN 978-91-89971-04-2

Swedish Wood. (2024). *The Glulam Handbook Volume 2: Project design of glulam structures* (1st ed.).

Udtaranakron, T., Pulngern, T., & Sombatsompop, N. (2023). Analytical and experimental investigation of the flexural and bond adhesive properties of thermally modified rubberwood and hybrid glulam beams with WPVC composites, *Structures,* Volume 58,105498. https://doi.org/10.1016/j.istruc.2023.105498.

Valois, F. P., Bezerra, K. C. A., Assunção, F. P. da C., Bernar, L. P., da Paz, S. P. A., Santos, M. C., Feio, W. P., Silva, R. M. P., Mendonça, N. M., de Castro, D. A. R., Jr, S. D., Gomes, A. R. Q., Sousa, V. R. C., Monteiro, M. C., & Machado, N. T. (2024). Improving the Antioxidant Activity, Yield, and Hydrocarbon Content of Bio-Oil from the Pyrolysis of Açaí Seeds by Chemical Activation: Effect of Temperature and Molarity. Catalysts, 14(1), 44. https://doi.org/10.3390/catal14010044

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Rule of Law, Corruption, and Tax Revenue Performance

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Tax revenue;
Rule of law;
Corruption;
Western Balkan;
North Macedonia

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Abstract: *Tax revenue refers to the income generated by governments and serves as a critical funding source for public services, infrastructure development, and social welfare programs. While effective legal frameworks and enforcement mechanisms facilitate tax compliance, corruption undermines tax collection efforts, erodes public trust, and distorts economic activity. This study examines the relationship between the rule of law, corruption, and tax revenue performance in North Macedonia. Comparative analyses of the World Bank Governance Indicators - Rule of Law Index and Control of Corruption Index were conducted among countries in the Western Balkan region. Secondary data from the World Bank were utilized, and multiple regression analysis was conducted to determine the impact of the Rule of Law index and Corruption index on tax revenue performance for North Macedonia. Findings indicate weak governance performance related to the rule of law and control of corruption across the Western Balkan region, with the index for all countries below 0. In North Macedonia specifically, findings indicate that approximately 50.7% of the variability in tax revenue can be explained by the rule of law and control of corruption indices. The correlation coefficient of 0,71, suggests a strong positive correlation between tax revenue (% of GDP) and the Rule of Law and Control of Corruption. These findings underscore the significance of addressing corruption and strengthening the rule of law to enhance tax revenue performance.*

1. INTRODUCTION

In many countries, the effectiveness of tax revenue performance can make or break the government's ability to provide essential services and foster economic growth. The delicate interplay between governance, the rule of law, and corruption often dictates the success or failure of these fiscal efforts. The IMF (IMF, 2017) investigates the effect of corruption on state capacity to raise revenue across 147 countries from 1995 to 2014. The findings reveal that corruption significantly impairs aggregate revenue performance, reducing it by 0.6 percent of GDP annually. Furthermore, studies examining the impact of corruption and good governance on economic growth in Balkan countries have shown that corruption is negatively correlated with GDP per capita growth (Biscione & Muco, 2021). Despite these insights, the relationship between the rule of law, corruption, and tax revenue performance has yet to be robustly researched. This paper aims to fill this gap by delving into the intricate relationship between the rule of law, corruption, and tax revenue performance with a particular focus on North Macedonia and how this relationship compares to neighboring Western Balkan countries such as Kosovo*, Serbia, Albania, Montenegro, and Bosnia and Hercegovina. By analyzing these variables, this study seeks to uncover the extent to which governance and corruption impact tax revenue performance and provide policy recommendations for enhancing fiscal effectiveness in the region. Understanding these dynamics is crucial for policymakers who aim to strengthen their country's fiscal health and economic stability. Through this comprehensive analysis, the study contributes to a broader understanding of how improving governance and reducing corruption can lead to better tax revenue performance and, ultimately, more robust economic development in the Western Balkans.

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* Under the UN Resolution 1244.

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2. LITERATURE REVIEW

The factors influencing tax revenue performance measured as the ratio of tax revenues to GDP have long been debated. Researchers typically include variables such as per capita GDP, the composition of different economic sectors, the level of trade and financial openness, the ratio of foreign aid to GDP, the ratio of total debt to GDP, the size of the informal economy, and institutional and political factors like good governance, rule of law and corruption as potential determinants of revenue performance.

Studies highlighting the economic and administrative factors influencing tax revenue collection typically focus on income, tax rates, tax enforcement, tax penalties, tax administration, and the structure of tax systems (Clotfelter, 1983; Alm & Torgler, 2006; Durham et al., 2014; Kogler et al., 2016). Baskaran and Bigsten (Baskaran & Bigsten, 2013) discussed the relationship between democracy and tax revenues, and Garcia and von Haldenwang (Garcia & Von Haldenwang, 2016) examined the relationship between political regimes and tax revenues. An analysis of the studies in this field reveals that those examining institutional and political factors generally focus on the rule of law, corruption, political stability, and democracy. Studies conducted by several authors showed a positive relationship between the rule of law and tax revenues (Syadullah, 2015; Simbachawene, 2018). Additionally, some studies indicate a negative relationship between tax revenues and the rule of law (Ashraf & Sarwar, 2016; Nnyanzi et al., 2016). Numerous studies have been conducted to understand the impact of corruption on the economy. The IMF (IMF, 2017) investigates the effect of corruption on state capacity to raise revenue across 147 countries from 1995 to 2014. The findings reveal that corruption significantly impairs aggregate revenue performance, reducing it by 0.6 percent of GDP annually. Most papers that have studied corruption's direct influence on revenue performance find a negative relationship between corruption and tax revenue (Besley & Persson, 2014; Imam & Jacobs, 2014). Studies investigating the impact of corruption and good governance on economic growth in Balkan countries show that corruption is negatively correlated with GDP per capita growth (Biscione & Muco, 2021). Studies show that in North Macedonia total revenues, tax revenues, and customs revenues have shown continuous growth. Revenues collected in 2022 are more than double those collected in 2010 and this applies to total revenues, tax revenues, and customs revenues (Miloshoska et al., 2024) On the other hand, corruption is recognized as the largest problem in the Republic of N. Macedonia (Miloshoska, 2016, 2018). In 2021, forty-six percent of the population identified corruption as the largest problem, an increase of 49% compared to 2016 (Miloshoska, 2022). For years, certain professions have been perceived as most corrupt. Citizens when asked about professional holders of specific public positions, put on top judges, ministers, public prosecutors, and tax officers (Miloshoska & Vasileska, 2022).

3. MATERIALS AND METHODS

Studies on tax revenue performance emphasize the significance of governance indicators in tax collection. When taxpayers believe their interests are well represented in the legislature, their willingness to pay taxes increases. Conversely, weak law and order conditions can lead to tax evasion. Similarly, many business communities may operate underground in economies where corruption is prevalent, paying bribes to avoid high taxes. To assess the impact of these variables on tax revenue performance, an analysis was conducted on two governance indicators by the World Bank: The Rule of Law Index and the Control of Corruption Index.

This study's dependent variable is total tax revenue (% of GDP). Tax revenue refers to compulsory transfers to the central government for public purposes. Certain compulsory transfers such as

fines, penalties, and most social security contributions are excluded. Refunds and corrections of erroneously collected tax revenue are treated as negative revenue.

The longitudinal dataset used in this study covers 6 countries from the Western Balkan region (North Macedonia, Albania, Serbia, Monte Negro, Bosnia and Hercegovina, and Kosovo*) from 2005 to 2021. The study uses secondary data from the World Bank, World Development Indicators- the Tax revenue (% of GDP), out of which observations for Kosovo* and Monte Negro are missing. However, data on two Governance indicators, the Rule of Law Index and Control of Corruption Index, is taken from World Bank Governance Indicators, available for 1996-2022.

Descriptive statistics as statistical techniques are used in this study to summarize and describe the main features of a dataset, providing simple summaries and graphical representations to convey the basic patterns and characteristics of the data. These descriptive statistics summarize the dataset's distribution's central tendency, dispersion, and shape. The mean and median values give an idea of the dataset's center, while the standard deviation and variance indicate how spread out the values are. Skewness and kurtosis provide information about the distribution's shape, and the range, minimum, and maximum values show the dataset's spread. The standard error and confidence level provide insights into the reliability of the mean estimate.

Multiple linear regression analysis is used in this study to explore and quantify the relationship between rule of law, corruption, and tax revenue performance. Multiple linear regression is a regression model that estimates the relationship between a quantitative dependent variable and two or more independent variables using a straight line. It is a statistical technique used to predict the outcome of a variable based on the value of two or more variables. The general form of the multiple linear regression model is:

$$\hat{Y} = \beta 0 + \beta 1\, X1 + \beta 2\, X2 + \ldots\ldots\ldots + \beta n\, Xn + \epsilon$$

Where:

- $\hat{Y}$ = is the dependent variable
- $X1, X2 \ldots. Xn$ = are the independent variables (predictors)
- $\beta 0$ = is the y-intercept (constant term).
- $\beta 1, \beta 2 \ldots\ldots \beta n$ = are the coefficients for the independent variables $X1, X2 \ldots. Xn$
- ϵ = is the error term (residual), representing the difference between the observed and predicted values.

This study explores and quantifies the relationship between the rule of law, corruption, and tax revenue performance in North Macedonia.

4. RESULTS & DISCUSSION

The Rule of Law Index and Control of Corruption Index are two measures developed by the World Bank to assess and quantify certain aspects of governance and institutional quality within countries. This study investigates the impact of the rule of law and corruption on tax revenue performance in North Macedonia, and how this relationship compares to neighboring Western Balkan countries such as Kosovo*, Serbia, Albania, Montenegro, and Bosnia and Hercegovina.

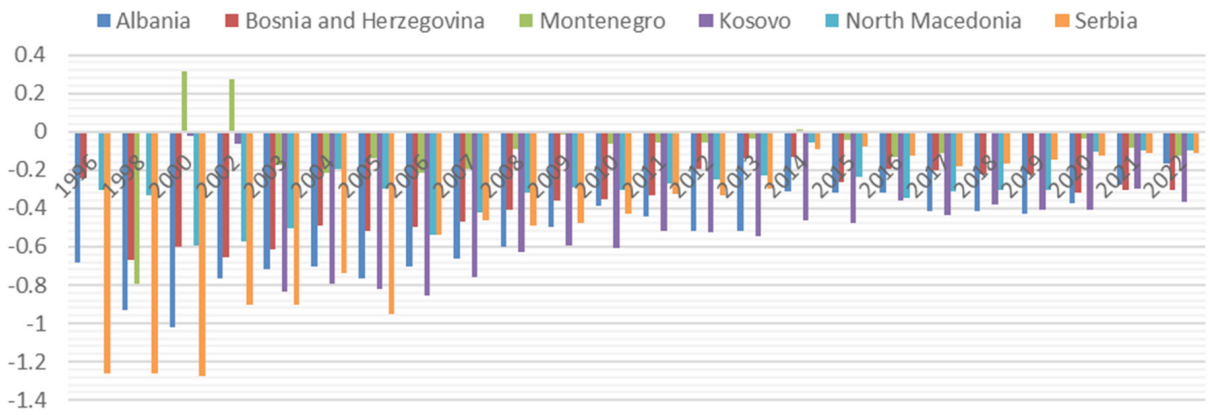
* Under the UN Resolution 1244.

The Rule of Law Index assesses the extent to which a country's legal system is impartial, transparent, and effective in upholding the rule of law. It encompasses factors such as the protection of property rights, the independence of the judiciary, the absence of corruption, and the enforcement of contracts. This index measures the degree to which citizens and businesses have confidence in the legal framework and institutions within their country, as well as the predictability and reliability of the legal system in resolving disputes and enforcing laws. The Rule of Law measures the strength of governance performance within a country, specifically focusing on the rule of law aspect. This estimate typically ranges from approximately -2.5 to 2.5, with lower values indicating weaker governance performance and higher values indicating stronger governance performance.

Graph 1 illustrates the Rule of Law Index for the Western Balkan Countries from 1996 to 2022. Analysis of this graph reveals that all Balkan countries have weak governance concerning the rule of law. Throughout the analyzed period, the Rule of Law Index for all countries remains below 0, suggesting that these countries face significant challenges in enforcing laws and ensuring justice, indicating a weakness in their legal and institutional frameworks.

North Macedonia's best score was in 2014, with an index of -0.0556; its worst score was -0.5965 in 2000. In the last two years, 2021 and 2022, the score is -0.09, suggesting a slight improvement. The average value of the dataset for North Macedonia is -0.30, and the median value is -0.29 (Table 1). Both the average and median values being negative confirm that North Macedonia has struggled with weak governance concerning the rule of law over the analyzed period. These statistics highlight the challenges North Macedonia faces in improving its rule of law, with governance weaknesses being a significant concern throughout the analyzed period.

Comparing data for the Western Balkan countries (Table 1) shows that Montenegro has better scores for the Rule of Law Index, followed by North Macedonia, Bosnia and Herzegovina, Serbia, Albania, and Kosovo*. A consistently negative Rule of Law Index indicates ongoing difficulties in effectively enforcing laws, which can undermine public confidence in legal and governmental institutions. Persistent negative scores suggest that the judicial systems in these countries may struggle with efficiency, and fairness leading to a lack of trust among citizens. Low scores highlight broader institutional weaknesses, including problems with corruption, inefficiency, and lack of transparency.



* Kosovo – Under the UN Resolution 1244.

Graph 1. The Rule of Law Index

Source: Own calculations based on World Bank (2024)

* Under the UN Resolution 1244.

Table 1. Descriptive statistics- Rule of Law index, Control of Corruption Index, Tax revenue (% of GDP)- Western Balkan countries

	Albania			Bosnia and Herzegovina			Montenegro	
	Rule of Law	Cont. Corrupt	Tax reve.%GDP	Rule of Law	Cont. Corrupt	Tax reve.% GDP	Rule of Law	Cont. Corrupt
Mean	-0,514387	-0,64785061	17,92510506	-0,3548753	-0,42986002	19,96785615	-0,054224	-0,19539051
Standard Error	0,0437136	0,0293247	0,216393907	0,03363117	0,032066512	0,182820748	0,0281858	0,029228787
Median	-0,4686483	-0,59567687	18,14437719	-0,3234472	-0,3770517	19,82659719	-0,061238	-0,16710472
Mode	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Standard Deviation	0,2050349	0,13754502	0,717697397	0,15774416	0,150405272	0,753789255	0,1322033	0,137095165
Sample Variance	0,0420393	0,01891863	0,515089554	0,02488322	0,022621746	0,568198241	0,0174777	0,018795084
Kurtosis	0,1521659	-1,26582383	0,035142187	-0,8700647	-1,28134058	1,097993291	3,2920037	-0,90396716
Skewness	-0,6056614	-0,13084552	-0,797295826	-0,4470075	-0,52765593	0,770440561	1,6479144	-0,51296689
Range	0,8548886	0,4476881	2,384215448	0,5237827	0,451026529	2,939310477	0,5323983	0,452915811
Minimum	-1,0206677	-0,85556364	16,50327061	-0,6560057	-0,68383521	18,75064473	-0,215662	-0,46746466
Maximum	-0,1657791	-0,40787554	18,88748606	-0,132223	-0,23280868	21,68995521	0,3167361	-0,01454884
Sum	-11,316514	-14,2527134	197,1761557	-7,8072557	-9,4569205	339,4535545	-1,192938	-4,29859129
Count	22	22	11	22	22	17	22	22
Largest(1)	-0,1657791	-0,40787554	18,88748606	-0,132223	-0,23280868	21,68995521	0,3167361	-0,01454884
Smallest(1)	-1,0206677	-0,85556364	16,50327061	-0,6560057	-0,68383521	18,75064473	-0,215662	-0,46746466
Confidence Level(95	0,0909074	0,06098405	0,482155672	0,06993984	0,066685962	0,387562673	0,0586157	0,060784591

	Kosovo		N. Macedonia			Serbia		
	Rule of Law	Cont. Corrupt	Rule of Law	Cont. Corrupt	Tax reve.% GDP	Rule of Law	Cont. Corrupt	Tax reve.% GDP
Mean	-0,5078791	-0,44419426	-0,302461	-0,34486559	17,20771044	-0,4213489	-0,43567163	21,63759174
Standard Error	0,04809696	0,06103483	0,0323384	0,045904166	0,219825443	0,0724222	0,044373488	0,464079869
Median	-0,4989598	-0,52710718	-0,29969	-0,35139915	17,08328108	-0,3289426	-0,38942862	21,30211447
Mode	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Standard Deviation	0,22559473	0,28627874	0,1516807	0,215309623	0,906363519	0,3396903	0,208130108	1,797373605
Sample Variance	0,05089298	0,08195552	0,023007	0,046358234	0,821494828	0,1153895	0,043318142	3,230551877
Kurtosis	0,05968196	4,80954437	-0,246068	-0,3556248	-0,113949612	0,3640399	7,279494649	-1,129486992
Skewness	0,31891542	2,24158103	-0,411072	-0,3297219	0,46346262	-1,060302	-2,61116304	-0,11766874
Range	0,8345337	1,10651591	0,5409764	0,793589123	3,405872217	1,2021406	0,909581199	5,515538086
Minimum	-0,8583646	-0,7352407	-0,596573	-0,82605845	15,668958	-1,2779871	-1,15667069	18,55250021
Maximum	-0,0238309	0,37127522	-0,055596	-0,03246932	19,07483022	-0,0758465	-0,24708949	24,0680383
Sum	-11,17334	-9,77227366	-6,654152	-7,58704306	292,5310775	-9,2696758	-9,58477585	324,5638761
Count	22	22	22	22	17	22	22	15
Largest(1)	-0,0238309	0,37127522	-0,055596	-0,03246932	19,07483022	-0,0758465	-0,24708949	24,0680383
Smallest(1)	-0,8583646	-0,7352407	-0,596573	-0,82605845	15,668958	-1,2779871	-1,15667069	18,55250021
Confidence Level(95	0,1000231	0,12692888	0,0672515	0,095462939	0,466009121	0,1506102	0,09227972	0,995352326

* Kosovo – Under the UN Resolution 1244.

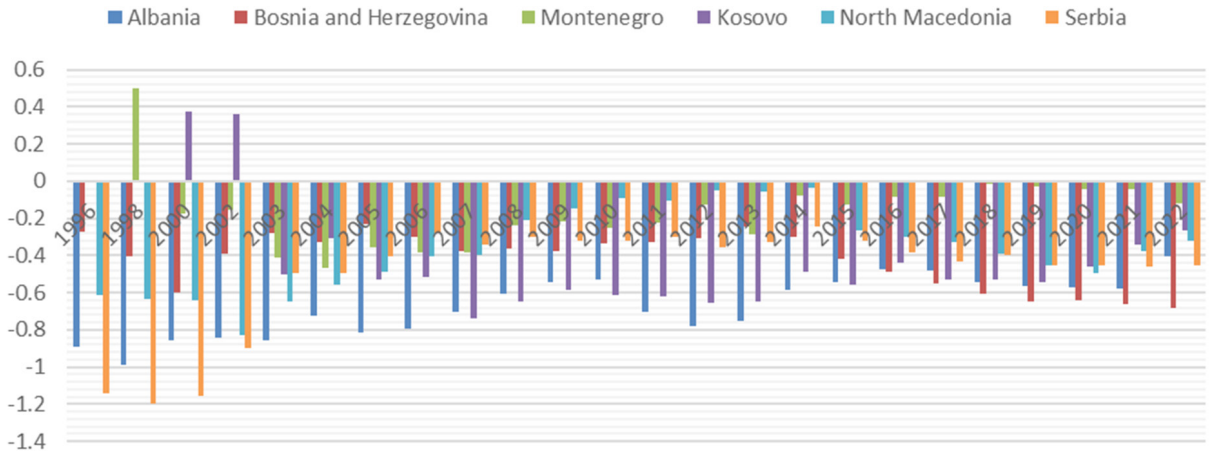
Source: Own calculations

The Control of Corruption Index measures the extent to which corruption is perceived to exist within a country's public sector and society more broadly. It reflects perceptions of bribery, embezzlement, nepotism, and other corruption among public officials and institutions. This index helps assess the effectiveness of anti-corruption measures, the integrity of public institutions, and the level of transparency and accountability in governance. Countries with higher scores on the Control of Corruption Index are perceived to have lower levels of corruption and greater integrity in their public institutions. Control of Corruption measures the effectiveness of governance systems in addressing and mitigating corruption within a country. This estimate typically ranges from approximately -2.5 to 2.5, with lower values indicating weaker governance performance in controlling corruption and higher values indicating stronger governance performance. Graph 2 shows the Control of Corruption Index for the Western Balkan countries from 1996 to 2022. Throughout the analyzed period, the Control of Corruption Index for all countries remains below 0, indicating significant challenges in fighting corruption. The consistently negative values show that corruption is a persistent and widespread problem across the Western Balkan countries, with

little to no improvement over the analyzed period. The values for this index are consistently lower than the Rule of Law Index, suggesting that corruption-related problems are even more pervasive and entrenched than those of the rule of law. This can imply that even if laws are in place, their implementation is compromised by corrupt practices.

North Macedonia's best score was in 2014, with an index of -0,0324; its worst score was -0.826 in 2002 (Graph 2). Since 2015, the Control of Corruption Index has continuously deteriorated, with the worst result in 2019 and 2020 of -0.4. This downward trend highlights increasing difficulties in managing and preventing corruption. The index slightly improved to -0.3 in 2021 and 2022, suggesting a minor recovery, but still indicating weak control of corruption. The average value of the dataset for North Macedonia is -0.34, and the median value is -0.35 (Table 1). The average index value of -0.34 indicates that, on average, North Macedonia has struggled with corruption control throughout the analyzed period. This average reflects overall weak governance in combating corruption. The median value of -0.35 closely aligns with the average, further reinforcing the persistent and pervasive nature of corruption in North Macedonia.

Comparing data for the Western Balkan countries (Table 1) shows that Kosovo* had a 0,371 Control of Corruption index in 2000. After 2002, Kosovo* recorded the most negative index among all analyzed countries in the region, indicating a significant deterioration in the control of corruption. This implies that corruption became more pervasive, and governance efforts to combat it weakened substantially. The best results are recorded for Monte Negro followed by North Macedonia, Bosnia and Herzegovina, Serbia, Albania, and Kosovo*. Despite various efforts to address it, the Control of Corruption Index for all these countries consistently falls below zero, indicating ongoing challenges in effectively combating corruption and ensuring transparent governance. Corruption remains a significant and widespread problem across the Western Balkan countries.



* Kosovo – Under the UN Resolution 1244.

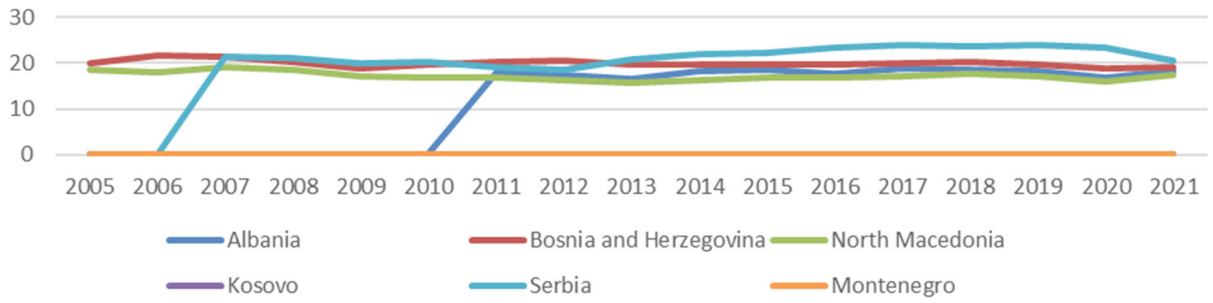
Graph 2. Control of Corruption Index

Source: Own calculations based on World Bank (2024)

Tax revenue (% of GDP) is the total tax revenue collected by the government as a percentage of the country's GDP. The tax revenue (% of GDP) represents the ratio of a country's tax revenues to its gross domestic product (GDP). This indicator measures the effectiveness of a country's tax collection system and provides insight into the government's ability to generate revenue relative to the size of its economy. Higher tax revenue relative to GDP suggests a stronger ability to finance

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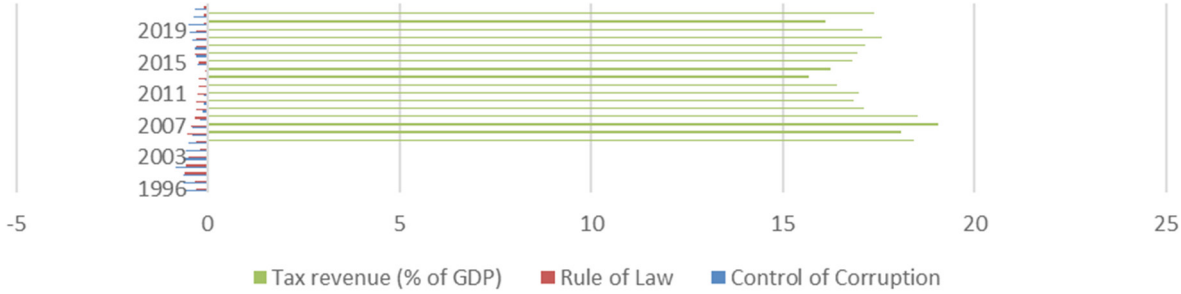
public services and infrastructure. Graph 3 shows the Tax revenue (% of GDP) for the Western Balkan countries from 2005 to 2021, out of which observations for Kosovo* and Montenegro are missing. Graph 3 shows that tax revenue as a percentage of GDP ranges between 15% and 25% in all four countries — North Macedonia, Serbia, Bosnia and Herzegovina, and Albania. At the same time, the highest percentage of participation is in Serbia (24%), followed by Bosnia and Herzegovina, then Albania, and finally North Macedonia. For the analyzed period Macedonian Tax revenue percentage ranges from 15% to 20%. The decrease in the share of tax revenue as a percentage of GDP in North Macedonia, despite overall growth in both GDP and tax revenue, can be attributed to various factors including faster GDP growth relative to tax revenue growth, tax policy changes, structural economic shifts, administrative inefficiencies, and alternative funding sources. Understanding the specific causes requires a detailed examination of financial and tax data, policies, and administrative practices. If North Macedonia undergoes a tax reform that lowers corporate tax rates to attract foreign investment, the immediate effect might be increased economic activity and GDP growth. However, the lower tax rates mean tax revenue does not increase as quickly as GDP. Graph 4 illustrates the trends in the Rule of Law Index, Control of Corruption Index, and Tax Revenue (% of GDP) for the Republic of N. Macedonia. The data clearly show when the Control of Corruption Index and Rule of Law Index are close to 0 (2014 year), Tax revenue as a percentage of GDP decreases. Further analysis suggests improvements in the Rule of Law and Control of Corruption indices correlate with increased foreign investments. A specific policy in North Macedonia to attract foreign investment involves offering tax exemptions to foreign investors. This policy has led to increased economic activity and GDP growth. However, it also results in lower tax revenue as a percentage of GDP due to the tax exemptions provided to foreign investors.



* Kosovo – Under the UN Resolution 1244.

Graph 3. Tax revenue (% of GDP)

Source: Own calculations based on World Bank (2024)



Graph 4. Trends of Rule of Law, Control of Corruption, and Tax revenue (% of GDP) in the Republic of N. Macedonia

Source: Own calculations

* Under the UN Resolution 1244.

A multiple linear regression model is used in this study to investigate the connection between the rule of law, corruption, and tax revenue performance in North Macedonia. The model uses a linear equation that relates a dependent variable to two independent variables:

$$\hat{Y} = \beta 0 + \beta 1\ X1 + \beta 2\ X2 + €$$

Where:

- $\hat{Y}$ = is the Tax revenue (% of GDP)-dependent variable
- $X1$ =is the Rule of Law index -independent variable (predictor)

$X2$ = is the Control of Corruption -independent variable (predictor)

- $\beta 0$ = is the y-intercept (constant term).
- $\beta 1, \beta 2$ = are the coefficients for the independent variables $X1, X2$
- $€$ = is the error term (residual), representing the difference between the observed and predicted values.

In the context of this study, examining the impact of the Rule of Law Index and the Control of Corruption Index on Tax revenue (% of GDP), the multiple linear regression model might look like this:

$$\text{Tax revenue (\% of GDP)} = \beta 0 + \beta 1 \times \text{Rule of Law Index} + \beta 2 \times \text{Control of Corruption Index} + €$$

Table 2. Multiple linear regression output

Regression Statistics	
Multiple R	0,712351828
R Square	0,507445127
Adjusted R Square	0,437080145
Standard Error	0,680026286
Observations	17

Source: Own calculations

Multiple R is the correlation coefficient, indicating the strength and direction of the linear relationship between the observed and predicted values of the dependent variable. A value of 0.71 suggests a strong positive correlation between tax revenue (% of GDP) and the independent variables -Rule of Law and Control of Corruption. R Square, also known as the coefficient of determination, indicates the proportion of the variance in the dependent variable -tax revenue % of GDP that is predictable from the independent variables -Rule of Law and Control of Corruption. An R^2 value of 0.507 suggests that approximately 50.7% of the variability in tax revenue can be explained by the rule of law and control of corruption indices. Adjusted R Square adjusts the R^2 value for the number of predictors in the model, providing a more accurate measure of the goodness of fit when multiple predictors are used. An adjusted R^2 value of 0.437 indicates that about 43.7% of the variability in tax revenue is accounted for by the model, considering the number of predictors and the sample size. The standard error measures the typical distance that the observed values fall from the regression line. A standard error of 0.68 suggests that, on average, the predicted tax revenue deviates from the actual tax revenue by approximately 0.68 percentage points.

Table 3. ANOVA

ANOVA					
	df	*SS*	*MS*	*F*	*Significance F*
Regression	2	6,66981676	3,33490838	7,211614555	0,007033676
Residual	14	6,47410049	0,462435749		
Total	16	13,14391725			

Source: Own calculations

Table 3. ANOVA indicates that the regression model is statistically significant, meaning that the Rule of Law and Control of Corruption indices have a substantial relationship with North Macedonia's tax revenue (% of GDP). With an F-statistic of 7.21 and a p-value of 0.007, it can be said that the independent variables (Rule of Law and Control of Corruption) collectively explain a significant portion of the variance in tax revenue (% of GDP) for North Macedonia. The model's R^2 value of 0.507 suggests that these governance indicators account for approximately 50.7% of the variability in tax revenue.

Table 4. Estimation of the model with T-statistics and confidence intervals

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*
Intercept	15,51332615	0,477158096	32,51192063	1,3738E-14	14,48992382	16,53673
Rule of Law Index	-4,152179451	1,519508807	-2,732580049	0,016189119	-7,411201713	-0,89316
Control of Corruption Index	-2,035538552	1,079109636	-1,886313017	0,080169502	-4,349998533	0,278921

Source: Own calculations

Table 3 provides the coefficients, standard errors, t-statistics, p-values, and 95% confidence intervals for the intercept and the two independent variables -Rule of Law Index and Control of Corruption Index in the regression model. The intercept represents the expected value of the Tax Revenue (% of GDP) when the Rule of Law Index and Control of Corruption Index are zero. The intercept is 15.513, which is statistically significant given the extremely low P-value (much less than 0.05). The coefficient for the Rule of Law Index is -4.1522. This suggests that for every one-unit increase in the Rule of Law Index, tax revenue as a percentage of GDP decreases by approximately 4.15 units, holding the Control of Corruption Index constant. This result is statistically significant at the 5% level (P-value < 0.05). The coefficient for the Control of Corruption Index is -2.0355. This suggests that for every one-unit increase in the Control of Corruption Index, tax revenue as a percentage of GDP decreases by approximately 2.04 units, holding the Rule of Law Index constant. However, this result is not statistically significant at the conventional 5% level (the P-value is 0.080, which is greater than 0.05).

5. CONCLUSION

As tax revenue performance is crucial for governments to provide essential services and foster economic growth, it is important to understand the relationship between the rule of law, corruption, and tax revenue performance. This study focuses on the impact of the rule of law and corruption on tax revenue performance in North Macedonia, and how this relationship compares to neighboring Western Balkan countries such as Kosovo*, Serbia, Albania, Montenegro, and Bosnia and Hercegovina. The Rule of Law Index and Control of Corruption Index are two measures developed by the World Bank to assess and quantify certain aspects of governance and institutional quality within countries. Analysis of this study reveals that all Balkan countries have weak governance concerning the rule of law and corruption. Throughout the analyzed period, the Rule of Law Index and Control of Corruption

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Index for all countries remain below 0, suggesting that these countries face significant challenges in enforcing laws, ensuring justice, and fighting corruption, indicating a weakness in their legal and institutional frameworks. Comparing data for the Western Balkan countries shows that Montenegro has better scores, followed by North Macedonia, Bosnia and Herzegovina, Serbia, Albania, and Kosovo*. Analyses of tax revenue as a percentage of GDP show that it ranges between 15% and 25% in all four countries— North Macedonia, Serbia, Bosnia and Herzegovina, and Albania. At the same time, the highest percentage of participation is in Serbia (24%), followed by Bosnia and Herzegovina, then Albania, and finally North Macedonia. For the analyzed period Macedonian Tax revenue percentage ranges from 15% to 20%. Multiple linear regression analysis is used in this study to explore and quantify the relationship between the rule of law, corruption, and tax revenue performance in North Macedonia. The regression statistics suggest that the regression model has strong explanatory power (high R-Square and Multiple R) and provides a good fit to the data, explaining a large proportion of the variability in the tax revenue performance. A strong positive correlation exists between the rule of law and corruption and tax revenue. About half of the variance in tax revenue is explained by the rule of law and control of corruption indices. However, future research investigating the broader economic and social consequences of improved tax revenue performance, such as poverty reduction, education, and healthcare improvements, can highlight the importance of good governance. Integrating insights from economics, political science, sociology, and law can provide a more comprehensive understanding of the complex relationship between the rule of law, corruption, and tax revenue.

References

Alm, J., & Torgler, B. (2006). Cultural differences and tax morale in the United States and in Europe. *Journal of Economic Psychology, 27*, 224-246.

Ashraf, M., & Sarwar, S. (2016). Institutional determinants of tax buoyancy in developing nations. *Journal of Emerging Economies and Islamic Research,4(1)*, 62-73.

Baskaran, T., & Bigsten, A. (2013). Fiscal capacity and the quality of government in sub-Saharan Africa. World Development, 45, pp. 92-107. *World Development, 45*, 92-107.

Besley, T., & Persson, T. (2014). Why Do Developing Countries Tax So Little? *Journal of Economic Perspectives, 28(4)*, 99-120.

Biscione, A., & Muco, K. (2021). The impact of corruption and good governance on the economic growth of the Balkan countries. *Journal Transition Studies Review, 28(2)*, 81-92.

Clotfelter, C. T. (1983). Tax evasion and tax rates. *Review of Economics and Statistics, 65(3)*, 363-373.

Durham, Y., Manly, T. S., & Ritsema, C. (2014). The effects of income source, context, and income level on tax compliance decisions in a dynamic experiment. *Journal of Economic Psychology, 40*, 220-233.

Garcia, M. M., & Von Haldenwang, C. (2016). Do democracies tax more? Political regime type and taxation. *Journal of International Development,28(4)*, 485-506.

Imam, P., & Jacobs, D. (2014). Effect of Corruption on Tax Revenues in the Middle East. *Review of Middle East Economics and Finance, 10 (1)*, 1-24.

IMF. (2017). *Corruption, Taxes and Compliance.* Baum, A., Gupta, S., Kimani, E. and Tapsoba, S. J.

Kogler, C., Mittone, L., & Kirchler, E. (2016). Delayed feedback on tax audits affects compliance and fairness perceptions. *Journal of Economic Behavior &Organization, 124 (C)*, 81-87.

Miloshoska, D. (2016). Security Roll of the Macedonian Customs. *European Journal of Law and Political Sciences*, 16-20.

Miloshoska, D. (2018). Customs and Corruption: the case of the Republic of Macedonia. *Conference proceedings of the international scientific conference "Towards a Better Future: The Rule*

* Under the UN Resolution 1244.

of Law, Democracy and Polycentric Development" Volume 2 (str. 110-121). Bitola: Faculty of Law - Kicevo, "St. Kliment Ohridski" University - Bitola.

Miloshoska, D. (2022). Integrity and corruption problem in Macedonian customs. *SECURITY HORIZONS* (str. 155-161). Skopje: University "St. Kliment Ohridski"-Bitola, Faculty of Security- Skopje.

Miloshoska, D., Trajkov, A., & Karadjova, V. (2024). Measuring customs revenue performance: insights from Macedonia. *8th International Scientific Conference on Economics & Management: EMAN 2024.* Rome: Faculty of Economics, University of Rome Tor Vergata, Italy.

Miloshoska, D., & Vasileska, L. (2022). Integrity in customs administrations-the case of Republic of Macedonia. *International Scientific Journal HORIZONS, Series A Social Sciences and Humanities*, 43-52.

Nnyanzi, J. B., Babyenda, P., & Bale, J. M. (2016). Nnyanzi, J. B., Babyenda, P. and Bale, J. M., 2016. Regional economic integration and tax revenue: East African community. *Journal of Economic Integration, 31(4)*, 932-967.

Simbachawene, M. S. (2018). Improving tax revenue performance in Tanzania: Does potential tax determinants matters? *Journal of Finance and Economics, 6(3)*, 96-102.

Syadullah, M. (2015). Governance and tax revenue in Asean countries. *Journal of Social and Development Sciences, 6(2)*, 76-88.

World Bank. (2024). *Worldwide Governance Indicators.*

World Bank. (2024). *World Development Indicators.*

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Smart Legal Contracts and Their Implications in Digital Era

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Abstract: *The law in the new digital era is faced with many challenges and unknown legal figures. Smart legal contracts are a notion that needs to be defined in the legal fields of study. They are powered by blockchain technology, automate, and enforce contract terms through code. Also, these contracts offer benefits like efficiency, accuracy, transparency, and automation across sectors such as finance, supply chain, real estate, healthcare, and intellectual property. Despite their advantages, smart contracts face challenges including technical issues, legal recognition, security risks, and ethical implications. As technology advances and legal frameworks evolve, the adoption of smart legal contracts is expected to grow, transforming traditional contract practices, and integrating with emerging technologies like AI and IoT, ultimately shaping the future of digital transactions and legal agreements. In addition, the author traces how the traditional theoretical aspects of contracts can be applied to smart legal contracts. The researcher proves that the new technologies may influence the conventional legal order, which may be explained by the fact that individuals want to live in a more efficient digital era, than those in the conventional trade economy.*

1. INTRODUCTION

Digital transformation gives a new impetus to the development of many sectors. Many of the phenomena in the current factual reality remain beyond the scope of legal regulation. New legal forms are emerging that, on the one hand, facilitate commercial turnover, and on the other hand, overtake the already established legal order, from the point of view of legislative changes and adequate resolution of practical cases. The normative existence of law is related to the material and material existence of things (Stalev, 2022, p. 16), while in the 21st century the concepts of digital era, digital footprint, digital economy (Paskaleva, 2024, p. 26), digital transformation and the existence of facts and circumstances from the objective reality in the digital environment. Such is the case with smart contracts. They are a projection of what is happening in the digital environment and cannot go beyond the scope of legal theory and practice. Therefore, the present paper includes the following stages, which aim to clarify existing understandings about smart legal contracts, to compare this new form of contracts with traditional contracts, to give a universal definition of them, to propose their possible implications in commercial turnover and to highlight their importance in the digital age.

To achieve these goals, the author sets herself the following research tasks: to analyze the individual opinions on smart contracts, to highlight their features, to identify the main areas of contractual relationships where they would have the greatest application and to summarize their features and aspects of development and improvement.

In the present material, the author includes the use of both general scientific methods and specialized ones. Among them are the methods of analysis, synthesis, deduction, induction, systematic, normative, historical and comparative legal methods.

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2. SMART LEGAL CONTRACTS AS A LEGAL PHENOMENON

2.1. Justification of the Legal Phenomenon

Smart legal contracts as a new form of contractual relations in the 21st century can be defined as a new legal phenomenon. Despite the conservative attitude of the legal doctrine towards them, they are a fact and increasingly enter people's daily lives. That is why the need for their in-depth study arises. Each new legal concept is characterized by several basic elements that define and distinguish it from existing legal phenomena. Such key elements are firstly *legal novelty*, which often involves the creation or recognition of a new legal norm or principle that was not regulated or existed in previous legislation. At the moment, legal regulation of smart contracts in the countries of the European Union is almost absent. In some of the countries with a continental legal system, a conservative attitude towards smart contracts is observed, tending to their denial (Flores, 2023, p. 178). Pioneers in providing a legal appearance to smart contracts are the countries with a precedent legal system- United States and United Kingdom (Flores, 2023, p. 178). In 2019, Italy took a step forward by introducing into its national law the first legislative act to guarantee the validity and legal security of information and data provided through blockchain and other distributed ledger technologies (Durovic & Lech, 2019, p. 500). With this legislative amendment, the Italian Parliament laid the foundations for the recognition of the validity and enforceability of smart legal contracts.

Next, is the *social necessity*, presupposed by the rate of development of the society. The new legal phenomenon is the result of social changes or new socio-economic realities. This means that it reflects the need to adapt the legal system to new social conditions, problems or trends, which are actually one of the main priorities in the European Union. The European Parliament and the European Commission are working hard to introduce digital transformation (Szczepański, 2021, p. 2) by 2030. The emergence of digital platforms, the Internet of Things, Artificial Intelligence (Kissinger et al., 2021, p. 57) and various cloud services. They are *interconnected* with many economic sectors such as telecommunications, banking services, transport, facilitating business processes for small and medium enterprises. All this determines the need for legal regulation of smart legal contracts since the entire process of digitization reflects on people's lives. With the policy at the European level regarding the digitization process of the individual sectors, it makes clear in the third place that the institutions at the European level recognize the need for an adequate legal framework in order for the rights of the citizens to be protected. Such examples are several acts at the EU level- the Artificial Intelligence Act (Regulation (EU) 2024/1689) and the Electronic Identification and Trust Services Act (Regulation (EU) No 910/2014), which set the legal basis for the development of smart contracts.

Fourthly, the presence of the phenomenon of smart legal contracts is also proven by the *emergence of new legal entities* (such as new types of legal entities) or new types of legal relations (such as those that arise with new technologies - for example, cryptocurrency contracts, digital money).

Fifthly, the fact that smart legal contracts arise as a result of interaction between different areas of law (for example, contract law and international private law) or between law and other sciences such as economics, and social sciences and last but not least technology can be deduced. Last but not least, this constant process of digitization also prompts the evolution of existing legal institutes such as the general doctrine of contracts and the theories on which it is based on the autonomy of the will by Windscheid and Kant. This is why the emergence of smart legal contracts can represent a radical change or new direction in law that significantly changes the way existing norms are applied and interpreted.

Based on the above criteria, the need to clarify the concept of smart legal contracts is justified. The prerequisites for defining them as a phenomenon in 21st-century legal science are derived from the presence of six characteristic elements. Smart legal contracts represent a legal novelty. They are almost not legally regulated in most of the legal acts at the EU level and at the Member States level and they are applied in various sectors of the civil and commercial turnover. The institutions recognize the need for legal regulation because they create new forms of contractual relations between different legal entities. Also, intelligent contracts are related to various scientific fields such as economics and technology and are important for social development. Smart legal contracts happen to be the basis for the existing traditional legal institutes to evolve and acquire a new revolutionary appearance.

2.2. Different Opinions on the Topic

When private administration of the Internet network was allowed in the United States in 1993, there are a growth of e-commerce, e-contracting and electronic payment methods. So now with the emergence of the new blockchain technology new challenges have arisen that need to be addressed, too. Explaining smart contracts cannot be done without introducing what blockchain technology actually is (Louati et al., 2024, p. 2140). They operate on the *distributed ledger technology* mechanism and build a digital database with cryptography. The so-called *blockchain* (Nakamoto, 2008) has two classifications: private (not permitted) and public (permitted). In the doctrine, it is defined as a platform that provides a decentralized record of information stored in the form of transactions grouped into blocks.

The prevailing opinion in the doctrine is that blockchain can be defined as a set of technologies that, through the use of cryptographic techniques, create a distributed network ledger of information without the need for central validation by a specific authority. This system is peer-to-peer (P2P). It allows verified transactions to be carried out without intermediaries by reaching a consensus between the participants, and the network itself guarantees that the information has not been changed in any way. It is in such a technological network that smart legal contracts find their place.

The concept of *smart contracts* was introduced by Nick Szabo in 1994. He describes the concept as a new way to automate and execute contracts in a digital environment (Szabo, 1997). He defines smart contracts as computer protocols that facilitate, verify, or enforce contractual terms automatically. Its idea is to use technology to improve traditional contract processes through automation and higher security. Szabo's concept was inspired by the practice of automated vending machines- devices that automatically fulfill pre-set conditions (for example, when a coin is inserted, the machine dispenses a drink). Although the idea did not initially gain widespread support, it became particularly popular after the advent of blockchain technology in 2009 and the introduction of platforms such as Ethereum in 2015, which enable the decentralized execution of smart contracts. Szabo sees smart contracts as a tool that can automate not only simple financial transactions but also complex business processes, which significantly reduces trust costs and ensures greater transparency and security.

Legal and technical science define smart contracts differently. Concerning the legal aspect of smart contracts there are several understandings.

Smart legal contracts are of considerable interest among legal theorists because they represent an innovative approach to the execution of contracts that differs from traditional legal constructions.

Several legal theories analyze the nature, legal substance, and settlement possibilities of smart contracts. The first is introduced by Kevin Werbach (Werbach, 2018, p. 504) and presents smart contracts as automated mechanisms and examines them in the context of their legal enforceability. He believes that smart contracts are not contracts in the traditional legal viewpoint, but rather automated tools that fulfill certain conditions under pre-set rules. They are computer code that automatically executes instructions without the possibility of human intervention after completion. In the course of developing this theory the question arises as to whether the smart contract itself is legally binding or whether it must be supported by a traditional contract to be legally binding. This theory emphasizes that smart contracts are a technical rather than a legal tool. In support of this understanding is one of the opinions appearing in the law doctrine, which supports that it comes very close to their technical explanation. According to this point of view, smart contracts represent only one type of algorithm that only facilitates the execution process of a contract (Smith & Jones, 2021, p. 45). This is also the basis of the authors who believe that smart contracts are not legal contracts, although they recognize that in some countries there is a legal framework for them both at the national and international level (Sevalnev & Truntsevsky, 2020, pp. 118-147).

Next is the theory of smart contracts as traditional contracts (Clack et al., 2016, pp. 1-15). These authors consider smart contracts as an analogue of traditional contracts implemented in a new technological way. According to this theory, smart contracts can be seen as true contracts in the legal sense as they include elements such as offer, acceptance, mutual consent and intention to be legally bound. They are simply a new form of traditional contracts but with digital implications. In this sense is the notion that smart contracts can exist in three forms. There are essentially three forms in which they can take, depending on the role played by the code. This is a natural language contract, or *purely code contract*, *strong* and *weak* smart contract. The second form is where code is merely a technological tool used by one or both parties to fulfill obligations that are articulated by the natural language contract. At the opposite end of the spectrum are contracts that are entirely algorithm-based (Law Commission, 2021). The last form of smart contracts is the most difficult to reconcile with the principles of traditional contract law *(contracting freedom)*, since such contracts do not exist in natural language, and it is difficult to interpret the actual will of the parties at the time of the contract conclusion. Therefore, the need to translate the relevant contract from natural language to technical language and *vice versa* is identified. In this sense, according to (Filipenko, 2020, pp. 245-253) smart contracts represent both a new type of contract, a new form of it, and a method of its execution. Here, the question of how legal principles of contract law (such as consent and intention to bind) apply in the context of smart contracts is addressed. This theory proposes that smart contracts should be regulated and interpreted within existing contract law.

Thirdly, there is the view of smart contracts as partially enforceable contracts (Raskin, 2017, pp. 305-346). According to Raskin, smart contracts can fulfill part of the conditions automatically, while other aspects may need traditional legal regulation. The theory views smart contracts as a combination of automated and traditional contractual elements, while others may require traditional legal enforcement mechanisms. Some contract aspects can be directly enforced through technology, others may require judicial intervention if there is a dispute or breach.

Fourthly, there is a slightly more radical theory, according to which smart contracts are defined as "Code is Law" (Lessig, 1999). In this book, Lessig introduces the concept where it looks at how computer code can be considered a form of law and how this relates to smart contracts. It suggests that the code on which the smart contract is based plays the role of law all conditions and ensures their automatic compliance, which eliminates the need for traditional law enforcement. This raises

the question of whether technology can replace laws and courts as a means of regulating human behavior. According to this theory, legal rules can be programmed to be followed automatically. This theory is currently isolated.

Fifthly, smart contracts are presented as legal instruments in need of adaptation (De Filippi & Wright, 2018, pp. 1-312). The authors justify the need for adaptation of the existing legal framework and consider how they can be regulated in the context of traditional legal systems. Aaron Wright and Primavera de Filippi also discuss the idea that smart contracts minimize the need for legal enforcement through the use of automated code structures. This raises the question of liability and rights of parties in the event of a code error or misuse. Here, the possibilities for legal protection and enforcement are explored in cases where automation may fail. The idea is to create legal clarity and certainty by adopting new regulations that specifically address smart contracts, their enforceability, validity and regulation.

Sixth, some authors (Pronina & Buyanov, 2023, pp. 539-549) consider smart contracts as a new legal phenomenon that requires the development of new legal concepts and approaches to regulation. In this article, the author points out that smart contracts represent a completely new legal phenomenon that cannot be adequately understood in the context of existing contract law. They require the creation of new legal concepts and rules. According to this approach, smart contracts are so different from traditional ones that they require a rethinking of basic legal principles such as data protection, privacy and security.

In summary, all these theories highlight the need for further legal research and regulatory approaches to smart contracts to determine how they can fit in or evolve outside of the existing legal framework. The following conclusion can also be drawn, that it is possible to have both completely intelligent contracts, where the conclusion and execution is carried out entirely in an electronic environment, and those that have a hybrid dimension - some of them are carried out in a digital environment, the other part in the traditional way. In addition to the above, the author of this material adds that regardless of this possibility, the basic principles of contract law should serve as the basis for determining the admissibility and existence of such legal smart contracts, since they represent a new form of contractual relations.

2.3. Comparison and Definition

Smart legal contracts and traditional contracts are two different forms of contractual relations that are used to regulate legal relations between different civil law entities or persons. While traditional contracts have been a staple of the legal system for centuries, smart legal contracts are a relatively new phenomenon that emerged with the development of blockchain technology. A distinction between traditional contracts and smart contracts can be made based on several characteristics, as follows in Table 1.

Based on the comparison made, the following definition of a smart contract can be derived. It is a program code that automatically fulfills predetermined conditions and actions. It is usually stored on a blockchain network that provides immutability and transparency. It is executed automatically, without the need for human intervention, when predetermined conditions occur. A smart contract provides a high degree of security and transparency, due to its decentralized blockchain nature and use of cryptography, but limited flexibility, as any change requires reprogramming or a new agreement in the blockchain network. It provides a greater economy of execution costs, but its legal enforceability is not fully settled in many jurisdictions. While traditional contracts remain

the primary tool for regulating legal relationships, smart contracts offer innovations in automation, security, and performance efficiency. However, there is still no unified approach to regulating and recognizing smart contracts as legally binding.

Table 1. Comparison table between smart legal contracts and traditional contracts

Criteria	Smart contracts	Traditional contracts
Form	• Program code recorded on a blockchain	• Written, oral or electronic form
Conclusion	• Between absentees from a distance mediated by a platform	• Between present and/or between absent
Execution	• Automatic and self-applying via a preset algorithm	• Performance depends on the will of the parties; may require judicial enforcement
Transparency	• Publicly available and immutable (depending on the blockchain network whether it is public or not)	• Depends on the form chosen (can be public or private)
Irrevocability	• Once the algorithm is set, it cannot be canceled	• The contract is canceled by agreement of the parties or in the cases expressly provided by law
Security	• High degree of security provided by blockchain technology and cryptography	• Security depends on notarizations, witnesses and court procedures
Flexibility	• Limited; conditions are pre-programmed and difficult to change	• High; the conditions may be changed by a new agreement of the parties
Enforceability in the event of a dispute	• Subject to automatic enforcement, but in the event of errors or fraud there may be no legal enforcement	• Enforceable through the court system and legal mechanisms expressly provided for in the relevant legislation
Costs	• Reduced implementation and administration costs, but with code development costs	• Possible costs for legal services, certifications, court fees and more
Oversight and regulation	• Regulation is still evolving; legal standards are not fully established	• Subject to existing national and international legal regulations
Speed of execution	• Immediate execution when conditions are fulfilled	• May be slow due to the need for intermediaries and legal procedures
Reliability in case of technical errors	• There may be risks related to code errors or hacker attacks	• Depends on the legal framework and the ability to litigate disputes
Ability to adapt to new conditions	• Limited as changes require reprogramming and approval in the blockchain network	• Flexible as parties can renegotiate terms or amend the contract

Source: Own research

3. FUTURE RESEARCH DIRECTIONS-MANIFESTATIONS IN CIVIL AND COMMERCIAL TURNOVER

In today's digital age, smart contracts are entering various legal fields. Their importance for civil and commercial turnover is particularly important because they provide new opportunities for optimizing and ensuring commercial turnover in order to satisfy human needs. There is potential for smart contracts to be used in many specific contract types in civil and commercial law. Smart contracts can have a positive application in various economic spheres - e-commerce, insurance, finance, logistics and supply chain management. Of course, not all contracts can exist as smart contracts due to the existence of the principle of freedom of contract, the negotiation of complex terms between the parties and the possibility of the occurrence of unforeseen circumstances that could determine the existence of judicial discretion with a view to the amendment and termination of a contractual relationship. Smart contracts have the potential to transform civil and commercial relationships by introducing automation, transparency and security to many aspects of legal transactions. They can

be applied in different contexts while raising new legal issues and requiring adaptation of the existing legal framework. With the present study, it would not be possible to achieve an exhaustive listing of all possible manifestations of smart contracts in contract law, but some of them that already have practical applications can be indicated. Smart contracts can automate the execution of transactions for the purchase and sale of goods or services. Once predetermined conditions (such as payment or delivery) are met, the contract is automatically executed, and funds are transferred between the parties. Online commerce is where the smart contract monitors the delivery of the goods and automatically releases the payment to the seller after confirmation by the buyer.

They can automate the process of renting or leasing properties or belongings. They can automatically collect payments, control access to the property and even terminate the contract if conditions are not met. An apartment rental contract where the smart contract automatically withholds the rent each month and manages access to the property via electronic keys. Smart contracts can automate and optimize supply chains by tracking the movement of goods and automatically enforcing contractual terms between different actors. Introducing a smart contract for supply management that automatically confirms the acceptance of the goods and the fulfillment of the conditions by every party involved in the supply chain.

Smart insurance contracts can improve the efficiency of insurance contracts by automatically paying compensation when certain events occur (such as natural disasters, property damage, etc.) based on data from a trusted source (e.g., a weather agency). Smart contracts can automate and speed up financial transactions, including credit granting, loan repayment and credit management depending on agreed terms. Smart contracts can facilitate the licensing of intellectual property by automatically managing the distribution of revenue from the use of copyrighted works or patents. Music streaming platforms that use smart contracts to automatically distribute revenue to authors and artists based on the number of listens. Blockchain development and asset tokenization can facilitate the tokenization of physical and financial assets, such as stocks, real estate, and artwork, allowing for easier and more transparent transfer of ownership and management of these assets. In the field of automating judicial and arbitral proceedings, these contracts may find a place in the automation of certain aspects of judicial and arbitral proceedings, such as the settlement of disputes that can be resolved through pre-programmed rules. In family law, they can be used in some respects, such as prenuptial agreements or maintenance agreements upon divorce or separation. Smart contracts may be used to automate employment relationships, such as paying salaries, bonuses, or other compensation based on predetermined conditions upon achieving certain results or completing specific tasks.

The review made could not be exhaustive in view of the specifics of each case and the possibility of an agreement between the parties being turned into an algorithm.

4. CONCLUSION

Smart legal contracts can transform civil and commercial relationships by offering more efficient and transparent ways to manage contractual relationships. However, their legal integration requires careful regulation and adaptation of the existing legal frameworks in view of the specific case, in order to ensure the protection of the rights of the parties to them and guarantee legal certainty. Although there are different theories regarding their recognition in legal reality, a trend is emerging towards the legal introduction and confirmation of this new form of contractual relations. When assessing their validity in the relevant legal order, the specifics of the individual contractual relationship and the basic legal principles of contract law must be considered.

References

Clack, C. D., Bakshi, V. A., & Braine, L. (2016). Smart contract templates: foundations, design landscape and research directions. arXiv preprint arXiv:1608.00771. *Barclays Bank PLC*, 1-15. Retrieved from http://arxiv.org/abs/1608.00771

De Filippi, P., & Wright, A. (2018). Blockchain and the Law: The Rule of Code. *Harvard University Press*, 312. doi: https://doi.org/10.2307/j.ctv2867sp

Durovic, M., & Lech, F. (2019). Enforceability of Smart Contracts. *Italian Law Journal*, 493-511.

Filipenko, V. (2020). Смарт-контракты и сделки со сложным юридическим составом. *Вопросы российской юстиции*(6), 245-253.

Flores, M. E. (2023, September 27). Smart Contracts & Personal Data Protection: A Legal Perspective on Potential Issues. *International Journal of Science, Technology and Society, 11*(5), 175-184. doi:10.11648/j.ijsts.20231105.11

Kissinger, H., Schmidt, E., & Huttenlocher, D. (2021). *The Age of AI: And Our Human Future.* Little, Brown and Company.

Law Commission, U. (2021). *Smart legal contracts- Advice to Government.* London, UK: HH Associates Ltd. on behalf of the Controller of Her Majesty's.

Lessig, L. (1999). *Code and Other Laws of Cyberspace.* Basic Books.

Louati, H., Louati, A., Almekhlafi, A., ElSaka, M., Alharbi, M., Kariri, E., & Altherwy, Y. (2024). Adopting Artificial Intelligence to Strengthen Legal Safeguards in Blockchain Smart Contracts: A Strategy to Mitigate Fraud and Enhance Digital Transaction Security. *Theoretical and Applied Electronic Commerce Research, 19*(3), 2139-2156. doi: https://doi.org/10.3390/jtaer19030104

Nakamoto, S. (2008). *Bitcoin: A Peer-to-Peer Electronic Cash System.* Retrieved from https://bitcoin.org/bitcoin.pdf

Paskaleva, M. (2024). *Digitalna ikonomika:tehniki i instrumenti.* Blagoevgrad: Universitetsko izdatelstvo „Neofit Rilski".

Pronina, N., & Buyanov, A. (2023). Smart Contract as a New Legal Phenomenon. In S. Maximova (Ed.), *Complex Social Systems in Dynamic Environments* (Vol. 365, pp. 539–549). -: Springer, Cham. doi: https://doi.org/10.1007/978-3-031-23856

Raskin, M. (2017). The Law and Legality of Smart Contracts. *Georgetown Law Technology Review, 1*(2), 305-341.

Sevalnev, V. V., & Truntsevsky, Y. V. (2020). Smart-Kontrakt: ot Opredeleniya k Opredelennosti [Smart Contract: from Definition to Certainty]. . *Pravo. Zhurnal Vysshej Shkoly Ekonomiki*(1), 118-147.

Smith, J., & Jones, A. (2021). Blockchain Technology and Smart Contract Security: A Comprehensive Study. *J. Blockchain Res.*(7), 45–67.

Stalev, J. (2022). *Normativnata sila na fakticheskoto* (3 изд.). Sofia: Siela.

Szabo, N. A. (1997). *The Idea of Smart Contracts.* Retrieved from Nick Szabo's Papers and Concise Tutorials: https://www.fon.hum.uva.nl/rob/Courses/InformationInSpeech/CDROM/Literature/LOTwinterschool2006/szabo.best.vwh.net/smart_contracts_idea.html

Szczepański, M. (2021). Digital Europe programme: Funding digital transformation beyond 2020, *Digital Europe programme: Funding digital transformation beyond 2020*, 1-10.

Werbach, K. (2018). Trust, But Verify: Why Blockchain Needs the Law. *Berkeley Technology Law Journal, 33*(2), 487-550. doi: https://doi.org/10.15779/Z38H41JM9N

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Capital Gains on Transfer of Assets by a Partnership Firm to its Partners in India – Fishing in Troubled Waters

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Abstract: *The Finance Act, 2021 introduced section 9B to the Income Tax Act, 1961 and substituted (4) 45(4) of the Act. These sections deal with the transfer of money, capital assets and other assets from a partnership firm to a partner. The amendments are stated to be made to clear the uncertainty that exists in the law. This article explores the history of taxation of partnership firms and their partners under the Indian Tax law and examines whether the said amendments meet the stated objective. The authors argue that the amendments have widened the uncertainty rather than minimise it let alone erase it. In the opinion of the authors, the entire amendment process is flawed, and the situation causes vexatious litigation of alarming proportions. Similar tax provisions in the USA, the UK and Australia, are compared.*

1. INTRODUCTION

The Finance Act, 2021 inter alia, made two significant amendments to the Indian Income Tax Act, 1961. These two amendments relate to the transfer of assets by a partnership firm to its partners. With these amendments, the erstwhile law relating to the taxation of partners and partnership firms has undergone a sea change, which is bound to lead to controversy as pointed out in this article.

According to the 2021 Budget Speech in the Indian Parliament, the change was apparently necessitated, to "*provide certainty*" (Memorandum Explaining the Provisions of Finance Bill, 2021, p. 62) on matters relating to taxability of surplus amounts received by partners. The whole issue revolves around the transfer of assets by a partnership firm to its partners and the provisions relating to the same are contained in section 45(4) of the Income Tax Act, 1961. The aim and object of the amendments as explained by the Finance Bill 2021, as placed before the Indian Parliament, was "*Rationalisation of provision of transfer of capital asset to partner on dissolution or reconstitution*". The rationalisation was proposed to be carried out by replacement of the existing subsection (4) of section 45 with a new subsection (4) and introduction of new subsection (4A) in section 45.

By this amendment, the existing subsection (4) is replaced. An altogether new section 9B, which had no presence in the tabled Bill, is introduced under Chapter II of the Act, - Basis of Charge. This appears to be contrary to the established parliamentary procedure. The subsection (4A) originally in the Bill was totally dropped.

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This Article traces the genesis and history of the controversy surrounding the taxation of the transfers of assets by a partnership firm to its partners and concludes that the whole exercise is contrary to the established principles of partnerships which do not, in law, have a separate legal status. The article also analyses the legality of the new provisions viz., the new subsection 45(4) and the new section 9B and controversies that are bound to arise which undermine the object of the amendment i.e., "Rationalisation of provision of transfer of capital asset to partner on dissolution or reconstitution".

2. NATURE OF PARTNERSHIPS, RELATION BETWEEN PARTNERS AND LEVY OF TAX ON THEIR INCOME

The partnership is a convenient way of carrying on business and is one of the most common forms of commercial entities in India. The law relating to partnership firms and partners is contained in the Indian Partnership Act, 1932. Section 4 of the Act defines partnership as '*the relation between persons who have agreed to share the profits of a business carried on by all or any of them acting for all. Persons who have entered into partnership with one another are called individually, "partners" and collectively "a firm", and the name under which their business is carried on is called the "firm-name".'* Section 5 declares that partnership is not created by status but by a contract between partners. This means that a partnership does not have a separate legal status. It is neither a person nor a legal entity (Mahabir Cold Storage v. Commissioner of Income-tax, [1991] 188 ITR 91 (SC))[3] like a company incorporated under the Indian Companies Act, 1956 (now 2013). A firm is a collective name given to an individual group or persons (Mahabir Cold Storage v. Commissioner of Income-tax, [1991] 188 ITR 91 (SC)).

It is clear from the definition itself that a partnership is a "*relation*" between persons who have agreed to become partners. The legal status of a partnership and the contractual relationship between the partners constituting the group called '*the firm'*, and the position that firm is not different from its partners, but is a collective group of partners coming together to share losses or profits of a business carried on by all or one or more of them acting for all, brings one to a logical conclusion that the income/property of the firm is not separate from that of the partners. Therefore, there should not be any tax on the earnings of the firm, instead, the partners should be taxed in proportion to their respective shares. Alternatively, if the firm is taxed then partners should not be taxed again on their share, because it is they, as a collective group who have already paid the taxes.

The dealings between partners and the firm and the concept of the partnership firm are a sensitive and highly difficult ones. This is evident from the explanation[4] of section 4 of the Partnership Act, 1932 that '*This clause contains the difficult definition of "partnership" and the ones of "partner", "firm" and "firm name*" (Bharika, 2021).

Despite the challenges in clearly specifying the independent status of the partners, and *vice versa*, the Income Tax Act has introduced provisions to bring about taxation of transactions between the partners and the firm. However, the real difficulty arose in the interpretation of the transactions between the partners and the firm and more so when such transactions were sought to be taxed. This is particularly so because in practical reality and as per the principles of partnership, these

[3] The position of a firm under Income Tax law explained.

[4] Given in the Statement of Objects and Reasons which is a part of the Report of the Special Committee appointed by the Government of India to examine and report on the provisions of the Bill which became the Indian Partnership Act, of which Sir Brojendra Mitra was Chairman and Sir Dinshaw Mulla was a member.

transactions are literally from one hand to the other and the taxation provisions disregard the general principle of partnership as a "relation" between partners.

The Indian Partnership Act 1932 came into force on 1st October 1932. At that time Indian Income Tax Act, 1922 was in force.

2.1. Taxation of Partnership and Partners Under the 1922 Act.

The transfer of assets between a partner and the firm is when a partner transfers an asset to the firm and *vice versa*. Both these types of transfers have come under tax scrutiny and have become subject matter of debate before courts under the Indian Income Tax Act, 1922 as well as the Income Tax Act, 1961.

Section 2(9) of the Indian Income Tax Act, 1922 (the 1922 Act), defines "person" as including a Hindu undivided family and a local authority. The definition did not include a 'firm' as a distinct taxable entity or a 'person'. The 1922 Act did not separately define the terms "firm" "partnership" and "partner" but simply said, the terms shall have the meaning respectively assigned to them under the Indian Partnership Act, 1932 (Section 2(6B) of the Indian Income Tax Act, 1922).

Though the definition of "person" under the 1922 Act, did not cover a partnership firm in its ambit, the chargeability of income of a partnership firm to tax was indirectly covered under section 3, the charging section of the Act which included the words "*of every firm*", while the firm is not included in "person". (A taxable unit under the Indian Income Tax law).

The capital gains arising from transactions relating to capital assets were sought to be taxed by section 12B (1) of the 1922 Act. Though the section incorporates the word transfer, the term 'transfer' itself was not defined under the 1922 Act. Thus, from the plain reading of the section, the first impression and understanding would be that the transfer of a capital asset by a partner to a firm is covered by the section and as such the gains would be taxable. However, in relation to the transfers of a capital asset by a partner to a firm (mostly as a contribution towards capital) courts have held that no gain arises therefrom to the partner and as such there is no tax liability.

In holding that no gain arises, the Supreme Court (Commissioner of Income-tax v. Hind Construction Ltd, [1972] 83 ITR 211 (SC)), observed and held:

> *"The machinery that fell to the share of the assessee was never sold. Therefore, there was no question of the assessee making any profit out of them. No one can sell his goods to himself. A sale contemplates a seller and a purchaser. If a person revalues his goods and shows a higher value for them in his books, he cannot be considered as having sold these goods and made profits therefrom. Nor can a person by handing over his goods to a partnership of which he is a partner and that as his share of capital be considered as having sold the goods to the partnership."*

The basic rationale behind the decision was that partners and partnership firms are not separate legal entities distinct from one another and the relationship *inter se* does not arise from status but from contractual understanding (Sections 4 & 5 of the Partnership Act, 1932). On several occasions the Supreme Court has explained the relations between partners and partnership firms – that a firm is only a compendious description of individuals who compose the firm (Supra n. 5, citing

Munshiram v. Municipal Committee, (1979) 3 SCC 83, para 17; CIT v. RM Chidambaram Pillai, (1977) 1 SCC 431, para 5, and other cases, p. 36), a partnership is nothing but a collective form of all its partners (Supra n. 5, citing MVV Satyanarayana v. Engineer- in – Chief (R & B), 2007 SCC Online AP 911, p. 37), a partnership firm is not an independent legal entity (Supra n. 5, citing Indian Oil Corporation Limited v. Shree Nivas Ramgopal, 2018 SCC Online Cal 4383, p. 37), rather merely a convenient name to carryout business by partners (Supra n. 5, citing Sanjay Suganchand Kasliwal v Jugalkishor Chhaganlal Tapadia, 2013 SCC Online Bom 1470, p. 37). However, time and again issues relating to taxation of transactions under the 1922 Act have been taken to the courts and repeatedly courts have held that there arises no profit to the partner nor the firm.[5]

The other instance of transfer between a partnership firm and the partners is that of a transfer of an asset from a firm to a partner. This could be during the existence of a firm or at the time of its dissolution. According to section 12B(3) of the 1922 Act, "*in computing the capital gains of an assessee, where the property became the property of the assessee on dissolution of a firm or an association of persons, the actual cost to the firm or the association of persons shall be taken as the cost of acquisition in the hands of the assessee*". This essentially meant that no tax was levied in the hands of the firm on its dissolution. This is because if tax were to be levied then the value on the date of the transfer to the partner (which is the date of dissolution) would be considered in computing the gains and such gains would have been taxed in the hands of the firm. In such a case the value having been taxed in the hands of the firm on the date of dissolution would be the cost of acquisition in the hands of the partner consequent to such transfer.

One other way of looking at it is that no tax was leviable in the hands of the partner (as he only realised his interest in the assets of the firm) therefore the actual cost to the firm will continue to be actual cost to the partner in relation to such asset. Yet another way to interpret the issue is that there is no sale, exchange, transfer, or relinquishment of asset at all on dissolution of a partnership firm[6].

This contentious issue was finally set to rest by the Supreme Court,[7] which observed that "*The expressions "sale" and "sold" are not defined in the Act: those expressions are used in section 10(2)(vii) in their ordinary meaning. "Sale", according to its ordinary meaning, is a transfer of property for a price, and adjustment of the rights of the partners in a dissolved firm is not a transfer, nor it is for a price. A partner, might, in an action for dissolution insist that the assets of the partnership be realised by sale of its assets, but where in satisfaction of the claim of the partner to his share in the value of the residue determined on the footing of an actual or notional sale property was allotted, the property so allotted to him could not be deemed in law to be sold to him.*"

In a large number of cases on the subject of retirement and dissolution of a partnership firm and also in cases of transactions, *inter se*, between a partnership firm and its partners, reliance was placed on the decision of the Apex Court in the case of Addanki Narayanappa v. Bhaskara Krishtappa (1966) 3 SCR 400; AIR 1966 SC 1300, where it was held that during the subsistence of the partnership a partner has a right to get his share of the profits as per the agreed proportion and at the time of his retirement or dissolution, to get the value of his share in the net assets of the partnership, after deducting the liabilities and prior charges (Addanki Narayanappa v. Bhaskara Krishtappa, p. 407 of SCR).

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5 See for instance Commissioner of Income-tax v. Janab N. Hyath Batcha Sahib, [1969] 72 ITR 528 (MAD.).

6 Sale, exchange, transfer, or relinquishment of asset – the words used in section 12B.

7 See Commissioner of Income-tax v. Dewas Cine Corpn, [1968] 68 ITR 240 (SC). See also Commissioner of Income-tax *v.* Bankey Lal Vaidya [1971] 79 ITR 594 (SC).

From a plethora of judgments and in particular the decisions of Bankey Lal Vaidya, Dewas Cine Corporation and Addanki Narayanappa, it clearly surfaces that the 1922 Act, failed in bringing to tax the transfer of capital assets between the partners and the firm and *vice versa*.

2.2. Taxation of Partnership and Partners Under the 1961 Act

The legislative history of taxation of transfers between a partnership firm and its partners under the 1961 Act is intriguing and appears to have been driven into a legal quagmire, over time.

To begin with, section 47 of the 1961 Act, declares instances of transactions that are not regarded as transfers. According to clause (ii) of section 47, distribution of assets on liquidation of a firm or an association of persons is not regarded as a transfer. This meant that the intention of the legislature when it enacted the 1961 law, replacing the 1922 law, was not to tax the gains arising on distribution of capital assets on dissolution of a partnership firm.

The definition of transfer (Section 2(47) of Income Tax Act, 1961) as originally introduced stood as under *"transfer", in relation to a capital asset, includes the sale, exchange or relinquishment of the asset or the extinguishment of any rights therein or the compulsory acquisition thereof under any law;*

Whether there is a transfer of a capital asset, on dissolution of a partnership firm, within the meaning of section 2(47) of the 1961 Act, on account of extinguishment of rights of the firm in such assets came up before the Supreme Court in the case of Malabar Fisheries Co. v. Commissioner of Income-tax, [1979] 2 Taxman 409 (SC). The case covered four years, viz., Assessment Years 1960-61 to 1963-64 of which two years were covered by the 1922 Act and two years under 1961 Act. In that case, a firm Malabar Fisheries Co., consisted of few partners. The firm invested in plant and machinery and claimed a development rebate for two years under section 33 of the 1961 Act and for earlier two years under the 1922 Act. The firm dissolved on 31.03.1963. (relevant to AY 1963-64) and the assets were distributed among its partners. One of the conditions for allowance of development rebate was that the asset should not be sold or otherwise transferred within 8 years (Section 34(3)(b)). Since the assets were distributed to the partners on dissolution of the firm, within 8 years, the revenue proposed to withdraw the development rebate.

The issue before the Apex Court was "Whether, on the facts and in the circumstances of this case, there was a transfer of assets within the meaning of the words 'otherwise transferred' occurring in section 34(3)(b) of the Income-tax Act?" (Para 3 of Malabar Fisheries Co. judgment as reported in Taxman). Earlier to the case reaching the Apex Court the tribunal had held that there is no sale of the assets on dissolution of the firm and as such it was a mere adjustment of mutual rights amongst the partners and that the provisions relating to withdrawal of the benefit were not applicable.

The High Court overturned the view of the Tribunal on the ground that the assets were owned by the firm and that on distribution of assets on dissolution of the firm, the rights of the firm were extinguished and as such there is a transfer within the meaning of section 2(47) of the 1961 Act.

The Apex Court held that the distribution of assets on dissolution of the firm is not covered within the meaning of the term "otherwise transferred" appearing in section 34(3)(b) of the 1961 Act and accordingly the rebate cannot be withdrawn. The rationale was that a partnership under the Indian Partnership Act 1932, has no separate and distinct legal identity and does not have any rights of

own in the assets of the firm and on dissolution it is only a mutual adjustment of rights amongst the partners and accordingly, there is no question of extinguishment of rights (Para 18 of Malabar Fisheries Co. judgment as reported in Taxman).

The peculiar aspect of the whole litigation, as observed by the authors is that starts from the Income Tax Officer to the Appellate Assistant Commissioner, to the Income Tax Appellate Tribunal, to the High Court and finally before the Supreme Court, nowhere section 47(ii), (which declares that distribution of the assets on dissolution of a firm does not amount to transfer) was brought up. The entire process went on without any mention of the said provision which specifically excludes the transactions in Malabar Fisheries Co.'s case, i.e., distribution of capital assets on dissolution of a firm, from the ambit of the term transfer. There was no necessity to dwell into section 2(47) or any limb of it at all, as the application of section 2(47) itself was excluded specifically by section 47(ii). If section 47(ii) was brought to the notice of the judiciary, then the outcome of the decision and the principles laid down therein would have been on a different footing and further course taken by legislature, different.

In the opinion of the authors, the above situation laid a wrong foundation for the subsequent amendments in the Act as explained and analysed hereafter.

An amendment was brought in by the Finance Act, 1987 with effect from 1st April 1988, i.e., from Assessment Year 1988-89. It was explained in the Memorandum explaining the provisions of Finance Bill, 1987 that the amendments are "Measures against tax avoidance." Further it is stated that these amendments are proposed "with a view to preventing misuse of entities such as partnership firms, etc., *as escape routes for avoiding capital gains tax*" (Para 36 of Memorandum Explaining the Provision of Finance Bill 1987).

Based on the above justification, two new subsections were introduced to section 45 of the Act. These were subsection (3)[8] dealing with transfer of asset by a partner to a firm and subsection (4) dealing with distribution of assets on dissolution of a firm.

It is perplexing to note that the object of amendment uses the word "*misuse*". Where is the question of misuse when distribution of assets on dissolution of a firm is expressly excluded from the scope of transfer and consequently from tax liability by section 47(ii).? Moreover, it has been declared by judicial authorities with solid reasoning that the transactions are not exigible to tax.

Both subsection (3) and (4) open with the words "*The profits or gains arising from the transfer of a capital asset"*. When such are the opening words of these two purportedly charging sections the definition of "transfer" remained unaltered. It is till date not amended to include the transfers between the firm and its partners and the authors find no plausible reason for not bringing in such an amendment. The argument of the revenue that the transaction is covered by the clause of extinguishment of rights in an asset has been shot down by the Apex Court in Malabar Fisheries Co., case and may such cases. The argument that the revenue that it is covered by "otherwise transferred" has also been rejected by the courts. Yet the definition of transfer remains unaltered.

It is not a case that the definition of transfer has never been amended before. Amendments have been made to section 2(47) to offset the decisions of Apex Court. For instance, the decision in the

[8] Offsetting the decision in case of Sunil Siddharthbhai v. Commissioner of Income-tax, [1985] 156 ITR 509 (SC), where it was held that the transfer is not chargeable to tax.

case of Bai Shirinbhai K. Kooka (Commissioner of Income-tax v. Bai Shirinbai K. Kooka, [1962] 46 ITR 86 (SC)) the Supreme Court held that when a capital asset is converted by its owner into stock-in-trade of a business carried on by him, such conversion does not amount to transfer. Such conversion has been brought within the scope of transfer by an amendment to section 2(47). Yet another instance is the case of part performance of a contract of the nature specified in section 53A of the Transfer of Property Act, 1882. The Apex Court in the case of Alapati Venkataramiah v. Commissioner of Income-tax, [1965] 57 ITR 185 (SC) held that mere possession of property and a book entry does not result in gains as possession in itself does not amount to transfer. This triggered an amendment to section 2(47) by bringing in a clause to the effect that any transaction involving the allowing of the possession of any immovable property to be taken or retained in part performance of a contract of the nature referred to in section 53A of the Transfer of Property Act, 1882, shall come within the scope of transfer.

Yet in the case of partnership firms, despite the judicial decisions no amendments have been made in section 2(47) of the Act. Conflicting decisions have been rendered by the Courts on the issue, for instance, the Madhya Pradesh High Court held that without corresponding amendment to the definition of transfer in section 2(47) gains cannot be brought to tax under section 45(4) (Commissioner of Income-tax v. Moped and Machines, [2006] 150 TAXMAN 98 (MP)). The Karnataka High Court (Suvardhan v. Commissioner of Income-tax, Karnataka, [2006] 156 Taxman 229 (Karnataka)) observed that "When the Parliament in its wisdom has chosen to remove a provision, which provided 'no transfer', there is no need for any further amendment to section 2(47)." On the contrary, the Bombay High Court (CIT v. A.N. Naik Associates, [2004] 265 ITR 346) held that the Finance Act, 1987, with effect from 1-4-1988, omitted clause 47(ii), instead of amending section 2(47), the effect of which is that distribution of capital assets on the dissolution of a firm would be regarded as transfer. The decision of the Bombay High Court was affirmed by the Supreme Court.[9]

The amendment and the wordings of the sections have come under frequent litigation as seen above. The wordings also came under severe criticism. Authors like Datar (2020) expressed strong reservations about the language of the section. According to Datar (2020), Parliament has provided that the firm shall pay capital gains tax as if there is a transfer (by legal fiction), even though there would be none under the general law of partnership. However, it has not amended the general law of partnership in India. Therefore, for every purpose other than for paying liability under section 45(4) of the Act, Malabar Fisheries remains good law. It is a different issue that the existence of section 47(ii) was never raised before any of the judicial authorities including the Supreme Court.

With the decisions rendered in favour of the revenue both in case of transfer by a partner to a firm as well as in case of firm to a partner both on dissolution or otherwise, the law is now settled that there is a transfer of asset and that the transactions are exigible to tax. But then an amendment was brought in by the Finance Act, 2021. The beginnings and the journey of this amendment appears to be, again, on a wrong footing as they oppose the very meaning and legal status of partnership.

The 2021 Budget Speech remained silent about the provision. The Annexure to the Budget listing the Direct Tax Proposals lists the proposal as "Taxability of Surplus amount received by partners" and the proposed amendment in brief as – "In order to provide certainty, it is proposed to rationalise the provisions relating to the taxation of the assets or amount received by partners from the partnership firm in excess of their capital contribution." (Item No 16, page 49 of Anex to Part B of Budget Speech 2021)

[9] See Commissioner of Income-tax v. Mansukh Dyeing and Printing Mills, [2022] 145 taxmann.com 151 (SC).

Clause 14 of the Finance Bill 2021 proposed amendments to section 45, which inter alia, consist of substitution of subsection (4) with a new subsection (4) and insertion of new subsection (4A).

The new subsection (4) covered only the transfer of capital assets from a firm to a partner on the dissolution of a firm or at the time of its reconstitution.

The main issue that will be open to interpretation in this section is the use of the words "*which represents the balance in his capital account in the books of accounts of such specified entity at the time of its dissolution or reconstitution."* What happens if the balance in the capital account of a partner is debit balance? In the opinion of the authors, this beginning itself is ominous.

Subsection (4A) as originally tabled in the Parliament, proposed to bring to tax the gains arising out of monies or other assets (other than capital assets) on dissolution or reconstitution. These amounts received by a partner are connected to his capital balance in the books of the firm, whereby the amounts received by the specified person in excess of the capital balance are taxed. Capital balance for this purpose was explained to exclude any revaluation credits of any asset or goodwill other than purchased goodwill. Definitions are given to the terms specified entity, specified person and self-generated goodwill.

Both these subsections, if not for the transformation and omission, (as explained hereunder) could have opened a Pandora's box of litigation arising from the wordings of the provisions, from the accounts and accounting treatment of the transactions in the books of the specified entity, which is the partnership firm. There are various possibilities for these litigations, such as the balance in capital account being debit and the fact that the amendment was proposed to be effective from 01.04.2021 - AY 2021-22, i.e., with retrospective effect.

Subsection (4) underwent a sea change and is a combination of originally proposed subsection (4) and (4A). Subsection (4A) never came to light and never found its way into the statute. An altogether new section viz., Section 9B crept into the statute and that too under Chapter II – Basis of Charge.

These peculiar aspects of the introduction of these sections and the amendments by themselves could be a subject matter of vexatious litigation and possibly render the amendment itself as unconstitutional, because the make-over from the original Bill to the statute and the introduction of section 9B have not been explained anywhere.

Be that as it may, the provisions, which are now in statute books, by themselves are open to litigation and the law as amended appears to be against the cannons of taxation.

The new subsection (4) as it finally found its way into the statute books provides that capital gains shall be chargeable in accordance with the following formula:

"A = B + C – D

Where,
A = income chargeable to income-tax under this subsection as income of the specified entity under the head "Capital gains";
B = value of any money received by the specified person from the specified entity on the date of such receipt;

C = the amount of fair market value of the capital asset received by the specified person from the specified entity on the date of such receipt; and
D = the amount of balance in the capital account (represented in any manner) of the specified person in the books of account of the specified entity at the time of its reconstitution."

The value of self-generated goodwill is to be taken as 'nil' and that purchase will be at actual cost.

The possible litigation from the wordings of the section can arise, firstly, the new section 45(4) that came into effect from 1-4-2021 and is declared to be effective from AY 2021-22. It is of retrospective effect. The section being a charging section means that the transactions that have taken place even before the provision was introduced in the Parliament (i.e., those that have taken place from April 1, 2020, till March 31, 2021) also come under the ambit of the section.

Secondly, the subsection prescribes a formula to arrive at income chargeable to tax under the head capital gains. The first proviso clarifies that in case 'A' is negative the same shall be taken as zero. The section deals with the transfer of capital assets on dissolution or reconstitution of a partnership firm. In the case of a dissolution the amount in 'A' is negative in case of one partner and the same may be positive in case of another partner when assets are given to more than one partner. In such a case one negative ought to be set off against another positive when both the negative and positive arise from same event which is dissolution. The zero, not only goes against the principles of equity in taxation but also in a way goes against the computation methodology of capital gains wherein it is clear that loss in one capital asset can be set off against gain from another capital asset under the same category.

Thirdly, application of the formula in literal sense hinges on a fallacy. It is common that when a balance in the capital account of a partner is a debit, such a balance is adjusted against the claims of the partner at the time of the dissolution or retirement. It is well established law that the partners realise their rights in the *net* assets of a firm on its dissolution after meeting liabilities and prior charges (Addanki Narayanappa v. Bhaskara Krishtappa (1966) 3 SCR 400; AIR 1966 SC 1300). Applying the formula, the debit balance in the capital account of the partner only enhances 'A', i.e., the income chargeable to tax under the head capital gains while the entity is in fact realising its dues from the partner.

Fourthly, the section specifies only reconstitution and not dissolution. It is pertinent to mention here that the section as originally introduced in the Parliament included both dissolution and reconstitution. The omission of the word dissolution is open to different interpretations. In section 45(4) reference to section 9B is drawn for meaning of 'specified person', 'specified entity' and 'reconstitution', which in turn lead to section 2(23) of the Act which states that a firm and a partner shall have the meanings respectively assigned to them under the Partnership Act, 1932.

Fifthly, '*dissolution*' and '*reconstitution*' are also not defined originally under the Act. Section 9B defines a reconstitution only, though both the words dissolution and reconstitution are used in the section. These two have different sections under the Partnership Act and are dealt with on different footing therein. One of the clauses of the definition of reconstitution given in Explanation to section 9B[10] covers an instance where one or more of its partners of such firm ceases to be partners. It could be argued that this clause of the definition covers dissolution. In the opinion of the authors, such an argument will not hold good for two reasons. Firstly, it is by mere implication that dissolution is said to be covered under 'reconstitution' in 9B, whereas under the Partnership

[10] Explanation (i)(a) to section 9B.

Act, these are two different instances and secondly, taxation cannot be by implication, it should be by specific mention.

Sixthly, from a plain reading of the formula, it appears that the computation methodology fails in bringing the gains to tax. It will be a better thing to say that the income is sought to be taxed under the head capital gains while at the same time brushing aside the computation methodology prescribed in section 48 which is set aside.

It is a well-established law that if capital gains are not determined in accordance with the computation methodology prescribed in section 48 of the Act, the taxation of such gains fails. The formula A = B + C - D ignores the deduction of the cost of acquisition of a capital asset that is deemed to have been transferred by a specified entity the gains from which are deemed to be the income of the specified entity. This is because 'C' in the formula is the fair market value (FMV) of the capital asset that is received by the specified person. If 'A' is to be taxed under the head capital gains, then gains should be computed following the scheme of the Act and FMV in itself cannot be taxed as capital gain. It will be far-fetched if the revenue comes up with the argument that the capital balance of the specified person is the cost of the acquisition of the asset. Even then indexation is not factored into the same in the formula.

Coming to section 9B, it specifies that FMV on the date of receipt of an asset by the specified person is taken as the full value of consideration and the section also states that in case of stock in trade being received by the specified person, the gains will be charged to tax under profits and gains of business or profession. The section is introduced under Chapter II, Basis of Charge and therefore supposedly, forms a foundation to the taxability of the instances specified therein. However, without including the instances in the charging sections specifically provided for the said purpose may not be in line with the accepted principles of interpretation of taxing statutes.

Even otherwise assuming that the inclusion of section 9B in Chapter II is valid and correct, then it is logical to say that it partakes the character of a Basis of Charge and not a charging section by itself. In other words, other sections of the Act gain the authority to charge to tax the instances mentioned in section 9B. However, this does not appear to be the case. Explanation 2 to section 45(4) reads as under:

Explanation 2.—For the removal of doubts, it is clarified that when a capital asset is received by a specified person from a specified entity in connection with the reconstitution of such specified entity, the provisions of this sub-section shall operate in addition to the provisions of section 9B and the taxation under the said provisions thereof shall be worked out independently.

The explanation abundantly makes it clear that section 9B is a charging section and not a basis of charge.

Again, assuming that section 9B is a basis of charge and not a charging section, then section 45(4) gains its authority from section 9B and the omission of the word dissolution in section 45(4) coupled with its presence in 9B vitiates the taxation of gains on dissolution of a firm. Further, under the authority of section 9B corresponding amendments in section 28 ought to have been made to bring under the scope of business income the transfer of stock-in-trade and assets other than capital assets.

The above is the result of the so-called "Rationalisation of provision of transfer of capital asset to partner on dissolution or reconstitution". The memorandum explaining the provisions of Finance

Act, 2021 states – *"it has been noticed that there is uncertainty regarding applicability of provisions of aforesaid sub-section to a situation where assets are revalued, or self-generated assets are recorded in the books of accounts and payment is made to partner or member which is in excess of his capital contribution. Hence, it is proposed to substitute the existing sub-section (4) of section 45 of the Act with a new sub-section (4)"*

3. POSITION IN USA, UK AND AUSTRALIA

The fundamental principle is that a partnership is a relation between partners and the business of a partnership is carried out solely based on such relation and understanding is universal. The definition of partnership itself is a complex one, the taxation of partnership becomes even more complex and complicated. This complexity is noted in the case of taxation of partnerships in other countries.

3.1. Position in the USA

The general principle that a partnership is not a separate legal entity is well accepted in the USA. The taxation principles in the USA relating to partnerships and their partners are that the partnerships are treated as passthrough entities, which means that the partnership firm per se does not pay the taxes. Instead, it is viewed as an entity through which the profits or losses are passed on to its partners. The ultimate tax liability on the share of each partner lies with the partner.

Just like India, the United States too, which implements a partnership tax regime through Subchapter K of Internal Revenue Code (IRC), has its share of problems and complexities in interpretation of the relationship between the partners and partnership. Commenting on the tax framework relating to taxation of partnerships and partners, Monroe (2016) observed "*In designing every rule, someone had to marry theory and practice in order to make partnership taxation work (pp. 194-195)".*

3.2. Position in the UK

The Indian Tax law (like many other statutes) derives the principles from the UK due to the long history of colonisation. Surprisingly, the taxation of partners and partnership is opposite in India. The principle that a partnership is not a separate entity distinct from its partners is clearly applied in the UK taxation scheme. In the UK the firm does not pay tax on its income. Instead, the partners include the profits or the losses of the firm in proportion to their respective shares in their individual tax returns.

3.3. Position in Australia

The tax regime relating to partnerships and their partners in Australia is equally complex and has seen conflicting decisions requiring proposals for amendments (Breznik, 2023: Bradbrook, 1988).

In Australia too, as in India, the general principle that a partnership is not a separate legal entity, has been disregarded when it comes to taxation. Instead, partners are treated as holding a fractional interest in partnership assets. Several decisions have in the recent time held that partners hold no such interest, while the taxation regime is designed based on one decision of High Court that partners hold fractional interest in the assets. Authors such as Breznik (2023) recommend the UK model of taxation of partnerships in Australia.

4. CONCLUSION

From the said beginnings to the present, the entire exercise appears to have increased the uncertainty rather than give clarity on the matter. In the opinion of the authors, a new era of litigation appears to have been laid foundation. There was no uncertainty about self-generated goodwill. This was already taken care of by amending section 55 way back in 1987 itself. The Supreme Court has clarified that an amount above capital contribution is taxable as capital gains and it is also settled law. Why quote these as reasons in 2021, 27 years down the line?

One more thought. At the end of all these what is the status of the receipt of the asset or amounts in the hands of the partners? Are they taxable? In the opinion of the authors, there is every possibility that it will be argued that the same is taxable in the hands of the partner, as was done earlier. The memorandum or the notes on clauses are not clear on that aspect.

The provisions of the Income Tax law in India relating to transfers of assets between a firm and partners need not be made this complex. The related Rules (Rule 8AD of Income Tax Rules, 1962) are even more confusing.

In the opinion of the authors, the confusion and complexity can be avoided by

- amending section 2(47) to include the transfers from a partner to a firm and *vice versa*.
- On dissolution compute income in accordance with law as applicable to the firm but tax incidence should be in the hands of the partners because ultimately it is they that are realising the surplus in proportion to their share.
- In case of retirement (reconstitution) tax incidence is to be in the hands of the retiring partner (s).
- Define reconstitution and dissolution separately and clearly. For this purpose, make the definition in Indian Partnership Act 1932, as the base.

A partner invests money or money's worth into a common pool of partners and forms a partnership. The firm is governed by the general Partnership law applicable to it, which in turn is governed primarily by principles of Contract law. This position need not be disturbed and disturbing this position be counterproductive and a near impossible task. The best solution in this context would be to bring surplus, of whatever kind arising to a partner from his relationship with other partners in the partnership, to tax in the hands of the individual partners as his personal income. The head of income may be decided based on the nature of income. Remuneration may be taxed under the head salaries; profits can be taxed under the head business and gains from the sale of property (non-business assets) under capital gains.

References

Addanki Narayanappa v. Bhaskara Krishtappa (1966) 3 SCR 400; AIR 1966 SC 1300
Alapati Venkataramiah v. Commissioner of Income-tax, [1965] 57 ITR 185 (SC).
Anex to Part B of Budget Speech 2021.
Bharika, D. (Ed.). (2021 reprint). Pullock & Mulla, The Indian Partnership Act. LexisNexis.
Bradbrook, A. J. (1988). Recent developments in partnership taxation. *Corporate & Business Law Journal*, 1, 12–35.
Breznik, D. (2023). The application of capital gains tax to partnership assets: Challenges and reform. *Journal of Australian Taxation, 25*(1), 49–69.

CIT v. A.N. Naik Associates, [2004] 265 ITR 346.
CIT v. RM Chidambaram Pillai, (1977) 1 SCC 431.
Commissioner of Income-tax v. Bai Shirinbai K. Kooka, [1962] 46 ITR 86 (SC).
Commissioner of Income-tax v. Bankey Lal Vaidya [1971] 79 ITR 594 (SC).
Commissioner of Income-tax v. Dewas Cine Corpn, [1968] 68 ITR 240 (SC).
Commissioner of Income-tax v. Hind Construction Ltd, [1972] 83 ITR 211 (SC).
Commissioner of Income-tax v. Janab N. Hyath Batcha Sahib, [1969] 72 ITR 528 (MAD.).
Commissioner of Income-tax v. Mansukh Dyeing and Printing Mills, [2022] 145 taxmann.com 151 (SC).
Commissioner of Income-tax v. Moped and Machines, [2006] 150 TAXMAN 98 (MP).
Datar, A. P. (Ed.). (2020). Kanga & Palkhivala's The law and practice of income tax. LexisNexis.
Finance Bill 1987.
Finance Bill, 2021.
Income Tax Act, 1961.
Income Tax Rules, 1962.
Indian Income Tax Act, 1922.
Indian Oil Corporation Limited v. Shree Nivas Ramgopal, 2018 SCC Online Cal 4383.
Mahabir Cold Storage v. Commissioner of Income-tax, [1991] 188 ITR 91 (SC).
Malabar Fisheries Co. v. Commissioner of Income-tax, [1979] 2 Taxman 409 (SC).
Memorandum Explaining the Provision of Finance Bill 1987.
Memorandum Explaining the Provisions of Finance Bill, 2021.
Monroe, A. (2016). What we talk about when we talk about tax complexity. *Michigan Business & Entrepreneurial Law Review, 5*(2), 193–226.
Munshiram v. Municipal Committee, (1979) 3 SCC 83.
MVV Satyanarayana v. Engineer- in – Chief (R & B), 2007 SCC Online AP 911.
The Partnership Act, 1932.
Report of the Special Committee appointed by the Government of India to examine and report on the provisions of the Bill which became the Indian Partnership Act. Sir Brojendra Mitra was Chairman and Sir Dinshaw Mulla was a member.
Sanjay Suganchand Kasliwal v Jugalkishor Chhaganlal Tapadia, 2013 SCC Online Bom 1470.
Subchapter K of Internal Revenue Code (IRC).
Sunil Siddharthbhai v. Commissioner of Income-tax, [1985] 156 ITR 509 (SC),
Suvardhan v. Commissioner of Income-tax, Karnataka, [2006] 156 Taxman 229 (Karnataka).

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Legal Remedies for Victims of Corporate Human Rights Abuses: A Comparative Analysis

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Abstract: *This study examines the legal recourse for victims of corporate human rights violations in various jurisdictions, aiming to determine best practices and enhance human rights protection in the corporate sphere through comparative analysis. With corporations exerting considerable influence and power globally, often crossing borders without consequence, there has been a surge in human rights abuses. The research digs into the available avenues for victims to seek redress for such violations, analyzing the strengths and weaknesses of legal frameworks. By synthesizing case studies and legislative frameworks from diverse legal systems, the study seeks to identify practical approaches for improving access to justice, legal accountability, and the role of international law. Ultimately, it aims to contribute to conversations on corporate accountability and justice for victims of human rights abuses perpetrated by corporations.*

1. INTRODUCTION

Corporate activities and human rights intersection have recently garnered significant scholarly and legal attention. As corporations expand their global presence, they can positively impact human rights and contribute to global communities' well-being. By prioritizing ethical practices and engaging with local stakeholders, these companies can help foster sustainable development and enhance social responsibility. This paper seeks to provide a comprehensive comparative analysis of the legal remedies available to victims of corporate human rights abuses. By examining relevant international human rights, legal and quasi-legal frameworks, notable case studies, and the comparative efficacy of various legal frameworks, this analysis aims to highlight the strengths and limitations of current approaches and propose potential avenues for legal reform.

Access to effective remedies for victims of corporate human rights abuses remains uncommon rather than the norm (Tiruneh, 2023). Instances of abuses perpetrated abroad within corporations' supply chains and global operations often go unchecked, resulting in a dearth of avenues for victims to seek redress (Tiruneh, 2023). Consequently, enhancing victims' access to effective remedies is widely regarded as one of the foremost challenges in business and human rights.

The United Nations Guiding Principles "On Business and Human Rights" is the foremost torch of the ongoing process of protection for Human Rights abuses by commercial subjects and corporations, whereas it is provided, among others, in its third pillar of the general structure, the fundamental right: access to remedy (United Nations, 2011). The right to access the remedy is a necessity for the parties infringed on in a specific conflictual relationship, whether contractual or non-contractual. It turns out

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that after the stipulation of the first two pillars of the UNGP On Business and Human Rights, which are related to the duty of the State to protect Human Rights and to the corporate responsibility to respect human rights on an operational daily basis, States generally are obligated to furnish effective remedies for human rights violations under nearly all international and regional human rights frameworks (United Nations, 2011); however; it is important to envisage that States are prohibited from derogating their obligation to provide effective remedies even in national emergencies, particularly for rights that are not amenable to suspension during a state of emergency.

Examining corporate human rights abuses within various jurisdictions involves a multifaceted approach. First, relevant international human rights laws and treaties must be identified and reviewed to establish the overarching legal framework. Subsequently, investigating cases of corporate human rights abuses allows for a comprehensive understanding of the varied manifestations of such violations globally. A comparative analysis of legal frameworks and remedies available to victims across jurisdictions enables an in-depth assessment of the strengths and weaknesses of each approach, thereby providing insight into their effectiveness in safeguarding victims.

Furthermore, the impact of recent landmark legal cases related to corporate human rights abuses must be examined to gauge their significance on legal precedent and victim protection. Ultimately, evaluating potential paths for legal reform and improvement plays a pivotal role in fostering an environment that effectively safeguards victims of corporate human rights abuses worldwide.

2. LEGAL REMEDIES VIS-A-VIS LEGAL FRAMEWORKS IN DIFFERENT JURISDICTIONS

The regulation of corporate human rights abuses and the institution of reparatory mechanisms for the victims is governed by a mix of legal and quasi-legal norms at international, regional, and national levels. Among the global standards, the UN Guiding Principles on Business and Human Rights (UNGPs) are leading in articulating the "Protect, Respect, Remedy" framework, which outlines the state's responsibilities to protect human rights, the business responsibility to respect them, and the need for adequate remedies to victims (UN Human Rights Council, 2011). Likewise, the OECD Guidelines for Multinational Enterprises and the ILO Tripartite Declaration of Principles Concerning Multinational Enterprises and Social Policy offer quasi-legal direction for responsible business practices and grievance mechanisms (OECD, 2011; ILO, 2017). The Rome Statute of the International Criminal Court (ICC), which is legally binding, holds individuals, including business leaders, liable for crimes against humanity and war crimes (United Nations, 1998).

On a regional level, instruments like the European Convention on Human Rights (ECHR), the African Charter on Human and Peoples' Rights, and the Inter-American Human Rights System provide means to address corporate human rights abuses indirectly, mainly by keeping states accountable for either enabling or failing to prevent such harm (Council of Europe, 1950; African Union, 1981; Organization of American States, 1969).

New legislative efforts focused on directly addressing corporations' accountability have emerged nationally. France's Duty of Vigilance Law of 2017 (French Government, 2017), Germany's Supply Chain Due Diligence Act of 2021 (German Federal Government, 2021), and the UK's Modern Slavery Act of 2015 (UK Government, 2015) make it obligatory for companies to prevent and respond to human rights violations in their operations and supply chains, along with the provision of civil liability and remedy mechanisms. In the United States, the Alien Tort Statute (U.S. Code, 1789) has been used to enable foreign nationals to sue corporations in U.S. courts for violations of international law.

Underpinning such legal frameworks are soft law frameworks and voluntary efforts, such as the Equator Principles (Equator Principles Association, 2003), Global Reporting Initiative (GRI, 2021) Standards, and the Voluntary Principles on Security and Human Rights (Voluntary Principles Initiative, 2000), that promote responsible corporate conduct and disclosure. New models, like the draft Binding Treaty on Business and Human Rights being negotiated at the United Nations and the European Union Directive on Corporate Sustainability Due Diligence (European Union, 2023) as amended with the Directive (EU) 2024/1760, aim to apply broad and legally enforceable obligations on business firms to avert human rights abuses and establish mechanisms of redress for those affected. These frameworks together form a dynamic legal and regulatory landscape addressing corporate human rights abuses, focusing on the interplay between sophisticated legal codes, non-binding regulations, and voluntary methods in advancing accountability and justice.

This paper focuses on access to remedies for victims of corporate human rights infringement; thus, it will remain the third pillar of the UNGP On Business and Human Rights. Even though it still has quasi-legal elements regarding mandatory implementation, it gives parties and corporations correlated and strong insight regarding such actions or omissions.

The third of the United Nations Guiding Principles (UNGPs) requires guarantees that victims of human rights violations by business enterprises enjoy access to effective remedies. This is supported by three main types of mechanisms: judicial mechanisms, state-based non-judicial mechanisms, and non-state-based grievance mechanisms (United Nations, 2011, p. 28; pp. 33-34).

State-based judicial processes, laid down in principle 26 of the UNGPs, are steps to improve the efficacy of national courts in dealing with business-related human rights violations. They involve investigating avenues through which legal, practical, and other barriers to access to remedy can be eliminated.

State-based non-judicial grievance systems are different administrative bodies that meet the effectiveness criteria in principle 31 of the UNGPs. They must be legitimate, accessible, predictable, equitable, transparent, and consistent with internationally recognized human rights norms. The Office of the High Commissioner for Human Rights (OHCHR) outlines four types of such state-based non-judicial mechanisms:

1. Complaint systems in different administrative departments tasked with public regulation and enforcement.
2. Human rights-related inspectorates, such as labor and environment ministries, offer grievance mechanisms.
3. Alternative types of ombudspersons.
4. Institutions of mediation and conciliation funded by the state.

Grievance mechanisms that are not state-based are company- or multi-stakeholder group-initiated and regional and international organization-initiated mechanisms (Office of the High Commissioner for Human Rights, 2018, pp. 10-13). The Office of the High Commissioner for Human Rights (2018) differentiates between three types of non-state-based grievance mechanisms:

1. Company-based mechanisms run and established by companies.
2. Grievance mechanisms under industry initiatives, multi-stakeholder initiatives, or those related to international certification bodies.
3. Mechanisms under international finance institutions offer individuals or groups affected by projects financed by these institutions a chance to raise complaints.

These are actually what UNGP, as a pioneer of soft legislation, stipulates and puts into the parties' disposition to use when necessary and when an apparent infringement is on the horizon.

Directive (EU) 2024/1760 (European Union, 2024) is also a newly enforced legal instrument that has already been part of the European Union's and the member states' domestic legislation. It is the first legal and binding instrument in the EU that corresponds to the dynamics of the activity of corporations and companies that engage in abusive conduct towards victims of human rights infringement.

The EU directive also sets out rules requiring companies to identify and address adverse impacts linked to an organization's operations, subsidiaries, and supply chains and to take measures to prevent, mitigate, and remediate potential and actual adverse impacts.

Article 8 requires that companies demonstrate that they identify and assess any adverse impacts they may cause or contribute to through their own activities or business relationships with subsidiaries, business, or supply chain partners. This includes mapping operations to identify where adverse impacts are most likely and conducting more detailed assessments. Member States shall provide companies access to adequate resources for this process, including independent reports and complaints mechanisms (European Union, 2024).

Article 9 compels the companies to prioritize identified adverse impacts in terms of severity and likelihood. This method of prioritization ensures that the most lethal impacts are addressed first. Organizations can address the lesser impacts after focusing on the most severe impacts (European Union, 2024).

Article 10: Preventing or mitigating the potential for adverse impacts. It details actions companies must take — from developing prevention action plans and requiring contractual assurances of compliance to making appropriate investments. Specifically, for business partners, particularly for SMEs, businesses are suggested to extend support, whether in the form of capacity-building or financial assistance, enabling them to achieve compliance (European Union, 2024).

Article 11: It covers severe negative impacts and obliges companies to act to eliminate or reduce those impacts. If not resolved immediately, they must create corrective action plans. Necessary partnerships with other entities and possible reliance on third-party verification to enforce such legislation are also mentioned (European Union, 2024).

Article 12 states that where a company has caused or contributed to actual adverse impacts, it shall provide remediation through the following means: remediate the impact by taking proportionate action based on its role in the impact; where remediation is not provided, the company shall explain why; where a company caused actual adverse impacts, it should cease the activity that caused the impact; share information related to remediation in its disclosures. This could also apply when the business partner is the leading contributing cause(s) to the harm if you voluntarily comply (European Union, 2024).

In essence, these articles articulate a more proactive and systematic approach for companies to address negative impacts throughout their operations and supply chains, detailing a clear agenda for prioritization, prevention, mitigation, and remediation.

Certain jurisdictions have already addressed the case of remedies available for human rights corporate abuses; thus, three jurisdictions have been selected to be compared with their features:

France, the United Kingdom, and Sweden, as examples of civil and common law legal families and economically and traditionally elaborated in the field of law.

Sweden's legislation is based on continental civil law and Anglo-Saxon common law traditions. Statutory acts are the dominant sources of law, followed in order of priority by custom of courts, preparatory works, and learned doctrines, with preparatory works playing a particular role in interpreting statutes (Larsen, 2014). Swedish courts have previously accorded precedence to the accommodation of decisions with legislative purposes, even at the cost of constitutional principles. Nevertheless, EU membership and ECHR integration have added preventive, reparative, and legislative functions to courts (Larsen, 2014). Civil liability, per the Tort Liability Act, adheres to the culpa rule, with compensation to be paid for intentional or careless damage (Larsen, 2014, p. 423).

Corporate criminal liability is established through corporate fines based on economic crimes (Penal Code, 1962, Ch. 36, §§ 7-10). Individual criminal liability generally accompanies fines unless negligence is sufficient, as in environmental crimes (Svea Court of Appeal, 1992, p. 73). Common corporate crimes include contraventions of environmental codes, accounting fraud, and workplace safety legislation (Environmental Code, 1998, Ch. 29). Sweden also adopted a National Action Plan for Business and Human Rights in 2015.

In the UK, precedent is the basis of the common law tradition. Case law, for instance, Chandler v Cape Plc (2012), set out conditions under which parent companies are under a duty of care to employees of subsidiaries, including direct policy involvement and superior knowledge (Court of Appeal, 2012). Criminal liability involves the establishment of both actus reus and mens rea by senior company officers. The 2015 Modern Slavery Act introduced a transparency measure mandating that organizations with more than £36 million turnover report their efforts to address slavery in their supply chains. Moreover, the United Kingdom was the first to have a National Action Plan for Business and Human Rights in 2013, updated in 2016.

In France, criminal law covers various offenses and injuries against both natural and legal persons. Under Article 121-2 of the French Criminal Code, legal persons are subject to criminal liability for acts performed by their representatives or organs on their behalf. Moreover, Article 113-6 provides French jurisdiction over offenses perpetrated extra-territorially by French citizens, both natural and legal persons (French Criminal Code, n.d.). As an exception to criminal liability, insofar as civil liability is involved, the French Civil Code states through Articles 1240 and 1241 that three requirements are necessary for establishing liability: a fault (either by act or omission), damage, and causality between them. More specifically, Article 1240 states that any act causing injury obliges the perpetrator to compensate for the damage suffered, while Article 1241 extends liability to cases involving negligence or imprudence (French Civil Code, n.d.).

A significant leap in corporate responsibility was made with the passing of the Duty of Vigilance Law on February 21, 2017. The law mandates big businesses to have a human rights due diligence mechanism in place, which includes the creation, publication, and strict implementation of a vigilance plan. The plan must have measures to prevent serious human rights abuses and environmental damages caused by the corporation, its subsidiaries, subcontractors, and suppliers. The law, passed after extensive legislative debates and negotiations between different stakeholders, creates a legal duty on parent companies to monitor the activities of their subsidiaries and business partners (French Government, 2017), 2017). Notably, it allows for filing civil liability against companies not meeting such responsibilities, a practice that occurred in 2019 (French Government, 2017).

3. CASE LAW

Shein and Sweatshop Labor (2021-Present). Fast fashion brands have long been accused of exploiting workers within their supply chains, primarily because many of their products are produced in China, where labor laws are very lax. Investigations in 2021 also found that Shein's suppliers were paying their workers below the minimum wage and forcing them to work long hours under poor conditions to meet tight production deadlines. Press reports described abusive working conditions, with claims of chronically overworked hours, perilous environments, and poor health and safety conditions in plants. The working conditions were so harsh in some cases, where workers were forced to meet unrealistic production quotas that the company was accused of exploitation and severe violations of labor rights.

Shein and Child Labor (2022). Shein has similarly been accused of using child labor within its supply chain. In 2022, the U.S. government's Department of Labor cited the company's connections to suppliers that utilized child labor, especially in nations such as India and Bangladesh. These suppliers were also accused of employing underage labor in violation of international labor conventions. Although Shein has denied the use of child labor, the company has faced growing calls for transparency and oversight of its manufacturing practices.

Environmental Impact (Shein, 2023): Shein also faces heavy criticism, more indirectly related to labor abuse, for its environmental impact tied back to unsustainable production practices. Its business model promotes a quick turnover of cheap apparel and drives waste, pollution, and resource depletion. Poor work conditions in factories that have not followed environmental protection laws worsen environmental damage. These practices indicate the more significant issues of exploitative labor conditions and environmental degradation intermixed in the fast-fashion supply chain.

The Shell Case in Nigeria: Shell activities in Nigeria, in the Ogoniland region, have been associated with extensive environmental degradation and human rights abuse. The Nigerian legal system has faced enormous challenges in holding Shell accountable due to the conjunction between business might and government corruption (Ibeanu, 2011). The case alludes to the difficulty of applying business responsibility when corruption is entrenched, and regulatory frameworks are weak.

The Rana Plaza building in Bangladesh collapsed in 2013, which housed garment factories, resulting in over a thousand fatalities and numerous injuries. The tragic incident led to global attention to the unsafe working conditions prevalent in the garment industry and the lack of adequate regulatory checks. During the court trials in Bangladesh, significant loopholes in the legal code and enforcement policy designed to protect workers' rights became apparent (Hossain, 2015). This case illustrates the need for thorough labor law and its conscientious enforcement to safeguard human rights.

The Volkswagen Emissions Scandal (Global): The Volkswagen scandal, which came to light in 2015, involved the company's deliberate falsification of emissions data. This case highlighted environmental concerns and emphasized concerns regarding corporate deception and regulatory failures. Legal actions taken against Volkswagen had profound financial implications and structural legal changes. However, the case also proved the challenge of regulating multinational firms and their compliance with environmental regulations (Ewing, 2016). It emphasizes stronger regulatory measures and company accountability.

In Shell Petroleum Development Company v. Oguru (2022), the Nigerian courts held that Shell was partly liable for the environmental destruction caused by its operations, hence demonstrating the

potential for seeking legal remedy despite pervasive systemic barriers. The case highlighted the importance of judicial independence and accountability in addressing corporate abuse (Nigerian Supreme Court, 2022).

In Volkswagen's "Clean Diesel" Marketing, Sales Practices, and Products Liability Litigation (2017), this US case concluded with profound financial implications for Volkswagen. It illustrated the efficacy of legal instruments in holding corporations accountable for malpractice. It also illustrated the challenges of tracking transnational corporations and enforcing environmental regulations (U.S. District Court, 2017).

Lliuya v. RWE AG (2019). In this German court case, a Peruvian farmer sued RWE AG for its role in climate change. This case demonstrated an increased awareness of corporate accountability for environmental impact, and the court's openness to hearing the case indicates an increased openness to company accountability for environmental impact (German Federal Court, 2019).

4. FUTURE RESEARCH DIRECTIONS - EXPLORING PATHS FOR LEGAL REFORM AND ENHANCEMENT

Regarding future endeavors in accessing justice and remedies for breaches and abuses of human rights by corporations, several key reforms are needed to better protect victims of corporate human rights abuses.

International standards need to be strengthened through binding international treaties that hold companies accountable for human rights abuses. Strong partnerships among international actors and national governments can form the basis for a better, more integrated international approach to tackling corporate misconduct in various settings.

Nations need to develop and rigorously enforce strong laws that require corporations to carry out human rights due diligence and make provisions for victim protection. By focusing on robust enforcement mechanisms and maintaining vigilant oversight, legal protections for communities impacted by corporate activity can also be strengthened.

Increasing corporate transparency means more obligations for companies—like detailed human rights impact assessments and comprehensive public reporting—which can drive greater accountability. These changes will create clearer pathways for victims to seek justice and hold corporations responsible for their claims, which will help to empower anyone who has experienced the wrath of error from corporations.

Reforms to facilitate access to justice concern removing the obstacles that stand between victims and justice, such as high litigation costs and other procedural complexities. We need to provide victims with resources like free access to legal aid and proactive advocacy services that gently prompt victims to pursue their claims.

This acts as a means to one day push companies into taking a stance regarding human rights because if they are unable to prevent violations, social movements and consumer pressure will hold businesses accountable. Corporate social responsibility and active stakeholder engagement initiatives are instrumental in developing a culture that actually respects and protects human rights.

5. CONCLUSION

Ensuring corporate accountability for human rights abuses requires both judicial and non-judicial mechanisms. Politically, legally binding HRDD obligations can strengthen corporate due diligence and improve supply chain accountability, thereby increasing transparency. Access to justice needs specialized human rights courts, increased legal aid, as well as the expansion of class actions. Secondly, non-judicial mechanisms are available where corporate grievance mechanisms function as alternative dispute resolution mechanisms. Human rights clauses not only show a commitment by states to corporate responsibility, but they also embed this concept into their trade agreements and contracts.

Legal frameworks need to adapt to provide proper remedies to victims. Enforceable obligations would be established if laws mandating HRDD, for instance, the EU Corporate Sustainability Due Diligence Directive, were enshrined into law. Preventing corporate impunity by expanding extraterritorial jurisdiction through parent company liability and reforming the doctrines of forum non conveniens. Permanent improvements in the new legislation increase the scope of corporate criminal liability, including more robust sanctions like those the French established in their Loi de Vigilance. The UN Binding Treaty on Business and Human Rights has the potential to help support any state-level initiatives internationally if the jurisdiction can be expanded. Lastly, an International Business and Human Rights Tribunal would provide a focused venue for corporate abuse cases.

References

African Union. (1981). *African Charter on Human and Peoples' Rights ("Banjul Charter")*. Retrieved from https://au.int

Chandler v Cape Plc. (2012).

Court of Appeal. (2012). https://www.courtofappeal.gov.jm/year/2012

Council of Europe. (1950). *European Convention on Human Rights*. Retrieved from https://echr.coe.int

Environmental Impact. (Shein, 2023).

Environmental Code. (1998).

Equator Principles Association. (2003). *The Equator Principles*. Retrieved from https://equator-principles.com

European Union. (2023). *Directive (EU) 2023/999 on Corporate Sustainability Due Diligence*. Retrieved from https://eur-lex.europa.eu

European Union. (2024). Directive (EU) 2024/1760 of the European Parliament and of the Council of 13 June 2024 on corporate sustainability due diligence and amending Directive (EU) 2019/1937 and Regulation (EU) 2023/2859 (Text with EEA relevance).

Ewing, J. (2016). *Volkswagen's emissions scandal: An analysis. The New York Times*.

French Criminal Code. (n.d.).

French Civil Code. (n.d.).

French Government. (2017). *Loi n° 2017-399 du 27 mars 2017 relative au devoir de vigilance des sociétés mères et des entreprises donneuses d'ordre*. Retrieved from https://legifrance.gouv.fr

German Federal Court. (2019). *Lliuya v. RWE AG*. Case No. 7 O 68/15.

German Federal Government. (2021). *Act on Corporate Due Diligence in Supply Chains (Supply Chain Due Diligence Act)*. Retrieved from https://gesetze-im-internet.de

Global Reporting Initiative (GRI). (2021). *GRI Standards*. Retrieved from https://globalreporting.org

Hossain, S. (2015). *The Rana Plaza collapse: An assessment*. *Journal of Human Rights and Development*.

Ibeanu, O. (2011). *Corporate responsibility and human rights in Nigeria: A study of Shell's activities*. *African Journal of International Affairs*.

International Labour Organization (ILO). (2017). *Tripartite Declaration of Principles Concerning Multinational Enterprises and Social Policy (4th ed.)*. Retrieved from https://ilo.org

Larsen, R. K. (2014). Foreign Direct Liability Claims in Sweden: Learning from Arica Victims KB v. Boliden Mineral AB?. *Nordic Journal of International Law, 83*(4), 404-438.

Lliuya v. RWE AG. (2019).

Nigerian Supreme Court. (2022). *Shell Petroleum Development Company v. Oguru*. Case No. SC/116/2022.

OECD. (2011). *OECD Guidelines for Multinational Enterprises*. Retrieved from https://oecd.org

Office of the High Commissioner for Human Rights. (2018). OHCHR accountability and remedy project. United Nations. https://www.ohchr.org/en/business/ohchr-accountability-and-remedy-project

Office of the High Commissioner for Human Rights. (2018). Second report on the human rights situation in South-East Turkey (July 2015 to December 2016). United Nations.

Organization of American States. (1969). *American Convention on Human Rights*. Retrieved from https://oas.org

Penal Code. (1962). Ch. 36, §§ 7-10

Shein and Child Labor. (2022).

Shein and Sweatshop Labor. (2021-Present).

Shell Petroleum Development Company v. Oguru (2022).

Svea Court of Appeal. (1992).

Tiruneh, W. (2023). *Providing remedy for corporate human rights abuses committed abroad: The extraterritorial dimension of home states' obligation under ICESCR*. *Utrecht Journal of International & European Law, 38*(1), 14.

UK Government. (2015). *Modern Slavery Act 2015*. Retrieved from https://legislation.gov.uk

UN Human Rights Council. (2011). *Guiding Principles on Business and Human Rights: Implementing the United Nations "Protect, Respect and Remedy" Framework*. Retrieved from https://ohchr.org

United Nations. (1998). *Rome Statute of the International Criminal Court*. Retrieved from https://icc-cpi.int

United Nations. (2011). Guiding principles on business and human rights: Implementing the United Nations "Protect, Respect and Remedy" framework. Office of the High Commissioner for Human Rights. https://www.ohchr.org/sites/default/files/documents/publications/guidingprinciplesbusinesshr_en.pdf

U.S. Code. (1789). *Alien Tort Statute (28 U.S.C. § 1350)*. Retrieved from https://law.cornell.edu

U.S. District Court. (2017). *In re Volkswagen "Clean Diesel" Marketing, Sales Practices, and Products Liability Litigation*. MDL No. 2672 CRB (JSC).

Voluntary Principles Initiative. (2000). *Voluntary Principles on Security and Human Rights*. Retrieved from https://voluntaryprinciples.org

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EU Enlargement and Moldova: Commitment to Rule of Law and Justice Reform

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Abstract: *One year after the Russian invasion of Ukraine, the EU granted the candidate status to Ukraine and Moldova, while putting Georgia on hold towards the EU membership. In Moldova's commitment to faster integration into the EU, the country is facing challenges in reforming its justice system and establishing new judicial institutions. Moldova is undergoing justice reform as one of the main steps toward EU integration, with vigorous efforts to further strengthen the rule of law and combat corruption in the justice system. In 2020, following EU recommendations and support, Moldova's pro-European government ventured into "uncharted waters" by initiating the vetting reform of the justice system, aiming to establish a rule of law country that aligns with EU standards.*

This paper will thoroughly examine the ongoing justice reform that Moldova is carrying out as part of its efforts to integrate into the EU. This paper will methodically analyze Moldova's vetting process and justice reform, comparing it with models from countries like Albania to identify potential challenges. It will highlight the ongoing development of the rule of law because of these reforms in safeguarding judicial independence and establishing the state of democracy, while also assessing their impact on constitutional stability and the challenges highlighted by the integration process.

1. INTRODUCTION

As Moldova was granted EU candidate status in June 2022, the pro-European government had to fulfill the nine conditions for the accession process where important emphasis was given to the rule of law and justice reform as two key conditions for the EU integration (EC Republic of Moldova Report 2023, p. 3). The implementation of EU conditions has been accompanied by a wave of untrust by the Moldovan public opinion where more than 65% of the people did not trust in their justice system (Vidaicu, 2021). As the EU integration process remains the country's most important and challenging endeavor, the judicial reform, required by the EU and supported by the US, has disrupted the foundations of Moldova's old justice system since 2019 (Mazelliu, 2024). In a public statement on January 31, 2023, the Deputy Prime Minister of Moldova, Mr. Nicu Popescu, stated that the fulfillment of EU requirements and the establishment of the National Commission for European Integration (NCEI) in April 2022 were the results of steady and reliable actions taken by the current government (Ministry of Foreign Affairs of the Republic of Moldova, 2023). According to Emerson et al. (2023), the assessment set by the established commission consisted of nine proposed action plans where five of which deal with the justice reform and rule of law area.

The justice reform in Moldova led by the vetting process, aims to strengthen the rule of law and combat corruption in the justice system. This initiative has sparked diverse opinions within the public and the justice system. The current justice system in Moldova is considered to be controlled by oligarchy and corrupt judges and prosecutors. Media and judicial reform activists have highlighted practices where judges frequently delay hearings indefinitely for wealthy or well-connected defendants, often due to

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personal corruption (ICJ 2019, p.22). To tackle this issue, the government has implemented the justice reform strategy and action plan 2022-2025 which was adopted in 2021. The focus of this strategy is to restore public trust in the judiciary. According to CISR (2024), only 22% of the population are very positive or positive about justice institutions, while 38% are somewhat negative or negative.

2. JUSTICE REFORM AND VETTING INSTITUTIONS IN MOLDOVA'S PROSPECTS TO EU INTEGRATION

The Moldovan government, in its pursuit of a corruption-free system, has initiated the campaign to vetting and 'remove' the corrupted judges and prosecutors via the extraordinary re-evaluation mechanism. International actors have played a significant role in supporting the establishment of new institutions and reforms to ensure a more transparent and non-corrupt system. Since Moldova's vetting reform mirrors the Albanian model, which faced delays and stagnation, decision-makers should learn from Albania's experience to avoid similar issues and ensure timely implementation of Moldova's justice reforms (Mazelliu, 2024). The two-year stagnation of the Constitutional Court and High Court in Albania, along with delays in implementing justice reforms, led the country into a deadlock. The same scenario could occur in Moldova if the authorities do not implement a tailored justice reform and avoid politicizing it. Justice reform is a key aspect of Moldova's path to the EU. The parliament and the ruling party, formerly led by the current president Maia Sandu, have proactively launched this crucial reform to ensure the reliability, trust, and independence of the country's justice institutions (Emerson et al., 2023, p. 17). The vetting process began in April 2022 with the establishment of the Pre-Vetting Commission, the first institution to review the two independent self-governing constitutional bodies that will manage the judicial system in Moldova: the Superior Council of Magistracy (SCM) and the Superior Council of Prosecutors (CSP). OSCE/ODHIR (2023) found that the establishment of the pre-vetting commission was done via a broad public consultation process and is considered an achievement towards systemic judicial reform to alleviate corruption in the justice system, still, there are several gaps in the legislation when it comes to the adequate elaboration of the evaluation criteria made by the vetting institutions (p. 5). In line with the recommendations of the Venice Commission and the positive evaluation from the EU progress report of 2023, the Pre-vetting Commission, composed of three international donor-proposed members and three national members, was established. The Venice Commission's Opinions on Moldova's Vetting Process and Justice Reform were considered in compliance with international standards and countries' constitutional provisions, the most prominent challenge remaining until now is the successful implementation of this reform (Venice Commission, 2022, p. 7).

As Moldova undergoes a top-down reorganization of its justice institutions—starting with the Supreme Court of Justice, the SCM, and the SCP—to meet EU acquis standards, it is noteworthy that the country is receiving positive remarks for its progress in reforming the justice system and ensuring the rule of law. This positive assessment is largely due to the successful implementation of the pre-vetting process and ongoing efforts to promulgate the law on the Supreme Court of Justice in line with the Venice Commission's 2023 recommendations, focusing on the reform and evaluation of sitting judges of the SCJ and candidates for the self-governing positions of the SCM and SCP (Moldova Report, p. 5; Venice Commission, 2022).

3. LEGAL FRAMEWORK OF THE JUSTICE REFORM IN MOLDOVA IN ESTABLISHING INDEPENDENT SELF-GOVERNING INSTITUTIONS

Moldova has demonstrated its commitment to ensuring the appointment of impartial and qualified individuals to self-governing justice institutions. This involved a rigorous vetting process conducted

by the Pre-Vetting Commission to evaluate the suitability of candidates nominated to these key positions which mandated was extended until the conclusion of the re-evaluation processes of the candidates that filed an appeal in the SCJ and later ordered a revaluation procedure (Mazelliu, 2024, p. 3). The establishment of the self-governing justice institutions intends to guarantee an independent and impartial judiciary system with a more steadfast 'cleansing process' such as the vetting of the high-profile judges in the newly reorganized SCJ and other courts. According to the EU Report (2023), Moldova has made good progress in the reform of the justice sector and the SCM and SCP candidates had to undergo vetting based on the corresponding law adopted in line with Venice Commission recommendations (p. 22). Further to this, the parliament has taken action to appoint impartial members to these key institutions by implementing a rigorous vetting process through the Pre-Vetting Commission. The law on pre-vetting candidates for judicial and prosecutorial councils was promulgated in March 2022 in compliance with the Venice Commission Opinion (Law no. 26/2022, Venice Opinion No. 1069 / 2021). The Pre-Vetting Commission, composed of three members proposed by international donors and three national members, was established in line with the Venice Commission's opinion and received a positive evaluation in the EU's 2023 progress report. Should be highlighted that the pre-vetting process had positive remarks in its overall process of the evaluation of the integrity of candidates of the self-governing institutions with a need for improvement of the law to guarantee the fairness, credibility, and transparency of the process (OSCE/ODHIR, 2023).

Despite the pre-vetting process being completed on time and receiving general positive evaluations from international bodies such as OSCE/ODIHR in 2023 and the EU Progress Report in 2023, in August 2023, the Supreme Court of Justice (SCJ) reversed 22 out of 28 decisions made by the same *ad-hoc* institution pre-vetting commission. In most cases, the Supreme Court of Justice (SCJ) has found that the Pre-Vetting Commission failed to adhere to due process standards and violates the principle of proportionality. The SCJ ordered the reevaluation of the decisions by the same institution and as a result its mandate was extended until the termination of the revaluation of the reversed decisions (NiT, 2024). Despite the magistrate contesting the lack of transparency in the vetting process for certain individuals (Rusnac, 2023), the work of the pre-vetting commission and functionality of the justice reform was highly regarded and evaluated by international partners for demonstrating professionalism in their challenging work (US Dep of State, Moldova 2023 Human Rights Report). During a time of concern for the justice system, the pre-vetting commission effectively vetted candidates for the self-governed institutions and with no delays the SCM started vetting the judges and candidates of the Supreme Court of Justice. The US Department of State Moldova Human Rights Report (2023), found that authorities passed several laws authorizing vetting of candidates to judicial and prosecutorial oversight bodies, as well as of judges and prosecutors. These efforts were designed to weed out corruption in the judicial system. In April 2024, the General Assembly of Judges after several months of failed attempts elected a fully vetted Superior Council of Magistrates, which is competent to manage the appointment, functioning, and discipline of judges.

The reforming of the Supreme Court of Justice of Moldova and vetting of the sitting judges of the same court, aimed at creating a more independent judiciary in line with EU standards. The Vetting Commission concerning the external evaluation of judges and candidates for the position of judge of the Supreme Court of Justice (SCJ) was constituted on the 15th of June 2023 and effectively started the evaluation process for the sitting judges on July 23rd (Vetting Commission Annual Report, 2024). Before the commencement of the process of the Vetting Commission for the re-evaluation of SCJ judges and candidates, 20 out of 25 sitting Supreme Court judges resigned with the claim that the process was politically motivated, and the process posed a risk

of disrupting the justice system (Necsutu, 2023). The same situation occurred with the judges of the Court of Appeals: by May 2024, 17 judges from the Chisinau Court of Appeal had stepped down even before the vetting process began. The situation with the Supreme Court of Justice of Moldova is not an isolated case. Several years ago, Albania faced a similar scenario, where the entire justice system was disrupted due to the resignation and dismissal of vetted judges, causing significant bottlenecks (Lukic, 2019).

4. LESSONS LEARNED FROM THE ALBANIAN JUSTICE REFORM MODEL

As the government of Moldova is actively working to fulfill the conditions set by the EU—including the establishment judicial map, effective implementation of the justice reform, and ensuring the full operationality of self-governing institutions like the SCM, SCP, and the Supreme Court of Justice—it also aims to strengthen the infrastructure and human capacities of the National Institute of Justice and improve the efficiency of the Superior Council of Magistracy and the Superior Council of Prosecutors (EU Moldova Report, 2023, p. 22). To promote a more effective and resilient justice reform process, Moldova should consider sharing experiences with Albania, a leading country in this type of reform.

In contrast to the Albanian model, Moldova has established a more diffuse vetting model where the re-evaluation of the magistrate's profile is vested in three institutions instead of one, as in the case of Albania (Mazelliu, 2024, p.4). In the case of Moldova, the appeal organ is designed to be the Supreme Court of Justice, meanwhile, in Albania, the vetting appeal organ was established as the Special Appeal Chamber part of the Constitutional Court (Vorpsi et al., 2019, p. 591). Unlike Albania, where vetting institutions are constitutional bodies enshrined in the Constitution, Moldova's vetting institutions are established by Parliament with a qualified majority. However, their operation and any changes to their governing legislation on the evaluation mechanisms and criteria are subject to the political will of the ruling party and the influence of international partners on domestic policy (Republic of Moldova., Law on the Supreme Court of Justice, 2023). In alignment with the Albanian justice reform model, Moldovan authorities have similarly reorganized their Supreme Court of Justice. While in Albania, one-fifth of the judges are drawn from outside the judicial system, Moldova mandates that 9 out of 20 judges be non-magistrates, selecting from distinguished lawyers, professors, or prosecutors (Mazelliu, 2024). As in the case of Albania, the enactment of the new law governing the Supreme Court of Justice in Moldova constitutes a pivotal advancement in the ongoing reform of the country's judicial system, particularly in reducing the influence of the President and the Minister of Justice over the judiciary (Vorpsi et al., 2019). The constitutional amendments in Albania, which facilitated the establishment of judicial institutions and vetting bodies, including the International Monitoring Operation (IMO), an international mechanism that oversees the vetting process, are regarded by scholars as a significant step in strengthening the authority of these institutions as enshrined in the constitution (Anastasi, 2021). The goal of reducing the influence of politics on the judiciary is a crucial step in reforming justice. Anastasi (2021) emphasizes the need to establish a new culture that is detached from politics and to create a legal framework that aligns the judicial culture of the country with European standards.

As regards the role of the International Monitoring Operation (IMO), this organ is established as a constitutional monitoring organ, comprising international partners, to oversee the vetting process in collaboration with the Public Commissioners during the reevaluation procedure of the Independent Qualification Commission (IQC) and the Appeal Chamber (AC) (Bara & Bara, 2020). Similar international assistance mandated by law is present in different countries. Furthermore,

the IMO's authority is *prima facie* as an advisory organ, as its competence is to issue recommendations (Mazelliu & Mitllari, 2022, p. 73).

The establishment of IMO as a constitutional monitoring body, with the involvement of international partners, is intended to certify the vetting process and the justice reform *per se* alongside the Public Commissioners during the re-evaluation process of the Independent Qualification Commission (IQC) and the Appeal Chamber (AC) (Hackaj, 2020, p.30). The uniqueness of this institution is seen in the form of its constitutional establishment and not via a legal act, taking into consideration that the competencies vested in the organ are merely soft ones through issuing recommendations (Shkurtaj, 2017).

On the contrary to the Moldovan justice reform, it's important to note that the Albanian model involved a simultaneous reorganization of the justice institutions and the implementation of a vetting process for all magistrates at every level (Vorpsi et al., 2019). In Moldova, the only institutions established as part of the justice reform were the SCM and SCP, the Pre-Vetting Commission and reorganization of the SCJ (Minzarari, 2022). In contrast, Albania introduced several new institutions, which enabled a more coherent distribution of powers in the election, promotion, and disciplinary processes for magistrates. It's important to note the establishment of the High Inspectorate of Justice, Special Court for Corruption and Organized Crime and Special Prosecution Office, SCM and SCP and the Judicial Appointment Council, which play a crucial role in evaluating the moral and professional qualifications of candidates for positions in institutions such as the Constitutional Court and the High Inspectorate of Justice (Vorpsi et al., 2019, p. 538). In Moldova, the responsibility for the professional and moral evaluation of Constitutional Court judges is not entrusted to a single authority as in Albania. Instead, this task is shared among the institutions responsible for appointing CC judges, namely the President, Parliament, and the Superior Council of Magistrates (Constitution of the Republic of Moldova, art. 136). Establishing a similar institution as implemented in Albania would help diminish the political influence and establish clear and unified professional and moral criteria over the appointment of Constitutional Court judges and other supervisory bodies within the justice system, thereby enhancing the independence of magistrates (Gorza et al., 2019, p. 50).

It is important to highlight that Moldova's vetting process may face future challenges similar to those in Albania, such as challenges to the decisions of the vetting organs before the ECtHR, where several cases have been unsuccessful for the country in maintaining due process standards (Mazelliu, 2024). Additionally, in Moldova, vetting process decisions made by the Pre-Vetting Commission, SCM, and SCP can be appealed to the Supreme Court of Justice (SCJ). This could lead to a deadlock if the SCJ faces a shortage of judges due to the vetting process itself and the potentially high number of cases it needs to review. According to Anastasi (2018), implementing anti-deadlock mechanisms should be a top priority for these reforms. This would offer a solution in cases where the responsible bodies fail to act in accordance with the law, as outlined in the Albanian constitution for the appointment of constitutional judges and other government judicial officials (p. 7).

5. CONCLUSION

As Moldova is finding its fate in an arc of instability and on the edge of invasion from Russia, its pro-European government is making every effort to advance the country's progress toward EU integration (de Waal et al., 2024). As the incumbent government faces pressure from all sides, justice reform and establishing the rule of law remain top priorities for both the ruling party and the country, as these are key conditions for EU-Moldova integration. Moldova is reforming its

judicial framework and has consulted the Venice Commission on key laws, including those related to the Supreme Court of Justice, the evaluation of judges and candidates, the Prosecutor's Office, and the disciplinary liability of judges. However, it must ensure a transparent and merit-based process for appointing members to the main judicial and prosecutorial bodies. The fulfillment of the remaining conditions, especially those related to justice reform and the rule of law—such as the establishment of anti-corruption institutions and the implementation of anti-corruption reforms—remains a critical hurdle on the country's path toward EU integration.

As the EU itself is trying to get together its agenda towards the EU integration of the WB and Eastern countries, Moldova is facing great challenges ahead toward ensuring the rule of law standards and full effective control over the capture institutions including here those of the justice system. The government should make every effort to gain full control over state institutions and processes due to a judicial system that is influenced by high-level corruption that is still informally controlled by non-vetted judges and oligarchy. Although the legal framework officially follows European best practices and rule of law standards, it hampers the government's efforts to address these issues. Since justice reform is Moldova's top priority, authorities should carefully navigate its implementation and apply lessons learned from Albania's model.

References

Anastasi, A. (2018). *Reforming the justice system in the Western Balkans. Constitutional concerns and guarantees*. SSRN.

Anastasi, A. (2021). The Albanian justice reform in the framework of the European integration process. *Euro-Balkan Law and Economics Review*, (2), 1-22.

Bara, J., & Bara, B. (2020). Trial Within a Reasonable Time and the Impact of Justice Reform in Albania. *ICL Journal*, *14*(2), 211-230.

CISR (Center for Insights in Survey Research). (2024). National Survey of Moldova. Retrieved from https://www.iri.org/wp-content/uploads/2024/04/NationalSurveyMoldova2024.pdf

Constitution of the Republic of Moldova

The Commission on the External Evaluation of Judges and Candidates for the position of Judge of the Supreme Court of Justice. (2024, March 31). Annual Report. Retrieved from: https://www.vettingmd.eu/en/rapoarte-anuale

de Waal, T., Bechev, D., & Samorukov, M. (2024). Between Russia and the EU: Europe's Arc of Instability.

EC Republic of Moldova Report. (2023). https://neighbourhood-enlargement.ec.europa.eu/moldova-report-2023_en

Emerson, M., Akhvlediani, T., Cenusa, D., Movchan, V., & Remizov, A. (2023). EU Accession Prospects of Ukraine, Moldova and Georgia. *Center for European Policy Studies, March*, 5-16.

Gorza, I., Chkhikvadze, V., Groza, I., Hovhannisyan, M., Litra, L., Melyantsou, D., Shiriyev, Z., & Zarembo, K. (2019). MOLDOVA: Renewed hope after a string of setbacks. In S. Secrieru & S. Saari (Eds.), *THE EASTERN PARTNERSHIP A DECADE ON: Looking back, thinking ahead* (pp. 42–56). European Union Institute for Security Studies (EUISS). http://www.jstor.org/stable/resrep21135.7

Hackaj, A. (2020). EU Enlargement in SEE6 and Country Reforms – The Justice Reform in Albania as a Case Study [Policy Study]. *Cooperation and Development Institute*. Retrieved from: http://www.cdinstitute.eu/

ICJ (International Commission of Jurists). (2019). *«Only an Empty Shell, » The Undelivered Promise of an Independent Judiciary in Moldova.* Retrieved from https://www.icj.org/wp-content/uploads/2019/03/Moldova-Only-an-empty-shell-PublicationsReports-Mission-reports2019-ENG.pdf

Lukic, F. (2019, November 13). Vetting process in Albania – the marching failure. *European Western Balkans*. Retrieved from: https://europeanwesternbalkans.com/2019/11/13/vetting-process-in-albania-the-marching-failure/

Mazelliu, A. (2024). Navigating the Vetting Process in Moldova: A Comparative Analysis with the Albanian Model. Quis Custodiet Ipsos Custodes? [Policy Brief]. *Justice First,* Freedom House, freedomhouse.org/sites/default/files/2024-05/Navigating-the-Vetting-Process_Eng.pdf

Mazelliu, A., & Mitllari, L. (2022). Albanian Justice Reform in the Framework of the EU Accession Process. *Regional L. Rev.*, 71.

Ministry of Foreign Afairs of the Republic of Moldova. (2023). *Deputy Prime Minister Nicu Popescu during the hearings in Parliament: "We are working on developing a new plan to accelerate the European integration process in all areas related to the 33 chapters of accession to the European Union"* [Press Release]. Retrived from: https://mfa.gov.md/ro/content/vicepremierul-nicu-popescu-cadrul-audierilor-din-parlament-lucram-la-elaborarea-unui-nou

Minzarari, D. (2022). *Justice reform as the battleground for genuine democratic transformation in Moldova: Insights for the Eastern Partnership* (No. 27/2022). SWP Comment.

Necsutu, M. (2023, March 28). In Moldovan Court Resignations, a Question of Principles, or Pay?. *BalkanInsight*. Retrived from: https://balkaninsight.com/2023/03/28/in-moldovan-court-resignations-a-question-of-principles-or-pay/

OSCE/ODHIR. (2023). *Report on the Evaluation (Pre-Vetting) of Candidates for Members of the Superior Council of Magistracy in Moldova.* Retrieved from: https://www.osce.org

Pre-vetting Commission, 'Herman von Hebel, President of the Pre-Vetting Commission, at the Justice Reform and Combating Corruption forum: "In a few weeks, we will have the first public hearings of the candidates for positions in the Superior Council of Magistracy"'. (2022, September, 16). https://vetting.md/herman-von-hebel-presedintele-comisiepre-vetting-la-forumul-reforma-justitiei-si-combaterea-coruptiei-in-cateva-saptamani-vom-avea-primele-audieripublice-ale-candidatilor-la-functii-in/

Republic of Moldova, Law no. 26/2022 on some measures related to the selection of candidates for membership in the self-administrative bodies of judges and prosecutors

Republic of Moldova. Law no. 64 on the Supreme Court of Justice. (2023, March 30). Retrieved from: https://www.legis.md/cautare/getResults?doc_id=136304&lang=ro

Rusnac, C. (2023 April 10). Magistrates Boycott Justice Reform in the Republic of Moldova. *Veridica.* Retrieved from: https://www.veridica.ro/en/acf/magistrates-boycott-justice-reform-in-the-republic-of-moldova

Shkurtaj, G. (2017). Law, Justice Reforms and Access to Justice Institutions. ANGLISTICUM. *Journal of Association=Institute for English Language and American Studies*, 6(3), 70-82

U.S. Department of State. (2023). 2023 Country Reports on Human Rights Practices: Moldova. Retrieved from: https://www.state.gov/reports/2023-country-reports-on-human-rights-practices/moldova/

Venice Commission. (2021). *Joint opinion on some measures related to the selection of candidates for administrative positions in bodies of self-administration of judges and prosecutors and the amendment of some normative acts* (Opinion No. 1069 / 2021). Directorate General of Human Rights and Rule of Law, Council of Europe.

Venice Commission. (2022). *Opinions and Report Concerning Vetting of Judges and Prosecutors.* Retrieved from: http://www.venice.coe.int/

Venice Commission. (2022). Opinion No. 1100/2022, *On the draft law on the supreme court of justice*. Retrieved from: http://www.venice.coe.int/

Vidaicu, D. (2021). The inertia of the Moldovan judicial system: slow progress towards independent judges. Retrieved from https://www.u4.no/blog/progress-towards-independent-judges-moldovanjudicial-system

Vorpsi, A., Anastasi, A., Ibrahimi, G., Berberi, S., & Sadushi, S. (2019). *Komentar mbi reformën kushtetuese në sistemin e drejtësisë (2016).* Instituti për Studime Publike dhe Ligjore (ISPL)

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The Judicial Narrative of the European Court of Human Rights on Inclusion and Diversity in Education

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Abstract: *This article aims to present a study of the judicial arguments of the European Court of Human Rights (ECtHR) in the field of cultural diversity and inclusion concerning education. Analyzing the justificatory arguments of the judgments allows us to understand and delimit strategic frameworks for the implementation of public policies for the inclusion of minorities in the advancement of current educational systems, contributing to the consolidation of their human rights. It analyzes the application of Article 14 of the European Convention on Human Rights. The arguments arising from the application of this principle are addressed from the point of view of cultural diversity, analyzing the institutional difficulties and subtleties of institutional discourses that are often discriminatory based on race or ethnic origin. Arguments from the cases judged by the ECtHR are listed, highlighting the grounds that support positive action with the aim of advancing the effective protection of minorities, especially in education. It is claimed that arguments stemming from the principle of non-discrimination contribute to deepening concrete policies for the inclusion of minorities and that it is necessary to overcome the hesitations of institutionalized discourses.*

1. INTRODUCTION

The right of minorities is a subject that crosses various areas of life. Members of such minorities are frequently victims of discrimination based on race or ethnic origin. This fact can directly affect several other dimensions such as equal treatment in the access to labor market, in the education system, in politics, in the economy, and many others. It is within this context that this article aims to present the arguments used by the European Court of Human Rights (ECtHR) concerning the concepts of inclusion and diversity. The formulation of the research starts from the role played by the ECtHR in addressing the rights of minority groups within the field of the educational system and, more concretely, the access to education and its resources. From here it is crucial to define the scope of analysis through the access to education of minority groups. Such scope is delimited through case-law arguments in the judicial reasoning. For this purpose, it is important to consider that the European Convention of Human Rights (ECHR) does not have a specific provision for the protection of minority groups. Instead, the Court uses the provision of its article 14 about the principle of non-discrimination framing judicial interpretations based on race and ethnic origin. From the reasoning arises the need to adopt an institutional discourse about inclusion and diversity. However, the discourse, attitudes, and policies of institutions, demonstrate resistance and hesitations to fully implement substantive equality. Also, doctrine critiques argue that attending to specific attributes of a large range of people might jeopardize the legal framework of anti-discrimination policies. This article discusses the judicial arguments derived from the application of Article 14 giving evidence to the effect between the formal and substantive approach of law. It follows the analysis by pointing out a sensitive and friendly approach of the ECtHR to inclusion and diversity stressing that the judicial reasoning admits a different treatment to disadvantaged

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people in specific minority groups. It concludes by claiming that the educational system needs to overcome the hesitations of implementing inclusive measures for groups of students with vulnerabilities and adopt an intersectional perspective in the interpretation of general policies.

2. INCLUSION AND DIVERSITY – BETWEEN THE RULE OF LAW AND ITS SUBSTANTIVE EFFECT

The ECtHR has played a crucial role in addressing issues of inclusion and diversity of minorities within its jurisprudence. The principle of non-discrimination is a crucial rule, established in Article 14, of the European Convention on Human Rights (1950). It states that "The enjoyment of the rights and freedoms outlined in the Convention shall be secured without discrimination on any ground such as sex, race, color, language, religion, political or other opinion, national or social origin, association with a national minority, property, birth or other status." Despite the absence of explicit provisions for minority rights in the European Convention on Human Rights, the European Court of Human Rights has nonetheless played a crucial role in safeguarding the rights of minority groups through its interpretive approach to the Convention, particularly through the application of Article 14, which prohibits discrimination in the enjoyment of Convention rights (Medda-Windischer, 2003). This provision is not alone. A whole framework of fundamental principles and rules has been created, which constitute a guiding structure in the design of public policies that aim to ensure, for example, equal treatment in access to several social dimensions such as education. This is the case of the International Covenant on Civil and Political Rights, the International Convention on the Elimination of All Forms of Racial Discrimination, or the Framework Convention for the Protection of National Minorities. All these instruments call on the signatory states to adopt a social model of inclusion that responds to multicultural diversity and the impact that can result from people's specific differences.

This framework is based on the premise that all persons deserve to be equally treated before the law despite their differences (race, ethnic origin, gender, sex, political beliefs, etc). Underpinning the whole legal context of non-discrimination is not only equal treatment but the concrete adoption of inclusion measures for diversity. It is therefore important to realize that the formal legal agenda of the rule of law does not always lead to an effective achievement of equality in the face of the differences that people present. This is especially evident in the discourse and practices of institutions. For example, a guide published by the United Nations (2012) states that "In the European Union too many persons belonging to minorities still face threats, discrimination and racism. They are confronted with the risk of being excluded from fully taking part in the economic, political, social, and cultural life available to majorities in the countries or societies in which they live" (p. 133).

Beyond these treaties, a whole set of judicial discourse can be identified in the application of the rule of law. It is part of the States' obligations not only to adopt measures to protect specific needs and differences of people but also to correct injustices through the application of law. In this sense, the ECtHR plays one of the most important roles since it requires "(…) States to eliminate discrimination in practice and to ensure the effective employment of the rights to equality and non-discrimination" (United Nations, 2023, p. 3).

Considering this distinction between what the formal framework is and the scope of its applicability, it should be considered the difficulties that can arise in accessing the education system. It is therefore important to look at the judicial practice and assess how the reasoning behind judgments addresses issues of vulnerability. There is literature that discusses the concept of vulnerability and

what features make a group vulnerable (Peroni & Timmer, 2013). This concept was considered by the ECtHR in the case Chapman v. the United Kingdom (2001). The Court used the following reasoning: "(…) the vulnerable position of Gypsies as a minority means that some special consideration should be given to their needs (…). This enunciation recognizes that some particular cases need to be framed in the regulatory process.

The body of case law has consistently highlighted the necessity of protecting the rights of minority groups, often framing such protections as integral to the broader principles of democracy and the rule of law. The Court has underscored that the safeguarding of minority rights is not merely a matter of social justice but is fundamentally linked to the legitimacy of the legal order itself, emphasizing that access to justice for all, particularly for marginalized populations, is essential for upholding the European Convention on Human Rights (Polgári, 2020). This understanding aligns with the Court's broader interpretative framework, which acknowledges that ensuring the inclusion of diverse groups is essential for the stability and moral foundation of European democratic societies, thereby reinforcing the rule of law in a manner that is both substantive and procedural (Polgári, 2020; Spano, 2021; Varjú, 2014).

The Court's jurisprudence in this area reflects a nuanced and evolving conception of the principle of non-discrimination, one that transcends a purely formal or mechanical understanding and instead embraces a more substantive vision that recognizes the importance of substantive equality, and the protection of vulnerable populations (Spano, 2021). This approach is evident in the Court's careful balancing of individual rights against the state's interests, highlighting that restrictions on rights must be both necessary and proportionate, thereby ensuring that any limitations do not disproportionately affect minorities and further entrench existing inequalities (Varjú, 2014). This careful attention to proportionality and necessity establishes a framework within which the rights of minorities are not only recognized but actively protected, thereby fostering an environment conducive to genuine inclusion and diversity in European societies (Polgári, 2020). Such a framework underscores the Court's commitment to enforcing judicial independence and the rule of law as essential to the protection of minority rights, as any erosion of these principles could lead to systemic discrimination and marginalization of vulnerable groups within the legal system (Spano, 2021). This ongoing engagement with the principles of the rule of law and individual rights indicates the Court's recognition that the health of democracy is intricately linked to the promotion and safeguarding of diversity and inclusion within its member states, thereby reaffirming its foundational role in shaping the European human rights landscape. (Polgári, 2020; Varjú, 2014) In this context, the Court not only addresses specific cases related to minority rights but also contributes to a broader dialogue on societal values and norms, reinforcing the idea that a diverse population is a hallmark of a vibrant democracy.

3. THE NARRATIVE OF THE EUROPEAN COURT OF HUMAN RIGHTS ABOUT INCLUSION AND DIVERSITY

The judicial reasoning used in the European Court on Human Rights about inclusion and diversity shows the concern of the Court to enlarge the dimension of Article 14 (principle of non-discrimination). To further illustrate the significance of the judicial reasoning used in the European Court on Human Rights, it is important to note that it has also been used to challenge discriminatory practices and promote equality in other areas, such as employment and education. The principle of non-discrimination is a fundamental tenet of human rights law, and it is particularly crucial in the context of education. This principle ensures that all individuals, regardless of their backgrounds

or circumstances, have equitable access to educational opportunities, thereby safeguarding their rights and promoting social justice within the educational landscape (Tziola, 2014). The European Court of Human Rights has consistently emphasized this principle by holding that discrimination in education undermines not only the right to education itself but also the broader spectrum of human rights that individuals may be entitled to, linking education to the enjoyment of civil and political rights. (Ganvir & Gundecha, 2020).

The right to education is recognized as a fundamental human right, as outlined in various international instruments, including the Universal Declaration of Human Rights and the International Covenant on Economic, Social, and Cultural Rights (Dibra, 2014). Furthermore, the obligation of states to provide quality education aligns with the commitment to uphold non-discrimination principles, as failing to do so can result in significant barriers for marginalized groups, including minority groups, whose access to education is often hindered by systemic inequalities (Perez et al., 2021). This implies that institutions should consider implementing positive actions to compensate historical disadvantages of minorities and to actively promote their integration into a diverse society.

The European Court of Human Rights has consistently affirmed the inextricable link between the right to education and the principle of non-discrimination. This emphasis is evident in various rulings, where the Court has addressed cases involving children facing discrimination in educational settings. Arantes (2021) presents a study analysis of decisions of the European Court of Human Rights involving the education of people with disabilities, arguing that this body still needs to create a new paradigm for inclusion in the educational system. Therefore, states must ensure inclusive education that respects the diverse needs of all students, irrespective of their backgrounds or identities (McCowan, 2012; Dibra, 2014). The Court has also recognized that the right to education is not merely a status-based entitlement but also an instrumental means to facilitate the enjoyment of other fundamental rights, such as the right to information, freedom of expression, and the right to participate in the political process. (Dibra, 2014).

The ECtHR's judicial narrative is constructed through a set of arguments that allow empirical evidence and normative statements to be considered. Legal argumentation is a fundamental field of study for understanding judicial decisions and for disaggregating the concepts, interpretations, strategies, and dimensions that the rule of law contains (Atienza, 2016). The interpretation given to Article 14 of the ECHR in cases involving access to the education system determines that law must be applied considering the unique cultural and ethnic characteristics of minority groups (Sandland, 2008).

To support this vision, this research examined three fundamental case-law examples. By following the premises of legal argumentation theory, the study identified both empirical and normative statements. These statements have the potential to clarify how facts are subsumed under rules, essentially illustrating the logical deductions made by the court during the judicial decision-making process.

In the case Horváth and Kiss v. Hungary (2013) it was claimed that in the education system in Hungary children diagnosed with mental disabilities are schooled outside of mainstream school, in separate "remedial schools". The applicants argued that this circumstance was a breach of Article 1 of the ECHR. In this case, the Court focused on the interpretation of the word "respect." It implies that institutions (including schools) must undertake some positive obligations to address the difficulties certain groups might encounter, for example, in the school curriculum. The Court

also used the concept of disproportionality to assert that Roma children are part of a minority group with vulnerabilities. This reasoning led the Court to determine that there had been direct discrimination in this case.

The case D.H and Others v. Czech Republic (2007) reveals a situation of child segregation. It was alleged that children of Roma origin were placed in schools for children with special needs, thereby hindering their learning process with an inferior curriculum and segregating the group. The applicants argued that the education system applied a segregation criterion based on race and ethnic origin, which constituted a violation of Article 14 of the ECHR. The Court considered that there had been indirect discrimination, ruling that Article 14 not only prohibits acts of discrimination but also institutionalized practices that violate human rights on the grounds of race and ethnic origin. The concept of disproportionality was used to emphasize the harmful effect that a general policy or measure might have on vulnerable groups.

In the case, X and others v. Albania (2022) eighteen Albanian nationals of Roma and Egyptian ethnic origin complained to the ECHR for discrimination on the ground of segregation because the Government failed to implement desegregation measures in an elementary school which children of the Roma and Egyptian minorities almost exclusively attended. The applicants claimed to the Court the violation of Article 1 of Protocol 12 to the ECHR because of discrimination based on their ethnic origin and their right to an inclusive education. The Court's judgment considered that the absence of action of public authorities constitutes a situation of segregation and impacts in lives of the Roma and Egyptian children. The ECtHR justified that there was a "positive obligation" to correct the inequality alleged by the applicants and that policies should be adopted to avoid the perpetuation of discrimination. One of the relevant arguments of this case was that the reasoning applied in cases in the ambit of Article 14 is the same brought under Article 1 of Protocol No. 12 (2000) concluding that the right to inclusive education needs to be assured by domestic law. The Court clarifies that Protocol No. 12 (2000) is to be articulated with Article 14 of the ECHR. The general provision of the ruling states that "The enjoyment of any right set forth by law shall be secured without discrimination on any ground such as sex, race, colour, language, religion, political other opinion, national or social origin, association with national minority, property, birth or other status". This case was brought to the Court fifteen years after the case D.H. and Others v. Czech Republic. The time-lapse shows that institutional hesitations contribute to in fact situations that lead to discriminatory practices.

4. ARGUMENTS AND LEGAL REASONING ABOUT INCLUSION AND DIVERSITY IN EDUCATION

The body of case law put into evidence the ECtHR position about inclusion and the attention that public authorities should give to a multicultural society. The jurisprudence has led to the establishment of positive obligations on states to protect minority identities from both direct and indirect discrimination. The Court's judicial narrative has highlighted the importance of respecting and preserving the diversity of minority communities within the broader European context (Guller, 2017).

Ensuring the realization of the right to education through the lens of non-discrimination is crucial, as it not only upholds the inherent dignity of all individuals but also fosters an inclusive society where marginalized groups can actively engage in civic life and contribute to the broader social fabric. This perspective is reinforced by the notion that equitable access to education equips individuals with the tools necessary to challenge systemic injustices and to exercise their rights

fully, thereby emphasizing the need for states to adopt proactive measures aimed at dismantling barriers that perpetuate discrimination in educational settings (Rao & Sweetman, 2014). The argument of "positive obligation" demonstrates that the ECtHR has underscored the necessity for states to implement effective policies and practices that promote inclusivity within educational institutions, recognizing that failure to address educational inequities not only contravenes the principle of non-discrimination but also undermines the realization of the right to education as a fundamental human right. Moreover, the Court shows a friendly approach to the concepts of inclusion and diversity in the educational system. The interpretation given to Article 14 and other related provisions (Article 1, Protocol No. 12, 2000), highlights barriers and vulnerabilities based on race and ethnic origin, acknowledging that these groups require recognition. The importance of such tailored approaches reflects a growing recognition that educational equity goes beyond mere access; it requires a nuanced understanding of the diverse needs of all students to address the systemic barriers they face. This demands from public and private institutions the engagement to monitor and evaluate educational policies, identifying disparities that might derive from aspects such as race or ethnic origin (National Academies of Sciences, Engineering, and Medicine, 2019).

This holistic approach to discrimination has encouraged member states to develop more comprehensive and nuanced anti-discrimination policies. By recognizing the complexities of intersectional discrimination, the Court has prompted governments to consider how various forms of prejudice interact and compound, leading to more effective and targeted interventions. The Court's jurisprudence in this area has also influenced academic discourse and research on discrimination, inspiring scholars to explore new frameworks for understanding and addressing multifaceted forms of inequality. The Court's emphasis on cumulative effects has prompted a shift in data collection and analysis methods, with many countries now developing more sophisticated tools to capture and understand complex patterns of discrimination. Furthermore, this jurisprudence has influenced the development of more inclusive public policies, extending beyond traditional anti-discrimination measures to encompass areas such as education and others. From the point of view of the ECtHR jurisprudence about inclusion and diversity in education are approached through an intersectional approach. Acknowledging multiple, overlapping forms of discrimination strengthens anti-discrimination efforts by addressing the unique challenges faced by individuals with intersecting identities. Furthermore, the intersectional analysis can reveal systemic inequalities that might otherwise go unnoticed, leading to more comprehensive and effective policies to combat discrimination in all its forms.

5. CONCLUSION

The influence of the European Court on Human Rights' judicial reasoning extends beyond the realm of civil liberties, as it has been employed to confront discrimination and promote equality in areas like education. The impact of the Court's jurisprudence extends beyond individual cases, setting precedents that influence legal interpretations and human rights standards in member states. Its decisions have helped shape national policies and legislation, promoting a more inclusive and equitable society across Europe. The Court's approach to addressing the principle of non-discrimination has been particularly significant in cases involving access to the educational system. The ruling of Article 14 of the ECHR has consistently emphasized the importance of considering the cumulative effect of various discriminatory factors, rather than examining each ground of discrimination in isolation. This nuanced understanding has led to more comprehensive protection for individuals who experience complex forms of marginalization and has encouraged member states to adopt more holistic approaches to anti-discrimination legislation and policy implementation. Despite the ruling about Article 1 of Protocol No. 12 is in its infancy (because of the low

number of cases) the jurisprudence introduced arguments about inclusion upholding the principle of non-discrimination in the context of education and recognizing its central importance to address concrete aspects in the design of public measures. This requires a comprehensive and continuous effort by states to ensure that educational systems are not only inclusive and equitable but also capable of adapting to the evolving needs of diverse student populations; thus, the integration of monitoring mechanisms and accountability measures is paramount to highlight progress and address persistent challenges. It implies that the intersectional approach to discrimination also enables policymakers and educators to develop more targeted and effective interventions that address the unique challenges faced by individuals or minority groups. By recognizing the compounded effects of various forms of discrimination, institutions can create more inclusive environments that cater to the diverse needs of all students. Moreover, the adoption of intersectional frameworks in legal and educational contexts can foster greater empathy and understanding among different groups, promoting a more cohesive and tolerant society.

References

Arantes, I. B. (2021). A educação inclusiva à luz da jurisprudência do Tribunal Europeu de Direitos Humanos. *Inter – Revista de Direito Internacional e Direitos Humanos da UFRJ*, 4 (1), 23-67.

Atienza, M. (2016). *As razões do direito: teoria da argumentação jurídica*. Lisboa, Portugal: Editora Forense.

Chapman v. United Kingdom (GC), Application 27238/95 (2001). https://hudoc.echr.coe.int/eng#{%22itemid%22:[%22001-59154%22]}

D.H and Others v. Czech Republic (GC), Application 57325/00 (2007). https://hudoc.echr.coe.int/fre#{%22itemid%22:[%22002-2439%22]}

Dibra, B. (2014). Education as a fundamental right and human rights acquired through education. *Mediterranean Journal of Social Sciences*, 5 (19), 155-160. https://doi.org/10.5901/mjss.2014.v5n19p155

European Convention on Human Rights. (1950). https://70.coe.int/pdf/convention_eng.pdf

Ganvir, S., & Gundecha, A. A. (2020). Disability, laws and models: an overview. *VIMS Journal of Physical Therapy*, *2*(1), 50-54. https://doi.org/10.46858/VIMSIPT.2110

Guller, A. D. (2017). The protection of minorities in the Council of Europe: possibilities to use the European Conventions on Human Rights for minority issues. *Dokuz Eylul Universitesi Hukuk Fakultesi Dergisi*, 19, 2451-2506. https://hukuk.deu.edu.tr/wp-content/uploads/2017/11/27-DEMAN-GULER.pdf

Horváth and Kiss v Hungary, Application 11146/111 (2013). http://hudoc.echr.coe.int/sites/eng/pages/search.aspx?i=001-116124

McCowan, T. (2012). Human rights within education: assessing the justifications. *Cambridge Journal of Education*, 42 (1), 67-81. https://doi.org.10.1080/0305764X.651204

Medda-Windischer, R. (2003). The European Court of Human Rights and minority rights. *Journal of European Integration*, 25 (3), 249-271. https://doi.org/10.1080/0703633032000133583

National Academies of Sciences, Engineering, and Medicine. (2019). Monitoring Educational Equity. Washington, DC: The National Academies Press. https://doi.org.10.17226/25389

Perez, A. J., Perez, D. R., & Ilescas, C. M. (2021). Indigenous people's education, career aspirations, choice and challenges among senior high school students in rural communities of Palawan. *International Journal of Education and Learning*, 3 (1), 20-37.

Peroni, L., & Timmer, A. (2013). Vulnerable groups: the promise of an emerging concept in European Human Rights Convention law. *International Journal of Constitutional Law*, 11 (4), 1056-1085. https://doi.org/10.1093(icon/mot042

Polgári, E. (2020). In search of a standard: references to the rile of law in the case-law of the European Court of Human Rights. *ICL Journal*, *14*(1), 43-69. https://doi.org/10.1515/Journal-2019-0040

Protocol no. 12 to the Convention for the Protection of Human Rights and Fundamental Freedoms. (2000, November). https://rm.coe.int/1680080622#:~:text=The%20enjoyment%20of%20any%20right,property%2C%20birth%20or%20other%20status.

Rao, N., & Sweetman, C. (2014). Introduction to gender and education. *Gender and Development*, *22*(1), 1-12. https://doi.org/10.1080/13552074.2014.902230

Sandland, R. (2008). Developing a jurisprudence of difference: the protection of Human Rights travelling peoples by the European Court of Human Right. *Human Rights Law Review, 8*(3), 475-816. https://doi.org/10.1093/hrlr/ngn011

Spano, R. (2021). The rule of law as the lodestar of the European Convention of Human Rights: the Strasbourg Court and the independence of judiciary. *European Law Journal*, 27 (1-3), 211-227. https://doi.org/10.1111(eulj.12377

Tziola, D. (2014). The combined approach of articles 2 (1) and 28 (1) of the International Convenant on the Rights of the Child 1989 as a source of international law of non-discrimination. *International Journal of Human Rights and Constitutional Studies*, *24*, 35-45. https://doi.org/10.1504/IJHRCS.2014.060438

United Nations. (2012). Promoting and protecting minority rights. A guide for advocates. United Nations Human Rights Office of the High Commissioner. Geneva and New York. https://www.ohchr.org/sites/default/files/Documents/Publications/HR-PUB-12-07_en.pdf

United Nations. (2023). Protecting minority rights. A practical guide to developing comprehensive anti-discrimination legislation. United Nations Human Rights Office of the High Commissioner. New York and Geneva. https://www.ohchr.org/sites/default/files/documents/publications/2022-11-28/OHCHR_ERT_Protecting_Minority%20Rights_Practical_Guide_web.pdf

Varju, M. (2014). *European Union rights law: the dynamics of interpretation and context*. Budapest, Hungary: Edward Elgar Publishing.

X and others v. Albania, Application 73548/17 (2022). https://hudoc.echr.coe.int/fre#{%22itemid%22:[%22001-217624%22]}

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Legal Unification Instruments in Hungary, with Special Reference to the Uniformity Decision

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Abstract: *In Hungary, the supreme judicial body, the Curia (since 2012, the Supreme Court has been renamed the Curia again), occupies an extremely special place in the Hungarian judicial system. According to the Fundamental Law, the Curia of Hungary is the supreme judicial body of Hungary and the Curia ensures the unity of the courts in the application of the law. This is its sole task, which cannot be shared with any other court. There are many instruments connected with the Curia that promote legal unity, among which uniformity decisions are of particular importance because they are binding on Hungarian courts from the date of their publication. This paper will review the concept of unity of jurisdiction, briefly outline the legal unity instruments, and then detail the specific rules applicable to uniformity proceedings and decisions.*

1. INTRODUCTION

Hungary's highest judicial forum, the Curia, which, under the Fundamental Law, performs a special task that cannot be delegated to any other court: ensuring the unity of the courts' application of the law. After an analysis of the concept of 'unity of jurisdiction', I will show that both the Fundamental Law and other legislation provide the Curia with many instruments for this task, creating a system among them. Among these instruments, however, the case-law decision is special, as it is binding on all Hungarian courts from the time of its publication in the Hungarian Gazette. The system of rules governing the decision and the preceding procedure is special in almost all respects, which justifies a detailed description: the petitioners, the grounds for the procedure, the procedure for the ruling on the petition and, of course, the "final result". It should be mentioned that the Constitutional Court may annul a decision of a case-law, and it is therefore necessary to briefly describe the aspects of the case that may be examined by the Constitutional Court.

The methodology of the study was based on the search and analysis of the relevant legislation, literature research and case law. The latter is greatly assisted by the Curia website. It provides access to the decisions of the Court of Cassation and Justice, as well as to cases in which a decision has not been taken or is still pending.

2. THE UNIT OF ENFORCEMENT AND ITS INSTRUMENTS

The definition of the concept of the unity of application of the law is extremely important, as this concept is used in the Fundamental Law and the Curia's task is to fulfil it. In agreement with what András Kőrös and György Wellmann wrote almost a decade and a half ago, unity of application is a cornerstone of legal certainty, and legal certainty is an indispensable element of the rule of law. The same position can be found in the study of András Osztovits: 'ensuring the unity of case law is a key issue of legal certainty and thus of the rule of law [...]' (Osztovits, 2020, p. 72), and with this in his study, the President of the Curia, András Zs. Varga (Varga, 2020, p. 80). On the one hand, unity of law means

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the identity of laws, i.e. that the same laws apply in the same way to everyone throughout the country. On the other hand, legal unity also means that the authorities and courts apply the written law in the same way (with the same practice) (Kőrös & Wellmann, 2011, p. 257). This study also uses the concept of legal unity in this study under the heading of uniformity of judgments. In the Hungarian literature, the concept of unity of law is also frequently discussed by authors, adding nuances and content from different approaches. A conceptual element that emerged in this context is that the diversity of decisions stems from the uniqueness of the cases, not from the part of the country from which the case originates (Villám, 2017, p. 225). The concept can also be approached from a negative direction, i.e. when there is a "lack of unity of law": the possibility of uncertainty of legal unity exists when the applicable norm or the legal regulation of the given area is incomplete or requires social adaptation. In the practice of the Hungarian Constitutional Court, "the absence of legal unity, regardless of the reasons for it, in itself raises the risk of a deterioration in legal certainty" (Villám, 2017, p. 228).

There is also a consensus that the legislator's primary task is to ensure legal certainty and thus to ensure that normative rules are predictable, fair and expedient. However, it is clear that the legislator, when creating written law, focuses on typical life situations and wants to provide a framework for them (Villám, 2017, p. 226), while the specific application of the general norm is the task of the legislator. The legislator shapes the rules in such a way that the practitioner can adapt them to changing life situations. The law enforcer (the court) adapts its decision to the specific facts within the framework set by the legislator. However, legislation cannot cover every situation in life, and life situations are constantly changing, forcing the law to change constantly. Judicial interpretation of the law has a special role to play in this context, as it is responsible for applying the written law to constantly changing situations.

However, judicial interpretation of the law necessarily entails the possibility that this activity may cross over into the field of legislation. According to the literature, this is a necessary element of the system, since the application of a general norm by a judge is "ex post facto", i.e. retroactive (Villám, 2017, p. 227). By staying within the legislative framework, the judge determines the content of the norm, which can serve efficiency and legal certainty in rapidly changing circumstances (Villám, 2017, p. 227). However, the question of where the limits of judicial legislation can be drawn, and how far the judge can interpret the law without encroaching on the legislator's powers and thus violating the requirement of separation of powers, is a difficult one. Another very important question is how to ensure that judicial interpretations of the law point in the same direction, i.e. that the application of the law is uniform and not divergent.

This is the special role of the Supreme Court of Hungary, which cannot be shared with or transferred to any other court, and its task is to ensure the unity of the courts in the application of the law. This aspiration was already expressed in Werbőczy's Tripartitum (Ficsor & Patyi, 2022, p. 1311) in 1514 and since 1881 the Curia has been expressly responsible for this task. After the entry into force of Act LIX of 1997, it was included in the Constitution, and after 2012 in the Fundamental Law. In agreement with Balássy, this can also be interpreted as a "special and deliberate legislative power" (Balássy, 2020, p. 656).

Pursuant to Articles 24-25 of Act CLXI of 2011 on the Organisation and Administration of Courts (hereinafter: Act on OAC), the Curia has many means at its disposal to ensure the unity of judgments. It issues uniformity decisions, decides on uniformity appeals, conducts case-law analysis groups in cases that have been concluded by final or binding decisions, and publishes specific decisions issued by the Curia in review proceedings. It should be noted that the unity of the judiciary is also ensured

by other activities not mentioned in this point, such as monitoring the case-law of the lower courts (the head of the division of the Court of Cassation presents decisions of principle which have become final or binding to the head of the division of the Curia in the relevant case, and attends the meetings of the division of the Court of Cassation and the Court of First Instance through his representative).

The primary arena for case-law activity is review, which is conducted by the Curia. This is to correct errors of law in a case that has been finally settled, at the initiative of the parties concerned, and in individual cases. The Curia publishes its decisions and it should be pointed out in this context that Hungary has had a so-called limited precedent system since 1 April 2020. As the study by Krisztina Ficsor and András Patyi explains, "The precedent system is of a limited nature, which means that only the decisions of the Curia have precedential effect in a given legal matter and may be binding on lower courts. On the other hand, the precedent effect is not the same as the absolute obligation to follow previous decisions in general, but means that an unjustified, or in other words, unjustifiable deviation in a question of law may have consequences: the Curia may change or annul it and order a new procedure or a new decision." (Ficsor & Patyi, 2022, p. 1311). If it fails to do so and fails to give reasons for not doing so, a review may be initiated in criminal, civil and administrative courts. The only legal means by which the Curia can depart from its own previous decision is to initiate an appeal. It should be noted that only the Curia is in this position (i.e. it can only deviate from its own published previous decision by initiating an appeal), since if the lower court wishes to deviate from the published decision of the Curia, it must state the reasons for its deviation (and is not directly obliged to initiate an appeal, as the law does not provide for such a possibility). The reason for a different decision of the lower court may be a decision of the Court of Justice of the European Union or the Hungarian Constitutional Court that was issued after the published decision of the Curia and compliance with which requires a deviation from the decision of the Curia.

Another important instrument is the adjudicatory complaint procedure, which is conducted with the participation of the parties involved in the main proceedings. A decision of the Curia resulting from a review may be challenged if it differed on a point of law from a previous published decision of the Curia and the review application already referred to a difference on a point of law, but the Curia did not remedy the infringement caused by the difference in its decision. An appeal on a point of law may also be lodged if the panel of the Curia deviates from the published decision of the Curia on a point of law without initiating an appeal on a point of law, without the deviation having been addressed in the decision of the lower courts (Act on OAC § 41/B.). The other result may be that it finds that there has been an unjustified difference on a point of law, but this can go one of two ways: it may annul the contested decision, or it may be that the Curia, although finding that there has been a difference on a point of law, does not annul the contested decision because it finds that the difference is justified. It can be seen that the purpose of the appeal procedure is also to ensure unity of law, but the Curia has repeatedly pointed out that "the appeal procedure is an exceptional, post-appeal, sui generis procedure based on the Act on OAC, aimed at unity of law. It is an autonomous instrument for establishing the internal coherence of the legal system. It is an appeal procedure, but not a continuation of a lawsuit." (last Jpe.II.60.034/2024/3)

Another important instrument for unifying the law is the operation of the Judicial Practice Analysis Group. The group is responsible for examining the case-law of the courts. The scope of the investigations is determined annually by the President of the Curia, after obtaining the opinion of the Curia's colleges. The head of the collegium of the Court of Cassation and the head of the collegium of the College of Forensic Judges, the President of the National Office for the Judiciary and the Prosecutor General may also make proposals for the subjects of investigation. The members

of the group are selected from among the judges of the Curia, but may also include judges assigned to a lower court and academics or practitioners in the field under investigation. The jurisprudence analysis group shall draw up a summary opinion on the results of the examination. The summary opinion is discussed by the relevant chamber of the Curia and, if it agrees, the head of the group publishes its findings on the Curia's website. At the same time, the chairman of the group shall publish the full summary opinion on the central intranet site of the courts.

The significance of the functioning of the group and the summary opinion lies in the fact that on its basis the head of the Curia may propose a uniform procedure or refer to the President of the National Office for the Judiciary through the President of the Curia in order to initiate legislation (Act on OAC § 29-30.).

The following is an overview of the uniformity decision available.

3. THE UNIFORMITY DECISION

The uniformity decision has a history of more than a hundred years in Hungarian legal history. Article of Act I of 1911 provided that the Royal Curia could issue a decision of law in order to "preserve the uniformity of justice". The reason for this was to ensure the uniformity of the administration of justice and the particular development of private law at the time, which required that the gaps be filled by decisions of the Royal Curia. With the entry into force of Act II of 1954, the role of the Supreme Court was transformed and the exercise of principled control became one of its main functions. According to the Constitution of the Republic of Hungary, as amended with effect from 1 October 1997, the Supreme Court ensures the unity of the courts in the application of the law, and its decisions on the law are binding on the courts (Villám, 2017, p. 230). The most significant recent change was that the name of the procedure was changed to a lesser extent: it was renamed "preliminary ruling procedure in the interests of legal unity", and the procedural rules were adapted to the fact that the adjudication of the appeal was transferred to a special chamber within the Curia, the Judicial Review Board.

However, what has remained unchanged over time for more than a hundred years is that the Curia can issue a decision on a case law, as a result of a case law procedure. As a rule of thumb, almost all the details of the case-law procedure are regulated by law (the Act on OAC), including the grounds for the procedure, the persons who initiate it, the main rules of the procedure and the decisions that may be taken.

3.1. Grounds for the Uniformity Procedure

There are two possible grounds for uniformity decision-procedure. The first is to obtain a uniformity decision, to change or annul a previous uniformity decision, in order to ensure uniform case-law. The other reason is if a panel of the Curia wishes to deviate from a decision published in the Collection of Judicial Decisions of the Curia on a point of law (Act on OAC § 32). The latter reason has gained particular importance with the introduction of the limited precedent system in 2020, since, as mentioned above, the Curia can deviate from a previously published decision by means of this system, but not by any other means.

The purpose of the procedure on both grounds is to interpret a piece of legislation and, through this, to establish the uniform application of the law.

3.2. The Initiators of the Uniformity Procedure

The case-law procedure can be initiated by different persons according to the two grounds. If the reason for the procedure is the establishment of uniform case-law, the procedure may be initiated by the President, the Deputy President, the Head of the College or the Prosecutor General of the Curia. The law implicitly creates the possibility for the head of the court or the head of the division of the court of first instance to initiate a case-law procedure, but requires the assistance of the head of the division of the Curia. In such a case, the head of the division of the Curia concerned shall submit the application to the judicial review panel and shall state the reasons for proposing that the application be accepted or rejected.

In the event that the reason for the application for a panel decision is that the panel of the Curia wishes to depart from the published decision of the Curia, the initiator may be the panel of the Curia concerned. In such a case, the Chamber will suspend the case pending before it and will also propose in the case-law motion how the issue in question should be decided (Act on OAC § 33 and § 37 (1) paragraph).

3.3. Main Rules of the Uniformity Decision-Procedure

Until 31 March 2020, the uniformity petition was examined by the uniformity chamber chaired by the President, Vice-President, Head of the College or Deputy Head of the College of the Curia. The application was heard by the judges of the relevant chamber of the Curia, according to the section concerned, in a panel of five judges, or seven if the application concerned another section. Under the changes that came into force on 1 April 2020, the chamber of appeal consisted of seven members (the president of the chamber and six other members) for each case, and if more than one section was involved, the president of the chamber appointed the members of the chamber of appeal proportionally from among the judges of the Curia.

A significant change occurred from 1 January 2022, when the name of the motion changed (preliminary ruling motion) and the rules governing its examination also changed: the motion was examined by the uniformity complaint panel. The latter is the result of the Venice Commission's (Venice Commission, opinion 45.) to integrate into the rules of the appeal procedure the rules of the preliminary ruling procedure, along the lines of the "preliminary ruling" (Explanatory Memorandum to Act CXXXIV of 2021). In accordance with this proposal, the preliminary ruling application would be examined by the Uniformity Complaint Panel, chaired by the President or the Vice-President of the Curia, in the interests of legal unity. The Council is composed of the President and 40 other judges: the Vice-Presidents, the Secretary-General, the Heads of Chambers, the Deputy Heads of Chambers and the Presidents of Chambers. The Bszi. allows, and the Rules of Procedure of the Curia accordingly provide, for the Uniformity Complaint Panel to be composed of two sub-panels (I and II), consisting of 20-20 judges in addition to the President. All the Curia's jurisdictional panels are equally represented in the sub-panels, and are allocated to I or II according to a fixed alphabetical order. Cases are automatically allocated on a rotating basis, with odd-numbered cases being allocated to Sub-Panel I and even-numbered cases to Sub-Panel II (Act on OAC § 41/A (1) paragraph).

If the motion is not submitted by the Prosecutor General and has not been rejected by the Complaints Panel or the President of the Panel, the President of the Uniformity Complaint Panel shall send the motion, together with the court decisions to which the motion relates, to the Prosecutor General. The Prosecutor General shall send his statement to the Curia within fifteen days of the

date of service of the petition. If the procedure has been initiated by the panel of the Curia, the motion shall be sent to the parties to the proceedings on which it is based, or to the accused and defence counsel, who may make a statement within 15 days of service of the motion.

The President of the Complaint Panel shall then set a date for the meeting, of which the members of the Panel and those entitled to attend by law shall be notified. At the meeting of the Panel, the petitioner, the Prosecutor General and ad hoc invitees shall be heard. The person of the ad hoc guest may be proposed by the petitioner or by a member of the Panel, the invitation being decided by the President of the Panel.

After the speeches have been made, the President of the Uniformity Complaint Panel shall adjourn the meeting, followed by the deliberations, which may be attended by the members of the Panel and the court reporter (Act on OAC § 37-38.).

A decision on the merits of the application may result in an uniformity decision or in an order not to adjudicate. The latter may be issued if the Panel has not considered it justified to issue a ruling on the question referred.

3.4. The Outcome of the Uniformity Procedure: The Uniformity Decision

If the Panel adopts an uniformity decision, the reasons for the decision shall state who brought the application, what the application was directed at and which court decisions are concerned. It shall set out the arguments and, where necessary, the substance of the facts established in the decisions of the courts or tribunals to which the application relates and shall state the reasons for the guidance given in the operative part.

A particular feature of an uniformity decision is that it does not extend to the parties unless an exception is made by law (Act on OAC § 41.). The literature further clarifies this picture, arguing that since uniformity decisions are also applied in pending proceedings, they necessarily affect citizens. And if a uniformity procedure has been initiated by the Council of the Curia, the Curia suspends the pending proceedings at the same time as it initiates them, so it is clear that the parties to the case are affected. This is all the more so since, once the uniformity procedure has been completed, it can only rule on the case in accordance with the uniformity decision (Villám, 2017, p. 232).

This is in line with the provision of the Criminal Procedure Act (Act XC of 2017, § 670 (3) paragraph), which states that only a change "favourable" to the accused may occur on the basis of the decision of the court of law: the acquittal of the accused, the termination of the proceedings, and if the accused is in custody, the termination of the detention. In the criminal field, the law expressly provides that an uniformity decision may also have an impact on other cases pending before the Curia, which will suspend the latter extraordinary appeal procedure until the uniformity decision is taken (Act XC of 2017, § 670 (2) paragraph).

The latter is due to the fact that the uniformity decision is binding on all Hungarian courts after its publication in the Official Gazette. The question may arise as to how long this binding force lasts, whether there is a time limit or other procedural limit.

The "limit" of binding force may be, on the one hand, if the Curia itself finds that the uniformity decision has become obsolete and can annul it as a result of a new uniformity procedure. On the

other hand, since an uniformity decision can be considered as a normative instrument (Varga, 2004, p. 333; Varga, 2020, p. 81), an uniformity decision can be challenged before the Constitutional Court if it violates a fundamental right. This may also be explained by the view that the uniformity decision is a "quasi-legislation" which cannot detract from the content of the actual legislation. "It must remain within the framework of the actual law, it may elaborate on it, interpret it, and in this context, it may lay down new legal rules, but it cannot contradict it" (Veress, 2021, p. 263).

The Constitutional Court does not examine and interpret the content of the uniformity decision (since this is a normal judicial task) but subjects it to constitutionality review in a post-judicial review procedure. It carries out this examination on a case-by-case basis and focuses on whether the interpretation of the law has drifted away from the interpreted rule of law. If it finds this to be the case, it can annul the uniformity decision, because the Curia has "made law". The Constitutional Court has explained that the fact that the Curia, in exercising its unifying function, issues an uniformity decision does not in itself conflict with the constitutional principle of separation of powers, but on the contrary: "If the statutory conditions for the unification of the law are met, but the Curia does not exercise its unifying function and does not issue a decision on the unity of the law in justified cases, it could be argued that the supreme judicial forum is not fulfilling its function under the Fundamental Law." (Decision of the Constitutional Court 11/2015 (14 May 2015)).

4. CONCLUSION

The above shows that one of the most important uniformity instruments is the uniformity decision, as evidenced by its special characteristic of being binding on the courts. The Curia does not, however, violate the separation of powers, since it fills in the gaps that the legislator necessarily fills by interpreting the content of the norm, and does not itself create law. There are several ways of determining which questions require a uniform decision on the basis: on the one hand, the lower courts may indicate to the petitioners specified in the law, and on the other hand, the case-law analysis group of the Curia may identify questions where an uniformity decision is required. Thirdly, the operation of the limited precedent system brings this to light on many issues, since the acting Council of the Curia can only depart from a previous decision of the Curia by initiating a uniformity procedure. The substantive or procedural question on which the Curia decides to rule on a point of law is always a matter of practice, and the Curia responds to the needs of the practice. In this way, it fulfils its duty under the Fundamental Law to ensure the unity of the courts in the application of the law.

References

Balássy, Á. M. (2020). A legfelsőbb bírói fórum jogegységesítési kötelezettsége, *Magyar jog 67* (11), 656-662.

CDL-AD(2021)036-e, Hungary - Opinion on the amendments to the Act on the organisation and administration of the Courts and the Act on the legal status and remuneration of judges adopted by the Hungarian parliament in December 2020, adopted by the Venice Commission at its 128th Plenary Session (Venice and online, 15-16 October 2021)

Criminal Procedure Act (Act XC of 2017)

Curia Jpe.II.60.034/2024/3.

Decision of the Constitutional Court 11/2015 (14 May 2015)

Explanatory Memorandum to Act CXXXIV of 2021

Ficsor, K., & Patyi, A. (2022). A jogegységi panasz eljárás mint a jogegység biztosításának eszköze a Kúria gyakorlatában, *Kúriai Döntések-Bírósági Határozatok 70* (8), 1311-1320.

Kőrös, A., & Wellmann, Gy. (2011). Javaslatok a jogegység biztosítása fórum- és eszközrendszerének az átalakítására, *Magyar Jog 58* (5), 257-265.
Osztovits, A. (2020). Törvénymódosítás a bírósági joggyakorlat egységesítése érdekében – jó irányba tett rossz lépés?, *Magyar jog 67* (2), 72-80.
Varga, Zs. A. (2004). A jogegységi határozatok és az Alkotmány rendje, *Magyar jog 51* (6), 333-338.
Varga, Zs. A. (2020). Tíz gondolat a jogegységről és a precedenshatásról, *Magyar jog 67* (2), 81-87.
Veress, E. (2021). Megjegyzések a „korlátozott precedensrendszerről": adalékok egy aktuális vita hátteréhez, In Kruzslicz, P & Sulyok, M. & Szalai, A. (Eds) Liber Amicorum László Trócsányi, Tanulmánykötet Trócsányi László 65. születésnapja alkalmából, Szeged, 261-275.
Villám, K. (2017). A jogegységi határozatok jogi jellegének alkotmányossági problémái, *Magyar Jog 64* (4), 225-239.

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Sustainable Food Consumption in EU Law Perspective

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Abstract: *In the EU, the concept of the sustainable consumer has been present in the public sphere for some time. The concept has been concerned with the consumer in general but provides a good basis for developing the concept of the sustainable food consumer. The need to increase the availability of sustainable food and the need to empower consumers so that they can make informed, healthy, and sustainable food choices may prove to be a key element and glue linking health, agricultural, and environmental aspects. Sustainable food consumption is expected to take into account environmental aspects, as the food production cycle is very significantly responsible for greenhouse gas emissions and pollutants entering the soil and air.*

1. INTRODUCTION

As the global population continues to grow, the demand for food has intensified, leading to significant environmental and health challenges. In response, the EU has recognized sustainable food consumption as a critical component of its broader environmental and public health agendas. Globally, there are large differences in how (un-)sustainable and (un-)healthy diets are, with the largest burden on the planet coming from food consumption in high-income countries, such as those in the EU. This article investigates how EU law and policy are shaping practices related to sustainable food consumption, emphasizing legislative measures, stakeholder engagement, and the integration of sustainability criteria into the food supply chain. The role of the law is to identify solutions that have a real chance of bringing us closer to achieving these goals. It is necessary to involve all actors of the international community: states, international organisations, NGOs, entrepreneurs, and, above all, consumers themselves. The aim of this article will be to analyse and evaluate the legal and policy instruments that are conducive to building the concept of a sustainable food consumer in the EU.

2. CONSUMER IN EU

The European Union has a model of the so-called average consumer, who is characterized as an informed, attentive, and rational person. An individual in possession of certain information has the power to use it for making purchases. The concept of the average consumer has been forged in the case law of the Court of Justice of the European Union, as the example cases C 470/93 and case C 239/02 might be indicated. In the EU legal framework, the consumer is portrayed as an informed individual who utilizes the information provided to make educated decisions and trusts in their ability to assess products and services with reason and caution (Kunkiel-Kryńska, 2012, p. 54). In free movement regulation, the average consumer is considered reasonably circumspect. National legislation offering higher protection is often seen as creating unjustified trade barriers. On the other hand, consumer contract law directives aim for greater consumer protection than free movements

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regulation allows (Mak, 2011, pp. 25-42). The prevailing interpretation of the average consumer, in both EU consumer protection laws and ECJ case law, assumes that increasing information availability and ensuring transparency will enable consumers to make rational decisions and eliminate any perceived 'weakness' solely through information provision. This standard has been criticized by academia and civil society as unrealistically demanding, overly simplified, and generally, a legal fiction far removed from the actual behaviour of the individual consumer (Szilágyi, 2022).

One particular segment among consumers that requires special attention are food consumers. Food regulations indicate a certain duality in the perception of the consumer. A consumer can be someone who purchases food or someone who consumes food. While it may be the same person at times, it is not always the case. Furthermore, there are special food consumer groups: children, diabetics, and elderly people. The consumer behaviour model highlights three types of consumers. The first group consists of indifferent consumers who do not pay attention to their food choices. The second group comprises engaged consumers who actively consider the information on product labels. The third group, known as practical consumers, prioritize factors such as price, product availability, and the quality-to-price ratio.

Undoubtedly, an interesting group of consumers who can be counted among the conscious ones are those who decide to buy organic food. There is a continuous increase in consumer interest in products that come from organic production. In the literature on the subject, it is common to use the concept of the "greening of consumption", which, among other things, means 'adopting an attitude towards the world that is expressed by behaviour in the sphere of consumption that is consistent with the principles of environmental protection (Mazurek-Łopacińska & Sobocińska, 2009, p. 105). The greening of consumption is most often identified with positive consumer attitudes towards the environment and growing environmental awareness. This trend is most often considered as a consequence of high consumer competence and is associated with taking into account environmental impact in purchasing decisions (Dąbrowska et al., 2015, p. 54).

However, when it comes to the average food consumer, the purchasing decisions are not preceded by in-depth analysis (Wojciechowski, 2019, p. 96). When buying food, consumers often make quick decisions based on limited label information. On the other hand the increasing availability of food information, consumers often struggle to understand the information due to its overabundance (Leible, 2010, p. 318). It's increasingly challenging to directly apply the model of the average consumer when it comes to food consumption. Despite being well-informed, consumers often face an overwhelming amount of information and struggle to make rational decisions, particularly when it comes to foods linked to their health and environmental issues. Currently, in the EU, we are witnessing activities that have the potential to contribute to a shift towards a more sustainable model.

3. EU'S POLICY

The CAP is one of the oldest and most significant policies in the EU, aimed at supporting farmers, ensuring a stable food supply, and promoting rural development. The most recent reforms of the CAP focus on sustainability by incorporating green payments and eco-schemes that incentivize environmentally friendly farming practices. The CAP's orientation towards sustainability is evident in its efforts to promote organic farming, reduce pesticide use, and improve biodiversity.

In December 2019, the European Commission introduced the European Green Deal, a comprehensive roadmap to make the EU economy sustainable. The deal places special emphasis on

transforming the food system, aiming to reduce greenhouse gas emissions and promote healthy diets. It sets ambitious targets, including a reduction of pesticide use by 50% and a commitment to achieve at least 25% of agricultural land under organic farming by 2030. Launched as part of the European Green Deal, the Farm to Fork Strategy seeks to create a fair, healthy, and environmentally-friendly food system. The formulation of a comprehensive food policy in Europe marked a significant milestone for F2F.

The strategy encompasses seven areas of focus, all centered around the principle of sustainability. Proposed modifications will impact the food chain, food production, food industry practices, and consumer behaviour. This strategy includes measures to promote sustainable food consumption, such as nutritional guidelines and initiatives to encourage local and sustainable sourcing. It also emphasizes the importance of reducing food waste and improving labelling practices to help consumers make informed choices. The flagship initiative under the F2F strategy is/was an entirely novel Framework for a Sustainable Food System (FSFS). The anticipated 'Sustainable Food Systems Framework', originally slated for release in 2023, aims to offer crucial legal guidance for the direction of the food system. It seeks to promote sustainable diets through measures such as public procurement rules and labelling, while also fostering better coordination between national and EU-level food policies. Events like geopolitical unrest, farmers' protests, and changes in EU institutions related to the EP elections have halted progress on implementing the strategy's assumptions. While the F2F strategy is still officially in place, it seems that its final form will deviate from the original plan. We are left to look at the mechanisms that are already in force.

4. EU'S LAW

First of all, it is important to mention the General Food Law Regulation 178/2002 (European Parliament & Council of the European Union, 2002), which is the foundation of food and feed law, providing a framework for developing regulations at the Union and national levels. It establishes principles, requirements, and procedures for decision-making regarding food and feed safety throughout production and distribution. The regulation's primary goal is to ensure a high level of protection for human health and consumers' interests regarding food. Unfortunately, the EU Food Regulation did not take into account the environmental aspects of food products (Zidianaki, 2013, p. 113), and in this respect did not make a huge step in building the concept of sustainable food consumption in the EU. Since the implementation of this legislation, there have been numerous grassroots efforts that have played a role in shaping the idea of the eco-conscious food consumer in the European Union. These initiatives originally sprang from the grassroots but have evolved into formal EU initiatives and suggestions over time.

Already in 2008, when the Commission adopted a communication on the sustainable consumption action plan the importance of increasing the environmental efficacy of products, raising consumer awareness, and boosting demand for sustainable products was emphasized (European Commission, 2008). Sustainable consumption aims to maximize product effectiveness and efficiency while satisfying current needs without compromising the capacity of future generations. It takes a holistic approach to minimize the impact of social systems of production and consumption on the environment. Although the communication did not specifically mention sustainable food consumption, it did look at an integrated approach to promoting ecological and energy-efficient products. Therefore, we can consider that the recommended instruments in communication, such as incentives, procurement, and simplified labelling methods, could also be applied successfully in the area of food products.

Two significant activities have arisen as a result of the communication. Private or public entities, as well as non-governmental agencies, may enter into voluntary agreements, which rely on mutual trust. The Retail Forum, established in 2009, serves as a platform for exchanging best practices in sustainable consumption and production. The Retailers' Environmental Action Plan was established as a collaborative initiative between EuroCommerce, ERRT, retailers, and the European Commission. The primary goal of this voluntary project was to decrease environmental impacts in the retail sector and its supply chain, encourage the use of more sustainable products and provide consumers with improved product information (Barling et al., 2019). However, this solution is applied to all products, inadvertently harming food products. Another notable initiative is the European Roundtable on Sustainable Consumption and Production (ERSCP) Society, which focuses on sustainable consumption and production and brings together various entities in the food delivery chain, providing a forum for collaborative dialogue where guidelines take shape.

One essential instrument for influencing sustainable consumption is the use of labelling systems for products. The idea of sustainable food consumption is promoted through product labelling and voluntary agreements. Sustainability and food labelling initiatives aim to provide consumers with the information necessary to make conscious food choices. The introduction of the EU Ecolabel allows consumers to identify products that contribute to sustainability goals. The EU Ecolabel logo, introduced in 1992, has become synonymous with high-quality products that adhere to rigorous environmental standards. Products and services bearing the distinctive "EU flower" symbol are certified to meet all relevant criteria. These labelling systems promote transparency and support sustainable consumption patterns within the EU Regulation (EU) 2018/848 (European Parliament & Council of the European Union, 2018) on organic production and labelling of organic products aims to enhance consumer confidence in organic products while promoting sustainable agricultural practices. This regulation aligns with the EU's broader sustainability goals and ensures that organic food consumption is transparently regulated, thus fostering a market for sustainable options.

Undoubtedly, the recently adopted directive, commonly referred to as the Greenwashing Directive, stands out from the voluntary initiatives and solutions proposed under soft law acts. On 6 March 2024, Directive (EU) 2024/825 to empower consumers in the green transition through better protection against unfair practices and better information, was published (European Parliament & Council of the European Union, 2024). The main objective of the Directive is to safeguard consumers by prohibiting deceptive market practices. This is particularly relevant in cases involving greenwashing, misleading environmental claims, and unclear sustainability labelling. The directive will not only significantly impact the food industry but will also affect other sectors, aiming to curtail practices such as premature obsolescence of products and provide clarity on warranty terms.

Moreover, the Directive includes several crucial definitions that are essential for its effective application. First of all the issue of environmental claim is defined. "Environmental claim" refers to any commercial communication that implies a positive or no impact on the environment, promotes being less harmful to the environment, or suggests an improved environmental impact over time. "Sustainability label" refers to any voluntary symbol of trust, such as a quality mark, that aims to differentiate and endorse a product, process, or activity based on its environmental or social attributes. This label is not obligatory under EU or national law. Directive also defines a certification system as a third-party verification process that confirms whether a trader's product, process, or activity fulfils specific criteria. This verification allows the use of an appropriate sustainability label. The conditions of this system, including its requirements, are publicly accessible and must meet specific standards.

It is worth taking a look at how the Directive expanded the list of unfair commercial practices. Newly added practices include: using a sustainability label without proper certification or public authority backing; making misleading environmental claims about products or business activities; and imposing excessive requirements on products beyond legal mandates. The enacted legislation aims to protect consumers, hasten the green transition, and empower consumers to make informed purchasing decisions, thus promoting more sustainable consumption patterns. This guideline represents a significant move in promoting environmental consciousness and accountability among both producers and consumers, with the goal of fostering a market that is more sustainable and transparent.

5. CONCLUSION

Although substantial progress has been made, there are still various challenges impeding the full achievement of sustainable food consumption in the EU. These challenges stem from the diversity among Member States, encompassing differences in agricultural practices, economic capacities, and consumer behaviours. These differences complicate the consistent implementation of sustainable practices across the EU. Economic pressures often force farmers and producers to prioritize profitability over sustainability, requiring a careful balance between the two. Even as regulatory frameworks continue to develop, consumer awareness of the benefits of sustainable food consumption varies.

Sustainable food consumption is an essential aspect of the EU's environmental and health objectives. Through a robust legal framework that includes the CAP, the European Green Deal, and the Farm to Fork Strategy, the EU is actively promoting sustainable food practices (European Commission, 2020). However, to overcome existing challenges, concerted efforts must be made to enhance education, provide economic support, and foster stakeholder collaboration. As the EU continues to lead in sustainable food policies, it plays a pivotal role in setting an example for global efforts towards a more sustainable food system.

However, the complexity of the food system and the mutual relationships between its numerous actors means that the challenges associated with this transition cannot be viewed in isolation; a systemic, multi-level approach that considers economic, social, environmental, cultural and, in particular, behavioural aspects is necessary (European Commission, 2022). In the SAPEA Evidence Review Report (ERR) 'Towards sustainable food consumption' (European Commission, 2023), the comprehensive report was crafted by a team of independent, global, and interdisciplinary experts who rigorously analyzed the scientific evidence concerning sustainable and healthful food consumption. As you can read in the report: "Transitioning to sustainable and healthy food consumption patterns involves adopting new practices that balance sustainability and health, considering external factors such as the physical availability of food, its price, the infrastructure and information environment, and the social context, as well as individual factors such affordability, accessibility, convenience, and desirability. Barriers to this transition exist at the individual level such as the lack of motivation and personal capabilities but also the contextual level with a lack of physical, financial, and social opportunities to acquire healthier and more sustainable foods." (European Commission, 2023, p. 23).

Up to this point, the primary policy focus in the EU has been on providing consumers with more information. However, this approach is insufficient. People choose food not only through rational reflection but also based on various other factors including food availability, habits and routines, emotional and impulsive reactions, as well as their financial and social situation. The EU has

primarily emphasized providing consumers with more information, but experts believe that this approach is insufficient. Consumer food choices are influenced by multiple factors. In order to promote sustainable, healthy food as a convenient and affordable option, policies need to alleviate the burden on consumers and tackle the entire food environment, encompassing all aspects of food access, consumption, and discourse.

References

Barling, D., Sharpe, R., Gresham, J., & Mylona, K. (2019). Characterisation framework of key policy, regulatory and governance dynamics and impacts upon European food value chains: Fairer trading practices, food integrity, and sustainability collaborations. VALUMICS project "Understanding Food Value Chains and Network Dynamics" funded by EU Horizon 2020 G.A. No 727243. Deliverable D3.3. https://doi.org/10.5281/zenodo.3458159

Dąbrowska, A., Bylok, F., Janoś-Kresło, M., Kiełczewski, D., & Ozimek, I. (2015). Consumer competences. Innovative behaviour. Sustainable consumption. Warsaw.

European Commission. (2008). Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on the Sustainable Consumption and Production and Sustainable Industrial Policy Action Plan {SEC(2008) 2110} {SEC(2008) 2111}. COM/2008/0397 final.

European Commission. (2020). Communications from the Commission, A Farm to Fork Strategy, for a fair, healthy and environmentally-friendly food system. COM(2020) 381 final.

European Commission. (2022). European Commission's Group of Chief Scientific Advisors. Scoping paper: Towards sustainable food consumption. Scoping-paper_sustainable-food-consumption.pdf (europa.eu).

European Commission. (2023). Directorate-General for Research and Innovation & Group of Chief Scientific Advisors. Towards sustainable food consumption – Promoting healthy, affordable and sustainable food consumption choices. Publications Office of the European Union. https://data.europa.eu/doi/10.2777/29369

European Parliament & Council of the European Union. (2002). Regulation (EC) No 178/2002 of the European Parliament and of the Council of 28 January 2002 laying down the general principles and requirements of food law, establishing the European Food Safety Authority and laying down procedures in matters of food safety. Official Journal, L 031, 01/02/2002, P. 0001 - 0024.

European Parliament & Council of the European Union. (2018). Regulation (EU) 2018/848 of the European Parliament and of the Council of 30 May 2018 on organic production and labelling of organic products and repealing Council Regulation (EC) No 834/2007. PE/62/2017/REV/1.

European Parliament & Council of the European Union. (2024). Directive (EU) 2024/825 of the European Parliament and of the Council of 28 February 2024 amending Directives 2005/29/EC and 2011/83/EU as regards empowering consumers for the green transition through better protection against unfair practices and through better information. Official Journal L, 2024/825, 6.3.2024, ELI.

Kunkiel-Kryńska, A. (2012). Prawo konsumenckie-wzorzec konsumenta-wprowadzenie i wyrok TS z 6.07.1995 w sprawie C-470/93. Europejski Przegląd Sądowy, 2012(4).

Leible, S. (2010). Consumer information beyond food law. European Food and Feed Law Review, 2010(6).

Mak, V. (2011). Standards of protection: In search of the 'average consumer' of EU law in the proposal for a consumer rights directive. European Review of Private Law. https://doi.org/10.54648/ERPL2011003

Mazurek-Łopacińska, K., & Sobocińska, M. (2009). Ecological plane of social responsibility of enterprises. In T. Borys & B. Fiedor (Eds.), Economy and the environment. Wrocław.
Szilágyi, D. (2022). Empowering consumers: Towards a broader interpretation of the vulnerable consumer concept in the European Union. Hungarian Journal of Legal Studies.
Wojciechowski, P. (2019). Konsument żywności, FoodLex 4/2019.
Zidianaki, M. (2013). Sustainable food consumption in the EU: Filling the gaps of the legal framework. *European Food and Feed Law Review, 2013*(8).

https://doi.org/10.31410/ERAZ.2024.733

The Right to Water – An Interdisciplinary Analysis

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Abstract: *Nowadays, mankind is faced with situations that lead public authorities to take decisions to protect the population, ensuring its right to water, but they must observe the legality and the rule of law, so as to achieve the necessary balance between the public interest and the interest of private individuals. Increasingly frequent extreme events around the globe are disrupting nature and affecting water and life on Earth: drought, vegetation fires, over-irrigation, floods, pollution or even war. The author estimates that the issue of water scarcity will be high on the agenda of all the world's governments and that solutions must be found at the international level to ensure drinking water for the population while limiting water wastage, measures that will urgently lead to the conservation of existing water resources. To avoid restricting daily water consumption, people need to behave more responsibly with water and value it. The objective of the paper is to analyze water from an interdisciplinary perspective, seen as a human right in international acts and to study the doctrine and applicable legislation in order to learn more about the regulation of the right to water. In this background, the theme is topical and has general practical applicability, of interest to everyone, people and authorities, in any geographical area of the Earth, because water has no nationality, and is consumed daily by everyone.*

1. INTRODUCTION

The paper aims to analyze the right to water in the context of global warming, highlighting the current challenges for drinking water. Nowadays, climate change, which has led to irreversible changes for man and nature, is prompting public authorities to draw up public policy plans that include a firm guarantee of the right to water. The rule of law prevails in any constitutional state, in whatever field the authorities decide, as it is a social imperative. Due to the fact that drinking water is essential for life, all issues related to it must be permanently on the agenda of the public authorities. The purpose of the paper is to reveal as much knowledge as possible about the right to water in such a way that it becomes useful to researchers who want to be informed and to know about the existence of other countries facing water resource depletion.

The research questions to be answered in the paper are the following:
1) What are the main international legal acts governing the right to water?
2) What could be done to reduce water wastage?
3) What are the current problems and challenges faced by public authorities in Romania regarding water distribution?

The paper has a practical, interdisciplinary nature, starting from administrative law and highlighting useful information about the challenges in the water sector, based on public documents. For the practical part, we took into account the Releases of the National Institute of Statistics on water distribution in Romania over a chosen reference period of five years. Methodologically, through

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the way of structuring the information and the selection made, taking into account the criterion of relevance, the paper aims to carry out scientific research the results of which may inspire the scientific community to identify new ways of understanding water as a human right, through the experience revealed by the specialized literature of comparative law. In terms of the data collected, the paper is topical and important, and the subject is of public interest, as it combines different views of researchers from different continents and feels the pulse of the international legislation, revealing current legislation applicable to the right to water and the trends. Furthermore, this article may inspire legislators in different countries of the world to consider the constitutional regulation of the right to water and the development of best practices in this field, adapted to the needs of citizens today. Using specific legal research methods, the paper will emphasize the conclusion that it is in the public interest to protect water, so that it is imperative to observe the law, the decisions of the authorities and the responsibility for water wastage in general.

2. LITERATURE REVIEW - ACADEMIC DEBATES

The literature review on the right to water was carried out by accessing several databases, using the exploratory method and the computerized method, with sources in English or French. In general, the issue of the right to water has been perceived by the doctrine as interdisciplinary in nature. In this respect, some authors have argued that, given the interdisciplinary nature of this topic, the multi- and interdisciplinary nature of the research on this topic, intersecting with academic fields such as law, political science, health, engineering, sociology, environmental studies, and geography, to name a few, can make it challenging for scholars to "keep up" with the diverse array of trends and findings in extant literature (Faulkner et al., 2021). The number of works investigating the human right to water and sanitation has increased exponentially, with almost 75% of articles (...) published in the last decade (2010-2020) (Faulkner et al., 2021). Another author points out the types of debates in the literature that have taken place over time on the right to water. In spite its official recognition by the United Nations in 2010 (Fantini, 2019), the human right to water remains a contested notion as illustrated by three main debates: a.) the definition of its scope, content, and indicators to monitor its implementation; b.) the conceptual appropriateness and effectiveness of the human rights approach in countering water services privatization; c.) the call for decentering the western (...) individualistic approach of the human right to water.

Worldwide countries face challenges to restore and preserve water resources (Wuijts et al., 2021). Access to safe and affordable drinking water, sanitation and hygiene (WASH) for all is needed to safeguard human health, high on societal and political agendas (Anthonj et al., 2024). According to Di Marco (2023), the current global water crisis is seriously challenging water management, requiring an extensive sweeping adaptation for consumption and production patterns. Other studies look at the human right to water in terms of the quality standards that water must meet in order to be fit for human consumption. For example, availability and accessibility are some of the components that constitute a complete cycle of the right to water. Furthermore, it is stated that the water quality monitoring system (...) was established to prevent water pollution and control the total amount of major pollutants in China's large water systems and to meet the environmental management needs of water pollution prevention and control across provincial boundaries (Qui et al., 2021).

There are also concerns about ensuring the right to water for the poor. In this respect, the right to water of the urban poor, especially the slum women, would be greatly impacted by the potential climate change (Kashem et al., 2023). In Latin America (Giuponni & Pazz, 2015), while water resources are plentiful (the region is estimated to have 35% of the world's freshwater resources), a

significant percentage of the population has no access to safe water and sanitation (...). In Brazil, international instruments are an important source in the construction of the right to water by courts in other Latin American countries (Cortes & Cortes, 2021). The Brazilian Federal Supreme Court (...) has not issued any ruling establishing the right to water, but there is a legal mobilization aimed at doing so and using UN resolutions as a key argument (Cortes & Cortes, 2021). The authors build this study on the non-existence of an express regulation of the right to water in the Constitution It is also considered that the constitutional adoption of the human right to water is conditioned by the existence of the rule of law and civil society participation (...), demographic and economic factors also matter, and require the attention of those who wish to promote the fulfillment of the right to water (Schiel et al., 2020).

3. SEVERAL NATIONAL LEGAL REFERENCES ON WATER QUALITY

Human rights are, broadly speaking, universal legal guarantees, regulated and protected at the international level through documents. Naturally, human rights are enshrined in the Fundamental Laws in any constitutional state where the rule of law is the basic pillar of the normative edifice. Furthermore, human rights are considered fundamental values of the European Union, indivisible and universal values of human dignity, freedom, equality and solidarity (Charter of Fundamental Rights of the European Union, 2012). Unlike the Slovenian Constitution, which expressly enshrines the right to drinking water, the Romanian Constitution does not provide for this, but at the national level, water is considered an exclusive object of public property, according to the law (Ștefan, 2023). From the documentation carried out, it appears that South Africa expressly regulates the right of everyone to have access to sufficient food and water [The Constitution of South Africa, art. 27 para. (1) letter b)].

The national legislation applicable to drinking water includes Government Ordinance no.7/2023 (Government of Romania, 2023) on the quality of water intended for human consumption. This recent normative act transposed the European legislation on the quality of water intended for human consumption. Then, Law no. 241/2006 on the water supply and sanitation service establishes the unitary legal framework for the establishment, organization, management, financing, operation, exploitation, monitoring and control of the regulated provision of public water supply and sewerage services to localities [art.1 para. (1)]. According to the law, the public water supply and sewerage service is part of the community public services of public interest [art. 1 para (3)]. Specialized literature has considered that public services are undoubtedly a pillar of society (Cliza, 2023). Furthermore, Water Law No. 107/1996 lays down clear obligations for the central public water authorities to prevent the deterioration of the surface water and groundwater bodies. Water in the public domain is entrusted for administration to "Apele Române" National Administration by the central public water authority [Water Law, art. 4 para. (2)]. Romania is part of the international Danube River Basin. Water management is carried out on the principle of human solidarity and common interest, through close collaboration and cooperation at all levels of public administration, water users, representatives of local communities and the population, in order to maximize social benefits [Water Law, art.6 para. (2)].

4. THE RIGHT TO WATER IN INTERNATIONAL INSTRUMENTS

This section will selectively introduce pieces of information on international documents governing the right to water. In the form of human rights (Tomescu, 2013), the fundamental rights of citizens, unlike other rights, are also enshrined in many international documents such as the Universal

Declaration of Human Rights and the two International Covenants on Human Rights of 1966 adopted by the UN General Assembly. According to public information, United Nations General Assembly Resolution 64/292 of 28 July 2010 recognizes the human right to safe drinking water and sanitation: which is essential for the full enjoyment of life and all human rights (United Nations, 2010). Access to safe drinking water and sanitation are internationally recognized human rights derived from the right to an adequate standard of living under art. 11 para. (1) of the International Covenant on Economic, Social and Cultural Rights (United Nations, 2010).

Chronologically speaking "*Right2Water*" is the first European citizens' initiative to have met the requirements set out in the Regulation of the European Parliament and of the Council on the Citizens' Initiative, formally presented to the Commission on 20 December 2013, after receiving the support of 1.6 million citizens (Ștefan, 2023). The right of children to enjoy water has been internationally recognized through the 1989 UN Convention on the Rights of the Child (United Nations, 1989). The States Parties recognize the *right of the child* to the enjoyment of the highest attainable standard of health and to benefit from medical and rehabilitation services. States Parties shall pursue full implementation of this right and, in particular, shall take appropriate measures (...): c.) To combat disease and malnutrition (...), through, inter alia, (...) the *provision of adequate nutritious foods and clean drinking-water* (...) [art. 24 para. (2) letter c.)]. According to Recommendation Rec (2001)14 (Council of Europe, 2001) of the Committee of Ministers to member states on the European Charter on Water Resources everyone has the right to a sufficient quantity of water for his or her basic needs (...). The European Parliament Resolution of 5 October 2022 on access to water as a human right – external dimension, reaffirms *the right to drinking water* and sanitation as a *human right*, both rights being complementary (...) and highlights the fact that the right to water is a fundamental precondition for the enjoyment of other rights, and as such must be guided by a logic grounded in the public interest, and common public and global goods (European Parliament, 2021).

Currently, the legal framework applicable to the topic under analysis indicates Directive (EU) 2020/2184 of the European Parliament and of the Council of 16 December 2020 on the quality of water intended for human consumption, which develops the legal regime for water by describing the qualitative characteristics of water that make it drinkable (wholesome and clean). The Directive does not apply to natural mineral waters or waters which are medicinal products. Finally, we note that the United Nations General Assembly adopted the Resolution of November 25, 2016, proclaiming 2018-2028 as the International Decade for Action: "Water for Sustainable Development 2018-2028" (United Nations General Assembly, 2016).

5. CURRENT CHALLENGES IN PROVIDING DRINKING WATER TO PUBLIC AUTHORITIES

Along with other countries in the world, in the context of global warming, public authorities in Romania are also faced with difficult administrative decisions for the population, namely the potential restriction of access to water for a short period, with consumption taking place on a daily schedule. Therefore, this section analyzes the official situation on water distribution, based on the annual reporting of the National Institute of Statistics of Romania (hereinafter referred to as the "NIS"), the information being public (NIS, 2018-2022). A reference period of five years was chosen, namely 2018-2022, in order to be able to observe the current status and trends of drinking water supply in Romania. The motivation for choosing this documentation and compiling the statistics is based on the curiosity to know whether Romania is meeting the global goals set by

the 2030 Agenda for Sustainable Development (United Nations, 2015a). In this respect, Sustainable Development Goal No. 6 covers *Clean water and sanitation* - Ensuring the availability and sustainable management of water and sanitation for all (United Nations, 2015b). Only access to water is processed in the statistical table, in order to know how Romania ensures the right to water to its citizens, both at the normative level and at the practical, day-to-day level.

Table 1. Access to water in Romania

Year of NIS reporting	2018	2019	2020	2021	2022
Population connected to public water supply, (number of persons)	13,515,626	13,728,144	13,936,918	14,177,807	14,277,262
Population connected to the public water supply system in relation to the resident population of Romania, (%)	69.4%	70.9%	72.4%	74.1%	74.9%
Volume of distributed water (thousands of m^3)	1,152,732.1	1,235,362.0	1,774,960.3	1,397,370.2	1,937,909
Water distribution to the population	44.9%	43.4%	33.8%	40.8%	31.7%
Water distribution to agriculture and fish farming	32.8%	35.8%	49.3%	42.0%	54.3 %
Water distribution to industry and construction	13.9%	13.3%	11.7%	11.0%	8.7%
Water distribution to other consumers	8.4%	7.5%	5.2%	6.2%	5.3%

Source: Own research

In 2018, 10,342,627 people were connected to the public water supply system in urban areas, representing 98.7% of the urban resident population and 3,172,999 people in rural areas, representing 35.3% of the country's rural resident population (NIS, 2018-2022). From a statistical and comparative point of view, with regard to the number of people connected to the public water supply system, it is clear that there is an increase from year to year. For example, the increase is evident, comparing 2018 when there were 13,515,626 people connected to the public water supply system with 2022 where 14,277,262 people were reported to be connected to the public water supply system. From this perspective, according to public information, it is noted that this increase was driven by "the connection of the population to the newly built water supply networks (NIS, 2018-2022). In 2020 there was a higher volume of water distributed than in previous years, namely 1,774,960.3 thousand m^3. However, in 2020 the largest amount of water was not distributed to the population (33.8%) but to agriculture and fish farming (49.8%). The trend continues after the pandemic, with an increase in water consumption in agriculture and fish farming (42.0%) in 2021 compared to population consumption (40.8%)). This trend of increasing consumption in agriculture and fish farming (54.3%) compared to population consumption (31.7%) continued in 2022.

6. FUTURE RESEARCH DIRECTIONS

The research results were limited by the impossibility of reviewing the specialized literature for a longer period, as the period 2019-2024 was considered, in order to bring the data closest to the present time. Therefore, the synthesis of knowledge in this area was limited in terms of time, although some relevant papers were considered. At the same time, the legislation included only one section, the national plan and several international documents, which cannot provide an overview of the overall normative framework on the right to water, and needs to be further developed. The analyzed topic is not exhausted, so we draw lines of future research that take into account an analysis of the Constitutions of all the countries of the world to reveal which of them have expressly regulated the right to water, given that only the Slovenian and South African Constitutions have been mentioned. The next step will be to document water management globally, in order to know whether the public or the private sector is involved in this area.

In relation to 2030 Agenda for Sustainable Development and to the International Decade for Action: "Water for Sustainable Development 2018-2028", it is also important to monitor how countries are implementing international regulations, as it is important to know the level of connection to drinking water in other countries, not only in Romania. In this context, in future research, more detailed documentation will be carried out on potential restrictions on water consumption at the level of the states, caused by the effects of global warming, in order to be able to propose new regulatory guidelines to the legislator in this regard.

7. CONCLUSION

The research revealed information on the right to water from the perspective of the legislation, doctrine and applied plan. The research scope is considered to have been met, as the paper provides a synthesis of the current state of knowledge in the field and the research questions have been answered. Some conclusions that have emerged from the analysis are as follows. First, the paper provides a selective chronological overview of the domestic and international regulation of the right to water. It should be noted that on 28 July 2010, United Nations General Assembly Resolution 64/292 recognized the human right to drinking water and sanitation. Currently, Directive (EU) 2020/2184 of the European Parliament and of the Council of 16 December 2020 on the quality of water intended for human consumption sets the quality criteria for drinking water. Romania has fulfilled its obligations to transpose the European legislation in this field, namely Government Ordinance no.7/2023 on the quality of water intended for human consumption, but the national legislation also consists of other normative acts, such as the Water Law.

With regard to what could be done to reduce water wastage as well as to identify the current problems and challenges faced by public authorities in Romania with regard to the state of water, statistical processing was carried out using NIS public releases. For the chosen reference period 2018-2022 four issues emerged:

1) the heatwave led to an increase in drought and a concomitant decrease in the flow of water in the reservoirs and this was evident in 2020 when the volume of water distributed was 1,397,370.2 thousand m^3 and in 2022, when the volume of water distributed increased to 1,937,909 thousand m^3;
2) many localities are not connected to drinking water (yet);
3) there is a difference in water consumption between cities and villages. In villages the increase in consumption is also caused by the use of water for other purposes, such as agriculture;
4) as of 2020 water consumption in agriculture and fish farming increased compared to population.

Therefore, in order to avoid wasting water, people should use drinking water exclusively for personal consumption and not for other purposes. Furthermore, Compared to urban areas, in rural areas there is a tendency to waste water, with people using it for gardening, watering their yards, filling swimming pools, etc. Our country has not been unaffected by the effects of global warming either, a situation that is becoming increasingly alarming in terms of decreasing water resources, which is a real challenge for the authorities to ensure the right to water in these circumstances. Finally, although it cannot be said that mankind is currently in danger because there is water, however, the reduction of water reserves may soon jeopardize the exercise of the right to water by the population, so this situation can only be solved at institutional, normative level.

References

Anthonj, C., Stanglow, S. N., & Grunwald, N. (2024). Co-defining WASH (IN) Security challenges among people experiencing homelessness. A qualitative study on the Human Right to Water and Sanitation from Bonn, Germany, *Social Science & Medicine*, 342, 116561. https://doi.org/10.1016/j.socscimed.2024.116561

The Charter of Fundamental Rights of the European Union. (2012). https://eur-lex.europa.eu/legal-content/RO/TXT/PDF/?uri=CELEX:12012P/TXT

Cliza, M. C. (2023). Public services at the service of citizens - case study: cleaning services, *International Journal of Legal and Social Order, 3*(1), 49. https://doi.org/10.55516/ijlso.v3i1.130

The Constitution of South Africa. https://www.gov.za/documents/constitution/constitution-republic-south-africa-1996-04-feb-1997

Cortes, L., & Cortes, A. (2021). Right to Water and Courts in Brazil: How Do Brazilian Courts Rule When They Frame Water as a Right?, *Water, 13*(23), 3362. https://doi.org/10.3390/w13233362

Council of Europe. (2001). Recommendation Rec (2001)14 of the Committees of Ministers to member states on the European Charter on Water Resources. https://rm.coe.int/1680504d85

Di Marco, A. (2023). Water democracy under European Union Law: requiring participatory services management, *Utilities Policy, 84*. https://www.sciencedirect.com/science/article/abs/pii/S0957178723001601

Directive (EU) 2020/2184 of the European Parliament and of the Council of 16 December 2020 on the quality of water intended for human consumption, published in Official Journal of the European Union L 435/23.12.2020.

European Parliament. (2021). The protection of the EU's financial interests – combating fraud: Annual report 2020 (Procedure file 2021/2187(INI)). European Parliament Legislative Observatory. https://oeil.secure.europarl.europa.eu/oeil/en/procedure-file?reference=2021/2187(INI)

European Parliament Resolution of 5 October 2022 on access to water as a human right - the external dimension (2021/2187(INI)). https://eur-lex.europa.eu/legal-content/RO/TXT/PDF/?uri=CELEX:52022IP0346&from=EN

Fantini, E. (2019). An Introduction to the human right to water: Law, politics and beyond, *WIREsWater, 7*(2). https://doi.org/10.1002/wat2.1405

Faulkner, C. M., Lambert, J. E., Wilson, B. M., & Faulkner, M. S. (2021). The Human Right to Water and Sanitation: Using Natural Language Processing to Uncover Patterns in Academic Publishing, *Water, 13*(24), 3501. https://doi.org/10.3390/w13243501

Giuponni, M. B. O., & Pazz, M. C. (2015). The Implementation of The Human Right To Water in Argentina and Colombia, *Anuario Mexicano De Derecho International*, *15*(1), 223-352. https://www.elsevier.es/es-revista-anuario-mexicano-derecho-internacional-74-articulo-the-implementation-human-right-water-S1870465415000100

Government of Romania. (2023). Government Ordinance no. 7/2023 on the quality of water intended for human consumption, published in Official Journal no. 63 of 25 January 2023.

Kashem, S., Tahsin, N., Suban, Z., Murshed, S. B., Nowreen, S., & Shahjahan, M. (2023). Assessing the right to water of urban poor in Dhaka city, *GeoJournal, 88,* 3183-3204. https://doi.org/10.1007/s10708-022-10804-3

Law no. 241/2006 on the water supply and sewerage service, republished in Official Journal no. 679 of 7 September 2015.

National Institute of Statistics (NIS). (2018-2022). Releases on water distribution. https://insse.ro/cms/ro/tags/comunicat-distributia-apei

Qui, Q., Dai, L., Van Rijswick H.F.M.W., Tu, G. (2021). Improving the Water Quality Monitoring System in the Yangtze Basin - Legal Suggestion to the Implementation of the Yangtze River Protection Law, *Laws*, 10(2), 25, https://doi.org/10.3390/laws10020025

Schiel, R., Langford, M., & Wilson, B. M. (2020). Does it Matter: Constitutionalisation, Democratic Governance, and the Human Right to Water, *Water, 12(*2), 350. https://doi.org/10.3390/w12020350

Ștefan, E. E. (2023). Water, public good vital for humanity. *Athens Journal of Law*, *10*(2), 209-222. https://doi.org/10.30958/ajl.10-2-2

Tomescu, M. (2013). *Drepturile omului. Tendințe și orientări contemporane* (Human Rights. Current Trends and Orientations), Bucharest, Pro Universitaria Publishing House.

United Nations. (1989). The Convention on the Rights of the Child. https://www.ohchr.org/en/instruments-mechanisms/instruments/convention-rights-child

United Nations. (2010). Resolution adopted by the General Assembly on 28 July 2010, 64/292. The human right to water and sanitation. https://docs.un.org/en/A/RES/64/292

United Nations. (2015a). Resolution adopted by the General Assembly on 25 September 2015. Transforming our world: The 2030 Agenda for Sustainable Development. A/RES/70/1. https://sdgs.un.org/2030agenda

United Nations. (2015b). Sustainable Development Goals. https://sdgs.un.org/goals

United Nations. (2016). Resolution adopted by the General Assembly on 25 November 2016, The international decade for action "Water for Sustainable Development 2018-2028". A/RES/71/222.

United Nations General Assembly. (2016). International decade for action, "Water for Sustainable Development", 2018–2028 (A/RES/71/222). United Nations. https://docs.un.org/en/A/RES/71/222

Water Law no. 107/1996, published in Official Journal no. 244 of 8 October 1996.

Wuijts, S., Rijswick, H. F. M. W. V., & Driessen, P. P. J. (2021). Achieving European Water Quality Ambitions: Governance Conditions for More Effective Approaches at the Local-Regional Scale. *Sustainability, 13*(2), 681. https://doi.org/10.3390/su13020681

https://doi.org/10.31410/ERAZ.2024.741

The Right to Enjoy a Healthy Environment and the Deposit Return System in Romania

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Abstract: *The environment is protected by public international law although a general framework convention does not exist. We all have the right to enjoy a sound, quiet and healthy environment! It is not just a current slogan, very heard nowadays, but it is also a right, even though it is not expressly guaranteed by the European Convention on Human Rights, but also by other international instruments such as the European Social Charter. Nowadays we have to discover and explore how we can protect the environment by using human rights law.*

The main aim of this study is to increase the understanding of the relationship between the international protection of human rights under the European Convention on Human Rights and the environment, as well as to contribute to strengthening environmental protection at the national level.

Therefore, on one part, we will highlight the most relevant cases of the European Court on Human Rights on environment-related matters, and on the other part, we will inform the scientific community about how the deposit return system (DRS) is working in Romania after its launch on 30 November 2023. In our opinion, the DRS represents a huge step towards a more sustainable future for Romania, which will entail the right to enjoy a healthy environment.

1. INTRODUCTION

At the time of finalization of this study, the international community is gravely challenged by two international armed conflicts causing flagrant violations of public international law, with strong indications of serious human rights violations in Ukraine and Israel. In a modern world such as the one we live in, actions such as those happening in those territories only serve to drag us back from the path of normal and healthy social development, seriously violating both individual rights, such as the right to life, the right to freedom from torture and ill-treatment, the right to a healthy environment, the right to privacy, and collective rights, such as the right to development, the right to peace and the right to the common heritage of humanity.

Of all these rights, the right to enjoy a healthy environment has been discussed more and more in the last decades, considering that human rights have evolved due to globalization. We notice that the environment is being increasingly affected, the underdevelopment of certain regions is worsening, and great economic disparities are being created between people.

Given our interest in the European continent, our analysis will focus on the European Convention on Human Rights adopted within the Council of Europe and the case law of the European Court for Human Rights.

In order to maximize the rights and freedoms set out in the Convention and the protocols, the Strasbourg judges have found that their text must be interpreted dynamically, as it evolves with

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society. This method of interpretation ensures that the guaranteed rights are effective. This evolutive interpretation proves that the treaty text, in both its procedural and substantive parts, is "*a living instrument (...) which must be interpreted in the light of current conditions*"[2]. As a result of this method of interpretation, new rights such as the right to a healthy environment have been recognized, although they are not enshrined *in terminis* in the European Convention on Human Rights.

For this kind of interpretation, the Strasbourg Court identifies the standard of protection using the domestic law of the Member States and, at the international level, the case law of other international jurisdictions[3], practice[4] and standards created by other international bodies[5] or by the rules of other international organizations[6].

Analysing the case-law of the European Court of Human Rights, we can easily notice that the right to enjoy a healthy environment could be invoked together with Article 8 of the Convention - *Right to respect for private and family life*, which states that:

> "*1. Everyone has the right to respect for his private and family life, his home and his correspondence.*
>
> *2. There shall be no interference by a public authority with the exercise of this right except such as is in accordance with the law and is necessary in a democratic society in the interests of national security, public safety or the economic well-being of the country, for the prevention of disorder or crime, for the protection of health or morals, or the protection of the rights and freedoms of others.*"[7].

This article has very complex content and it has been interpreted by the Court in a series of judgments, starting with the direct protection of the right to family life, the right to a home, the right to correspondence, the right to privacy, and indirect[8] protection such as the right to enjoy a healthy environment. The right to privacy includes the right to personal privacy, the right to social privacy, the right to enjoy a healthy environment. Although the right to privacy belongs to the category of civil rights, under the Convention it is considered an individual right and the definition of "privacy" is in practice legally inapplicable.

This article also acquires new meanings in the light of new social realities, meaning that the judges take into account the social context and the changes in society.

Article 8 is essentially a negative right, it excludes any unlawful or arbitrary interference by the authorities or third parties. The second paragraph of the article lays down the conditions under which these rights may be limited: the interference must be provided for by law, must be necessary for a democratic society, and must pursue one or more legitimate aims. Because there is

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2 ECHR, *Tyrer v. Great Britain* (application no. 5856/72), Judgment of 25.04.1978, § 31.

3 For example, the International Court of Justice, the United Nations Committee against Torture, the Inter-American Court of Human Rights.

4 For example, the practice of the United Nations Human Rights Committee.

5 For example, the standards of the Committee for the Prevention of Torture (the Council of Europe's monitoring body).

6 For example, Amnesty International, the US State Department.

7 Please see European Court of Human Rights (n.d.-a).

8 We emphasize that it is an indirect protection because the pollution or degradation of the environment do not constitute direct violations of Article 8.

one permissible interference in the second paragraph, we consider this right to be a conditional right. Although the Member States have a wide "margin of appreciation" (i.e. discretion), each interference will be analyzed according to the facts of the case.

Therefore, based on the principle of subsidiarity, it is not upon the Court to determine which measures are appropriate and necessary to protect the environment (who acts as a last resort only), but upon the domestic authorities, since they are best placed to decide on environmental issues.

2. THE ENVIRONMENT-RELATED CASES INVOLVING DIFFERENT VIOLATIONS OF THE PROVISIONS OF THE CONVENTION

Over the years, the Court was called upon to rule in environment-related cases "*on account of the fact that the exercise of certain Convention rights may be undermined by the existence of harm to the environment and exposure to environmental risks.*"[9]. In this respect, the Court has already ruled in more than 300 environment-related cases, in which individuals have argued at least one breach of their Convention rights due to adverse environmental factors, situation that underlines that we can protect the environment by using human rights law. Therefore, in this situation, the environment-related cases are not only on the grounds of Article 8 of the Convention, as we will underline below, depending on the subject-matter of the cases.

The first category of cases would be the cases raising *environmental* issues, the Court having been referred several cases, out of which we present the following cases in which a range of environmental factors impacted individual convention rights, and the Court found at least one violation of the Convention:

i. *Öneryıldız v. Turkey* – Grand Chamber Judgment of 30 November 2004 - involving dangerous industrial activities:
   - the applicant complained that the Turkish authorities failed to take measures to prevent a methane explosion that engulfed his house (and ten other houses) and killed nine close relatives, although (a) his house was built without authorisation, close to a rubbish tip, and (b) there was an expert report provided for the authorities warning about the likelihood of an explosion;
   - the Court held that Turkey violated Article 2 (right to life - both its procedural and substantive parts) of the Convention, Article 1 of Protocol No. 1 to the Convention (protection of property), Article 13 of the Convention (right to an effective remedy);

ii. *Budayeva and Others v. Russia* – Judgment of 20 March 2008 - involving natural disasters:
   - the applicants alleged that the authorities failed to mitigate the consequences of a mudslide that devastated a town situated in a mountain area, while they were injured, sustained psychological trauma for losing their relatives and their homes, and they also failed to carry out a judicial enquiry;
   - the Court held that Article 2 of the Convention (right to life – both substantive and procedural) has been violated;

iii. *Florea v. Romania* - Judgment of 14 September 2010 – regarding passive smoking in detention:
   - the applicant complained that he had to share for nine months a prison cell of 35 beds with 110-120 other detainees (out of which 90% were smokers), although he was suffering from chronic diseases (e.g. hepatitis and arterial hypertension);
   - the Court found that Article 3 of the Convention (prohibition of torture) was violated because these conditions exceeded the threshold of severity required by this provision; the same solution was given also in *Elefteriadis v. Romania* – Judgment of 25 January 2011;

[9] European Court of Human Rights (n.d.-b).

iv. *L'Érablière asbl v. Belgium* – Judgment of 24 February 2009 – regarding access to court:
- the applicant, a non-profit organization acting for the protection of the environment, complained that an inadmissibility decision based on procedural grounds (there was no statement of facts) of the Belgium Conseil d'Etat breached its right of access to a court;
- the Court found that Article 6 paragraph 1 of the Convention (right to a fair trial) was breached because the measure was disproportionate;

v. *Karin Andersson and Others v. Sweden* – Judgment of 25 September 2014 - regarding access to court:
- the applicants complained mainly that they could not fully legally review a Government's decision to allow the construction of a 10 km long railway close to their properties in northern Sweden;
- the Court found that this constituted a violation of Article 6 paragraph 1 of the Convention (right to a fair trial) because it infringed their rights as property owners;

vi. *Apanasewicz v. Poland* – Judgment of 3 May 2011 – regarding the failure to enforce final judicial decisions:
- the applicant complained mainly that the state failed to enforce a final judgment of 2001 ordering a factory's owner to shut it down because it caused pollution, various health problems, inedible harvest (and the factory was still functioning at the time this judgment was given);
- the Court found that it constituted a violation of Article 6 paragraph 1 of the Convention (right to a fair trial – due to overall duration of the legal proceedings, lack of diligence of the authorities, insufficient use of the legal coercive measures), and a violation of Article 8 of the Convention (right to respect for private and family life) because of the ineffectiveness of the measures taken by the authorities in order to protect the applicant's private and family life against the interference caused by the neighbour factory;

vii. *Guerra and Others v. Italy* – Judgment of 19 February 1998 – regarding the environmental risks and access to information:
- the applicants complained about the lack of practical measures taken by the Italian state in order to reduce the pollution of a chemical factory producing fertilisers near their homes and to reduce the major-accident hazards;
- the Court found a violation of Article 8 of the Convention (right to respect for private and family life) because the state did not secure the applicants' right to respect for their private and family life;

viii. *Roche v. the United Kingdom* – Grand Chamber Judgment of 19 October 2005 – regarding the environmental risks and access to information:
- the applicant complained that, while he was in the British Army he was exposed to participation in mustard and nerve gas tests conducted (which determined hypertension, bronchitis and bronchial asthma), and that he did not had access to all the relevant and appropriate information to assess the risks to which he had been exposed to, during these tests;
- the Court found a violation of Article 8 of the Convention (right to respect for private and family life) because the state did not fulfill its positive obligation of providing the information;

ix. *Lopez Ostra v. Spain* – Judgment of 9 December 1994 – industrial pollution:
- the applicant complained about the passivity of the authorities regarding the smells, noise and polluting fumes of a neighbouring waste-treatment plant;
- the Court found a violation of Article 8 of the Convention (right to respect for private and family life) because the state failed to strike a fair balance between the applicant's effective

enjoyment of the right enshrined in this provision and the interest of the economic well being of the respective town;

x. *Tătar v. Romania* – Judgment of 27 January 2009 – industrial pollution:
- the applicants complained about the fact that the technological process used by a neighbouring company in mining gold (the use of sodium cyanide in the open air) and an environment accident occurred in 2000 jeopardized their lives, as well as about the state's passivity to solve their complaints;
- the Court found a violation of Article 8 of the Convention (right to respect for private and family life) because the state failed to assess the risks of that company operation, to take all the relevant and appropriate measures in order to protect the lifes of the persons living there, as well as to ensure public access to the conclusions of investigations and studies in the environmental issues;

xi. *Dubetska and Others v. Ukraine* – Judgment of 10 February 2011 - industrial pollution:
- the applicants complained that their health, their life and their living environment were damaged because of a coal mine operating by the state, near their homes, and the authorities failed to remedy the situation;
- the Court found a violation of Article 8 of the Convention (right to respect for private and family life) because of the state failure to take appropriate measures to remedy the respective situation, althouth the authorities were aware of the adverse environmental effects of the mine;

xii. *Moreno Gómez v. Spain* – Judgment of 16 November 2004 – neighbouring noise:
- the applicant complained about the high level of noise and beyond permitted levels, for years, made by the neighbouring nightclubs and about the authorities passivity;
- the Court found a violation of Article 8 of the Convention (right to respect for private and family life) because the authorities failed to respect its positive obligation under this article because it did not take the appropriate measures to deal with the night-time disturbances;

xiii. *Deés v. Hungary* – Judgment of 9 November 2010 – road traffic noise:
- the applicant complained about the noise, pollution and smell caused by the heavy traffic on his street near a highway operating a toll, and of the excessive length of the court proceedings;
- the Court found a violation of Article 8 of the Convention (right to respect for private and family life), because the state failed to discharge its positive obligation and a violation of Article 6 paragraph 1 (right to a fair trial within a reasonable time) for the length of the proceedings;

xiv. *Bor v. Hungary* – Judgment of 18 June 2013 – rail traffic noise:
- the applicant complained mainly about the extreme noise disturbance caused by the trains and about the state's failure to impose on the railway company an obligation to keep the noise level under control by constructing noise barriers;
- the Court held that there had been a violation of Article 8 of the Convention (right to respect for private and family life) and a violation of Article 6 paragraph 1 (right to a fair trial within a reasonable time);

xv. *Dzemyuk v. Ukraine* – Judgment of 4 September 2014 – soil and water contamination:
- the applicant alleged that his water supply for drinking and for gardening was contaminated by the construction of a neighbouring cemetery, and that the authorities failed to enforce a final and binding judgment declaring the cemetery illegal;
- the Court found a violation of Article 8 of the Convention (right to respect for private and family life);

xvi. *Brânduşe v. Romania* - Judgment of 7 April 2009 – waste collection, management, treatment and disposal:
- the applicant complained about the authorities failure to take the necessary measures to tackle the high level of pollution (offensive smells) created by a former refuse tip situated near the prison where he was detained;
- the Court found a violation of Article 8 of the Convention (right to respect for private and family life);

xvii. *Locascia and Others v. Italy* – Judgment of 19 October 2023 - waste collection, management, treatment and disposal:
- the applicants complained that authorities have failed to ensure the proper management of the refuse collection, treatment and disposal services, and to secure and clean up the landfill site;
- the Court found a violation of Article 8 of the Convention (right to respect for private and family life);

xviii. *Steel and Morris v. the United Kingdom* – Judgment of 15 February 2005 - freedom of expression:
- the applicants complained that the legal proceedings brought against them by McDonald's as a response to their environmental issue campaign and their outcome had infringed on their right to freedom of expression;
- the Court found a violation of Article 10 of the Convention (freedom of expression), and a violation of Article 6 paragraph 1 of the Convention (right to a fair trial) because the denial of legal aid for the applicants contributed to an unacceptable inequality of arms with McDonald's;

xix. *Rovshan Hajiyev v. Azerbaijan* – Judgment of 9 December 2021 - freedom to receive and impart information:
- the applicant who was a journalist complained about the refusal of the authorities to give him access to information of public interest regarding the environmental and health impact of a military radar station;
- the Court found a violation of Article 10 of the Convention (freedom of expression) considering that the information requested was of public interest, ready and available;

xx. *Costel Popa v. Romania* – Judgment of 26 April 2016 - freedom of assembly and association:
- the applicant who was the founder of an environmental association complained about the Romanian courts of law's refusal to register this association due to the fact that he was not allowed to rectify the irregularities in the articles of association as provided by the domestic law;
- the Court concluded that there had been a violation of Article 11 (freedom of assembly and association) because of the disproportionate character of the aim pursued by this sanction.

A second category of cases would be the more recent *climate change* cases. Three recent cases would be relevant in this respect:

i. *Verein KlimaSeniorinnen Schweiz and Others v. Switzerland*[10] – Grand Chamber Judgment of 9 April 2024:
- the applicants complained about the consequences of global warming on their living conditions and health, and that the domestic authorities are not taking sufficient action to mitigate the effects of climate change, underlining that under the Convention, Switzerland has positive obligations to protect life effectively and to ensure respect for their private and family life, including their home;

[10] We underline that because of the great interest in the climate change, a large number of third-party interveners (including Member States of the Council of Europe) asked for permission to intervene in the written stage of the proceedings of this case.

- the Court found a violation of Article 8 of the Convention (right to respect for private and family life) because the state had failed to comply with its positive obligations under the Convention concerning climate change, and because the authorities had not acted in time and in an appropriate way to develop and implement relevant legislation and measures, and of Article 6 paragraph 1 of the Convention (right to a fair trial) because the domestic courts had not provided convincing reasons as to why they had considered it unnecessary to examine the merits of the applicant association's complaints;

ii. *Carême v. France* – Grand Chamber Decision on the admissibility of 9 April 2024:
- the applicant, a resident and former mayor of a French municipality complained that France had not taken sufficient steps to prevent climate change and that this failure entails a violation of Article 2 of the Convention (the right to life) and of Article 8 of the Convention (the right to respect for private and family life);
- the Court considered that the claimant had no victim status because he had no relevant links with that municipality and he did not currently live in France;

iii. *Duarte Agostinho and Others v. Portugal and 32 Other States* Grand Chamber - Decision on the admissibility of 9 April 2024:
- the applicants complained that the 33 Member States concerned failed to comply with their positive obligations under the Convention, read in the light of their undertakings under the 2015 Paris Agreement on climate change; the case concerned the greenhouse gas emissions that contribute to the phenomenon of global warming;
- the Court considered that there is no extraterritorial jurisdiction and that the claimants did not exhaust the domestic remedies.

Between September 2022 and February 2023, the European Court on Human Rights held a series of procedural meetings in respect of climate change applications other than these three cases mentioned above, which were examined and then decided by the Grand Chamber, and decided to adjourn them – in a future research, we shall also highlight them[11].

3. THE DEPOSIT RETURN SYSTEM IN ROMANIA

As we can see above, pollution represents a major environmental concern in the Council of Europe and worldwide. Legislators, domestic authorities and individuals should not remain passive anymore and they should react fast in order to change something for good.

In Romania, in the previous years, important steps have been taken especially in the waste management and recycling services areas. Moreover, the deposit return system has been implemented since 30 November 2023, after it was expected to be implemented first by 1 January 2021. In a nutshell, this means that nowadays, when buying a product packaged in returnable packaging, for primary non-refillable packaging [from certain categories of beverages (i.e. water, soft drinks, beer, cider, wine or spirits), in primary non-refillable glass, plastic or metal packaging, with volumes between 0.1 l and 3 l inclusive], each consumer or end-user pays a guarantee of 0.50 RON (i.e. ten euro cents) together with that product's price, and when returning the packaging of the respective product to a collection centre, the respective guarantee is recovered by the consumer or end-user[12].

[11] *Uricchiov v. Italy and 31 Other States* (application no. 14615/21) and *De Conto v. Italy and 32 Other States* (application no. 14620/21), *Müllner v. Austria* (application no. 18859/21), *Greenpeace Nordic and Others v. Norway* (application no. 34068/21), *The Norwegian Grandparents' Climate Campaign and Others v. Norway* (no. 19026/21), *Soubeste and four other applications v. Austria and 11 Other States* (applications nos. 31925/22, 31932/22, 31938/22, 31943/22 and 31947/22), *Engels v. Germany* (application no. 46906/22).

[12] For more information regarding the deposit return schemes, please see European Commission (n.d.).

Other products except the ones mentioned above are not subject to this legal regime (e.g. beverage glasses, pouches - flexible pouch-type packaging in layers, bag-in-box - beverages in closed cartons and any other packaging that cannot retain its shape after emptying). However, for ease of identification, the products included in the deposit return system are marked on the packaging with a guarantee symbol.

We have already presented[13] the legal framework applicable to the existing deposit return system in Romania (i.e. Government Decision No. 1074/2021 on the establishment of the deposit return system for primary non-refillable packaging, published in the Romanian Official Journal no. 955 of 6 October 2021), its basic functioning principles, and the deposit return system administrator (i.e. RetuRO Sistem Garantie Returnare S.A.), so we will not insist on the details of the regulation or initial implementation since it is not the object of this research.

The DRS administrator operates with exclusively private funding and its role is to ensure transparency on the quantities of beverage packaging put on the market and returned by consumers or end-users, contributing to Romania's sustainable development through responsible management of packaging waste in order to achieve the recycling targets imposed by the European Union.

But how DRS operation is perceived now in Romania[14]? We consider that DRS is already producing the expected effects: between December 2023 and the end of July 2024, Romanian officials underline that over 1.3 billion[15] packages with packaging with the guarantee logo have already been returned by consumers or end-users to RetuRO. Nowadays, the effects of DRS implementation are visible: you see less and less DRS packaging in landfills, on roadsides, on river banks, in forests, or in nature.

Of course, we all know that all beginnings are always difficult, and when we are talking about a network involving millions of consumers and tens of thousands of manufacturers and retailers, creating a stable flow of packaging from production to recycling poses challenges at every step. The Romanian competent authorities announced in August that huge fines were given following checks on the DRS functioning, including to RetuRO[16].

We really believe that Romania has come a long way in a very short time, made possible with the involvement and effort of the RetuRO administrator, consumers and end-users, producers, retailers and HORECA operators. All these stakeholders are laying the foundations of a collaboration on which a sustainable future will be built, and DRS really plays a vital role in pollution prevention.

4. CONCLUSION

The Convention and the case-law of the Strasbourg Court has encouraged governments of the Council of Europe Member States to take several steps to tackle the degradation of the natural environment and climate change. It is obvious that environmental pollution, such as hazardous waste, plastic waste, harmful industrial emissions, and excessive noise, affect people's health and well-being all over the world. From the analysis of the Court's case-law, over the years, it is even more obvious that these judgments helped the Member States to strengthen environmental protection.

13 Please see, for instance, Spataru-Negura (2024).
14 Please see Romania Insider (2024).
15 Please see G4Media.ro (n.d.).
16 Please see Digi24 (n.d.).

Please keep in mind that "*environmental degradation does not necessarily involve a violation of Article 8 as it does not include an express right to environmental protection or nature conservation.*"[17]. For environmental damage to constitute a violation of Article 8 paragraph 1 of the Convention, according to Birsan (2010, p. 644) the judges must identify an "*adverse effect on the private or family life of a person and not merely a general impairment of it*".

Specifically, the Strasbourg judges consider that individuals have the right to be informed about the environmental risks, to have access to the results of pollution studies, and to participate in environmental decision-making. Member States have, according to the Court, a number of positive obligations: to take appropriate legislative or administrative measures to protect the environment against pollution, as well as the obligation to provide the persons concerned with information on the possible risks of hazardous activities[18].

In each specific case, the Court examines whether the public authorities have struck a fair balance between a person's right to respect for private and family life and the economic well-being of the Member State concerned (the so-called "*fair balance test*").

It is interesting that in the doctrine there are authors like Boroi (2016, p. 460) who speak of a primacy over all other fundamental rights of the right to enjoy a healthy environment - even over the right to life or other important civil rights. This is possible because the right to enjoy a healthy environment goes beyond the right to life: "*[e]ven if it cannot be accepted that future generations already have a right to life, there is nevertheless an obligation on the part of present generations to protect the environment in such a way as not to compromise the life expectancy of those who follow*".

Over the years, Romania has constantly adapted and aligned its legislation and administrative practice to the European standards in matters essential to the existence of a democratic society (e.g. protection of the right to property, the functioning of the judiciary, the prohibition of torture and ill-treatment), taking into consideration the European Court of Human Rights judgments.

We are curious if and when, in the following years, will appear cases in front of the Court dealing with the challenges of the deposit return system from the perspective of the right to enjoy a healthy environment, especially since the deposit return system is the largest circular economy project in Romania. Why not yet? Because between the moment of the adoption of a new piece of legislation and the moment of a Court judgment, many years have to pass (please have in mind the provisions of Article 35 paragraph 1 of the Convention that sets the main admisibily criteria to refer a case to the Court – "*The Court may only deal with the matter after all domestic remedies have been exhausted, according to the generally recognised rules of international law, and within a period of four months from the date on which the final decision was taken.*").

Until then, Romania should follow the Court's case-law in order to discover if the Court renders judgments regarding other Member States that have previously implemented the deposit return system (e.g. Germany, Denmark, Norway, Sweden, Finland, Croatia) and, in general, to learn from their experience towards the effective protection of the right to enjoy a healthy environment. But, at this moment, we did not identify any such judgement regarding the deposit return system schemes…

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17 European Court of Human Rights (2012) (footnotes omitted).

18 See ECtHR, *Tătar v. Romania* (application no. 67021/01), judgment of 27.01.2009, para. 88.

References

Birsan, C. (2010). *Convenţia europeană a drepturilor omului: comentariu pe articole (European Convention on Human Rights: Commentary on Articles)*, Bucharest, C.H. Beck Publishing House

Boroi, A. (Ed.). (2016). *Dreptul penal al afacerilor (Business Criminal Law)*, 6th edition, revised and suplemented, Bucharest, C.H. Beck Publishing House

Digi24. (n.d.). *Garda de Mediu: Amenzi uriaşe în urma controalelor care au vizat sistemul de garanţie-returnare*. Retrieved from https://www.digi24.ro/stiri/actualitate/garda-de-mediu-amenzi-uriase-in-urma-controalelor-care-au-vizat-sistemul-de-garantie-returnare-2904131

ECHR, *Tyrer v. Great Britain* (application no. 5856/72), Judgment of 25.04.1978, § 31.

European Commission. (n.d.). *Deposit refund schemes*. Retrieved from https://environment.ec.europa.eu/economy-and-finance/ensuring-polluters-pay/deposit-refund-schemes_en

European Court of Human Rights. (n.d.-a). European Convention on Human Rights. Retrieved from https://prd-echr.coe.int/documents/d/echr/convention_eng

European Court of Human Rights. (n.d.-b). *Fact sheet - Environment and the European Convention on Human Rights*. Retrieved from https://www.echr.coe.int/documents/d/echr/FS_Environment_ENG

European Court of Human Rights. (2012). *Manual on Human Rights and the Environment*. Strasbourg: Council of Europe. Retrieved from G4Media.ro. (n.d.). *Fechet: Peste 1,3 miliarde de ambalaje au fost colectate prin sistemul de garanţie-returnare*. Retrieved from https://www.echr.coe.int/documents/d/echr/Pub_coe_Environment_2012_ENG

Romania Insider. (2024). *RetuRO reports results from first seven months of implementation*. Retrieved from https://www.romania-insider.com/returo-results-first-seven-months-implementation

Spataru-Negura, L.-C. (2024), *Short Considerations Regarding the Romanian Deposit Return System - "How Imperfect but Perfectible" the System Really Is Now?!*, in Journal of Agricultural and Environmental Law, vol. 19 No. 36 (2024).

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Rights on Databases and Technological Measures – Topical Problems of the Information Society

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Abstract: *Technological measures entered into a mode of harmonization in the European legal space with Directive 2001/29/EC of the European Parliament and of the Council of 22 May 2001 on the harmonization of certain aspects of copyright and related rights in the information society. In Art. 6, para. 3, these measures, in the field of intellectual property better known as technological protective measures (TPM), were expressly intended, including for the sui generis right provided for in Chapter III of Directive 96/9/EC. The following analysis considers the forms of manifestation, dynamics, harmonization issues, and bottlenecks in the application of technological measures to intellectual property objects with an emphasis on databases. A handful of selected examples from EU case law and technical literature help to make visible the conflict between the technological and the legal, and sometimes between them and the fair, the expected and the reasonable. Such examples are like labels that the reinforce feeling of that contradictory union that gave birth to the expression "L'union de l'aveugle et le paralytique." The analysis allows some conclusions, the aim of which is to contribute to the assessment of the effect of the application of the technological measures defined in the InfoSoc Directive, taking into account the nature and application of this protection, including on the digital databases rights in the current historical moment.*

1. INTRODUCTION

Technological development has made it possible for rights holders not to rely solely on the effectiveness of legal systems, but to independently protect their rights in a digital environment through various technical means. Their unreliability, however, brought them back to legal protection again with the idea of outlawing the "bad" technical measures that circumvent technical protection. Against the "good", who must be protected from the "bad".

2. ANALYSIS

Provided for the first time in Article 11 of the WIPO Copyright Treaty (in short WCT, adopted in Geneva on December 20, 1996, in force in 2002; protection of technological measures is also provided for in Article 18 of the WIP Performance and Phonograms Treaty (WPPT), adopted simultaneously with WCT) technological measures (TM) are defined by their aim. And it is: not to allow and limit actions concerning protected works for which permission is required from the rights holders. Which actions they restrict and how they restrict them is not made clear immediately. There were no provisions concerning them before in international conventions in the field of intellectual property. The EU implemented the texts of the WCT and WPPT in two directives after becoming a party to the treaty (see Council Decision of 16 March 2000 on the approval, on behalf of the European Community, of the WIPO Copyright Treaty and the WIPO Performances and Phonograms Treaty, OJ L 89, 11.4.2000, p. 6–7). These are Directive 96/9/EC (Directive 96/9/EC of the European Parliament and of the Council of 11 March 1996 on the legal protection of databases, OJ L 77,

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27.3.1996, p. 20–28, known by its short name "The Database Directive") and Directive 2001/29/EC (Directive 2001/29/EC of the European Parliament and of the Council of 22 May 2001 on the harmonization of certain aspects of copyright and related rights in the information society, OJ L 167, 22.6.2001, p. 10–19, known as the "The InfoSoc Directive"). The legal definition of TM in Article 6, paragraph 3 of The InfoSoc Directive gives some answers to the questions "which" and "how", after above in paragraph 1 of the same article obliges the member states to provide adequate legal protection against bypassing them. Thus copyright adds a non-legal, but legally guaranteed protection to its protective portfolio, similar to computer programs (Art. 7 of Council Directive 91/250/EEC of 14 May 1991 on the legal protection of computer programs, OJ L 122 , 17.5.1991, p. 42–46, obliges Member States to adopt appropriate measures against the unauthorized removal or disruption of technical devices used to protect a computer program). The result is nothing other than that physically hindrance to any electronic use of protected works in relation to their intended aim is considered lawful. It is necessary to emphasize that the given legal protection is for technological measures, as defined "for the purposes of this directive", and not some new type of legal protection of copyright and some other rights. That is, technological measures are subject to legal protection, but not all, but those defined in Article 6, Paragraph 3 of the InfoSoc Directive. In order for reflection on the subject to be useful, an analysis is needed to clarify the nature and content of this protection. It is it that would provide objective arguments in the unrelenting dispute, materializing the conflicting interests behind one or another claim about the limits of rights and freedoms in the field of intellectual property. The analysis of "legal protection" as a concept of the theory of law presupposes a complete clarification of its objective side as a system of legal norms establishing measures to protect the right and measures of responsibility for its violation. On the subjective side, it requires clarification of such elements of legal protection as subject, object, principles, method and mechanism of legal protection (Osipov, 2023). Such a complete analysis of the "legal protection" of TM in this article cannot be exhaustive. But even a small contribution is useful, given the modest amount, especially of current legal studies, in contrast to its disproportionately growing weight in the digital economy. Probably, in this picture approach of the European legislator has a certain role (the study mainly focuses on the European approach, but takes into account the global character of the problem). First of all, the chosen approach is regulation by directive, which obliges to a result without binding the national authorities with the ways to achieve it (Art. 288, §3 of the Treaty on the Functioning of the European Union). Second, the legal protection required by member states must be „adequate"; too general a prescription, limited by several guidelines found in the recitals to the directive (predominantly 47 et seq.). Such as those that legal protection should respect the principle of proportionality and not prohibit devices or activities that have a commercial purpose or application other than the circumvention of technical protection (recital 48 of the InfoSoc Directive; paragraph 30 of Case C-355/12, Nintendo and Others, ECLI:EU:C:2014:25); that it is possible for personal possession of devices, products or components designed to circumvent technical measures to be prohibited in national regulations (recital 49); that the protection of technological measures used in connection with computer programs (which are subject to another Directive, recital 50) is excluded from the subject scope; that their application should not harm public order or security (recital 51); that TM protection must ensure a secure environment for the offering of on-demand interactive services and public access to the works or other objects at a place and time independently chosen by the public; that in the case of provision of interactive on-demand services, contractual provisions derogate from (prevent the application of) national provisions for the protection of TM as opposed to non-interactive forms of online use (recital 53); that the legal protection of TM must be accompanied by a similar protection of the electronically presented rights management information (known as Digital Rights Management or DRM) relating to the protected subject matter (recitals 55 and 56); that the means of legal protection introduced by the national legislations must be

„effective", and for the sanctions, it is also required that they be „proportional and dissuasive" (recital 58), etc. Thirdly, for the understanding of TM in the present analysis, is relevant too that the InfoSoc Directive delimits the mandatory for the member countries from the non-mandatory exceptions, a comprehensive list of which is given in Art. 5, para. 2 of the Directive. This is an approach typical of the directives, where the discretion of the national legislator varies „from the very option to do something in the first place... to shaping the actual content of rights and rules..." (Rosati, 2021). "Thus, the legal nature of the technological measure is in general terms outlined as a subjective right of the holders of copyright, a related right, or a sui generis right (as provided in Chapter III of Directive 96/9/EC), to accompany to their own legally protected works with any effective technology or technologies that are objectively capable of preventing or restricting unauthorized actions or ensuring the enforcement of authorized actions in relation to these works, as well as to demand that others refrain from actions that circumvent these technologies if done with such intent. The expression "any technology" in the definition proposed by us characterizes a requirement for protection that is not explicitly enshrined in the law, namely: that it be technologically neutral. This also underlines the CJEU's understanding that the definition of effective technological measures in the Directive is "is defined broadly" (Case C-355/12, Nintendo and Others, ECLI:EU:C:2014:25, paragraph 27). The ability to require everyone else to refrain from circumventing them can give the impression of an exclusive (or absolute) right. In fact, it is not; it is not an independent right and its existence is a function of the above rights. It is not limited by time but is limited by the terms of protection of the respective rights. Nor does it presuppose the legal protection of said rights, which exist even if the holder chooses to ignore that protection (his considerations for which are irrelevant). Application of TM by rights holders is voluntary. Moreover, according to the Court of Justice of the European Union (CJEU, n.d.), non-application by the holder of TM rights, even if there is a possibility of the opposite, cannot lead to the loss of just compensation (CJEU decision on Joined Cases C-457/11 to C-460/11, ECLI:EU:C:2013:426, paragraph 57). The technological measures are implied for the digital use of the works. This is also clear from the aim of the Directive to provide a normative response to new information technologies, providing new forms of both production and use, as well as piracy and imitation. In the definition of the right to technological protection of the rights holders proposed above, it is important to underline and emphasize the expression „to guarantee the implementation of permitted acts". The permitted acts fall within the scope of the exceptions and limitations, including those for which, according to the accepted interpretation of Art. 5, paragraph 2 of Directive 2001/29/EC, Member States have discretion. Despite their optional nature, contrary to the mandatory exceptions provided for in Article 5, paragraph 1, one cannot support the understanding that seems to derive indirectly from the opinion of some authors (see for example those mentioned in notes 15 and 16 of the Opinion of advocate general of 11 May 2010 in Case C-467/08, ECLI:EU:C:2010:264). Carried to the limit and related to the subjective right of technological protection under consideration here, it could allow freedom for Member States to ignore the requirement that TMs be compatible with permitted acts. Such an understanding would be against the EU acquis. For example, „the concept of ‚fair compensation' within the meaning of Article 5(2)(b) of Directive 2001/29/EC ... is „an autonomous concept of European Union law and interpreted uniformly throughout the European Union...", the Court concluded in its judgment in Case C-467/08, Padawan SL, ECLI:EU:C:2010:620, paragraph 33. The validity of the argument that „the approximation of laws means that an autonomous Community law concept should be created"... (Riesenhuber, 2006) cannot be denied. If it is the intention to approximate laws, the author argues that one standard has to be set. Such understanding is supported by many CJEU decisions in different factual and legal contexts. However, the conduct of rights holders obliges them to use TMs compatible with the exceptions and limitations to ensure their application, constantly and in new forms, opposes their actual use. This applies to all protected objects, including databases.

3. ON THE TRAJECTORY OF ONE CASE

In the context of the above, the lack of resonance within academic legal circles regarding significant cases of use of technological measures (TM) that are incompatible with exceptions and limitations and which reveal the endpoint of their not-so-obvious trajectory, is surprising. This observation is illustrated by the example discussed here, concerning the extensions for encrypted media (so-called EME „Encrypted Media Extensions“) and the EME specification in the HTML standard (IFLA, 2017). Somewhat justified by arguments pointing to the lack of complex – including highly specialized technological knowledge that could complement legal expertise – this missing resonance cannot fit into the academic interest in gaining essential information for research. In fact, similar arguments are not foreign to various interested parties, who qualify them as ‚misconceptions about „EME putting DRM in HTML.“‘ Before we delve into the essence of the debate, we will briefly defend the connection between databases as a protected object of intellectual property rights and HTML. Even though the general public might be tempted to appreciate a brief lecture on the importance of HTML, it is sufficient to say here that HTML is the alphabet and the multimedia language of the web. Web applications often extract data from databases, process it, and display it using HTML. However, its significance extends far beyond databases. This highlights the importance of this case, including from a research perspective. In short, the promoted goal of the EME specification in HTML is to facilitate the viewing of video content online, which would otherwise only be possible by installing separate plugins for different content. The fire of the debate about the Encrypted Media Extensions specification in the HTML standard started when the idea was first announced and continued burning until the draft of the working group of The World Wide Web Consortium (W3C) was finalized in 2017. Unfortunately or not, the draft was not scrapped, which would have ended the process before the smoke reached UNESCO. Behind the polite tone of UNESCO‘s letter to W3C dated March 31, 2017, lies a concern about introducing standardized EME embedded in the browser, where the level of control will cascade down to the user interface (UNESCO, 2017). In short, it states that this has the potential to hinder the use of circumvention tools to access content that is not legitimately restricted; to reduce opportunities for security researchers to identify and publish vulnerabilities in the combination of EME and DRM mechanisms; to limit user choice with standardized EME when accessing DRM content through their browser; to allow browsers to prevent users from exercising their lawful right to fair use of copyrighted video, including further adapting content for people with disabilities; to compromise the right to a secure internet; to affect the right to education, accessibility, and openness by restricting open educational resources caught in the EME-DRM networks; to damage interoperability and even network neutrality, thus impacting openness and accessibility. Even when the implementation of standardized EME in a browser would be subject to local and international laws, while previously the law could be applied at other levels of content production, distribution, and use, the new EME would add a technical layer for controlling expression and fair use – topics likely best addressed as areas of ethical choice in a technically neutral environment, rather than being inherently restricted by a technical standard.“The current balance of rights would be tilted towards an in-built technical bias towards intellectual property and away from other competing rights” (La Rue, 2016). This letter brings UNESCO closer to the position of prominent lawyers, writers, and activists who are raising the alarm about the worrying trend toward the over-protection of intellectual property. Not only UNESCO but also many stakeholders are getting involved, including those, authorized by governments to protect the public interest. For example, the International Federation of Library Associations and Institutions (IFLA), an authoritative international organization, summarizes its arguments in a document, based on the principles of

free access to information, ideas, and works of imagination, as well as freedom of expression, embodied in Article 19 of the Universal Declaration of Human Rights. IFLA observes that it "also understands the logic behind the integration of EME into the HTML Standard, in that this would bring a measure of simplification and unification of tools used". By asserting that EME allows TPM to have a place within the very HTML protocol that underpins the functioning of the Internet, IFLA shares concerns that this disrupts the balance of rights between rights holders and users, to the detriment of the latter, and even calls into question the very definition of ownership. They note that DRM can be used to block permitted actions, which contradicts the public mission of libraries to preserve, reproduce, and/or lend books and other materials; that this would hinder libraries' ability to archive and preserve audiovisual materials; that not all national legislations explicitly allow the removal or circumvention of DRM that is inconsistent with exceptions, and in some jurisdictions, this may even be a criminal or civil offense (many jurisdictions also foresee administrative penalties such as fines or property sanctions); that even where circumvention or removal is legally possible, the procedure is slow, inefficient, and beyond the capacity of many organizations; that the introduction of EME, along with the lack of effective mechanisms to disable DRM, would, in many jurisdictions, lead to additional barriers to the lawful use of works. It is noted that DRM does not cease ipso facto – with the expiration of a certain term, as is the case with copyright itself; it does not necessarily differentiate between users with lawful access. There is a risk that libraries will end up with materials that are no longer subject to copyright but still have DRM. EME, together with DRM, may render the transfer of ownership meaningless; it may make it impossible to transfer works when an organization or business changes ownership, or when the owner dies. Their application may hinder users in the fair use of works for activities such as commentary or criticism, restricting their freedom of expression as provided by Article 9 of the Universal Declaration of Human Rights. The lack or imperfections in provisions for the circumvention of DRM constitute an absolute and unacceptable obstacle to the recognized right of users to repair, research, or test products they have purchased (which, incidentally, runs counter to government proclamations, such as the measures in the EU initiative known as A New Deal for Consumers). When DRM allows (the opposite is the exception) the collection and analysis of data, concerns arise about user privacy in particular, and human rights in general (IFLA, 2017).

The counterarguments are contained mainly (and not only) in a document called "Information about W3C and Encrypted Media Extensions (EME, 2016)" published on March 16, 2016. They boil down to denying any connection between DRM and the Encrypted Media Extensions (EME) specification, the existence of which is in turn the main argument of the opposition to the introduction of the specification. This specification -claim they- does not create nor impose a content protection or Digital Rights Management system. Rather, it defines a common API that may be used to discover, select and interact with such systems as well as with simpler content encryption systems. Their thesis is formulated decisively already at the beginning of the document: „EME putting DRM in HTML" is simply nothing more than a misconception that needs correction.

What are the facts, without getting bogged down in technological jargon? EME is embedded in HTML, for example, through <video> or <audio> tags in combination with JavaScript to interact with the EME API. Indeed, EME provides an API that allows web browsers to access content protection systems known as Content Decryption Modules (CDM) for the purpose of playing protected media. Although the functionalities of CDM are not precisely defined, even in the EME specification, they include decryption, unscrambling, and decoding in order to present the protected content according to the restrictions set by the content provider (e.g., no copying or recording,

blurring, restricted viewing and reading, geolocation, prohibition of framing, etc.). Simply put, the EME API and CDM collaborate to achieve this result, with the EME specification providing a framework for the browser to communicate with CDM. It defines how the browser should request a license (decryption key) from a license server and how to handle encrypted media streams. And yes, indeed, EME specification is open for implementation by anyone. However, three years after the adoption of the specification, the facts are that CDMs, with which EME interacts, are typically private and patented. CDMs have been implemented in all browsers, including, of course, those with the largest market share. The negative result in the trajectory of this story serves as a reminder of why the process was non-consensual and controversial. It turns out that an important WWW standard, in order to be functional, requires a proprietary component, for which, a fee must be paid—if they even permit it at all (regardless of whether this is due to market monopolists or, even worse, if it is). The addition of DRM, including through legally protected TPM, directly leads to undesirable economic consequences such as anti-competition, market concentration, monopoly, and market control, as well as security risks—and justifies some of the warnings from opponents of this controversial solution. The consequences are of such a nature that they cannot be an acceptable cost under the current provisions for TPM protection.

4. BACK TO THE DATABASES

If we return to databases, the authentic European contribution here is that technological measures benefit not only the holder of copyright over databases but also the holder of the sui generis right. In this sense, the title of the directive, which refers only to copyright and related rights, is narrower than its content. The databases themselves, as objects of intellectual property rights, have their own specificity, which is projected on their legal protection. In order to understand the concrete manifestation of the databases, it is necessary to first clarify the nature and content of the right to protection of TM in the context of intellectual property law. Which was already done above in the text. Although the specific nature and manifestations of TM law in relation to databases, due to the limited scope of this article, require a separate study, we will make some remarks. For this purpose, we will rely on the considerations and provisions in the two relevant directives and materials of preliminary rulings at the Court of Justice of the European Union (CJEU) in which the claimant presumed infringement of his sui generis right by circumventing the TMs that protect the databases. The relationship between these two rights in the field of databases raises many interesting legal questions that remain unanswered for now. The essence of the sui generis right of the creator of the database, according to Article 7 of Directive 96/9, is his right to prevent the extraction and/or re-use of all or a substantial part, assessed qualitatively and/or quantitatively, of the contents of this database data. This right is broader compared to the scope of protection for other objects, as acts of extraction and/or re-use are prohibited, regardless of whether the act is for commercial or non-commercial purposes (see Judgment in Case C-203/02, The British Horseracing Board and others, ECLI:EU:C:2004:695, para 48). Does this mean that the exceptions and limitations provided for in Directive 2001/29/EC, interpreted in the light of Article 9(a) of Directive 96/9, such as those for personal use, cannot be used against a TM-protected electronic database? Actions of extraction and/or reuse, as defined, must affect all or a substantial part of the database, which constitutes a specific limitation under the sui generis right of the database creator‘s power to prohibit them. Thus, what are the rights of the affected parties in the case of extraction and/or re-utilization of non-substantial parts of a TM-protected database through circumvention? The term ‚extraction,‘ defined as , the permanent or temporary transfer of all or a substantial part of the contents of a database to another medium‘ within the meaning of Directive 96/9 (Article 7(2)(a) and Recital 44 of the Database Directive, is also a source of internal tension. This tension

arises from the conflict between the technological and the legal. This is because even the broad interpretation of the concept of ‚extraction,' included in several judgments of the CJEU, cannot encompass all possible cases. Consequently, the essence of the concept has diverged from its legal definition, which is precisely what a diligent legislator should address. The ‚broad' interpretation of the concept of ‚extraction' reaches the horizon of postulating that the decisive criterion is the presence of an act of ‚transfer,' regardless of the nature and form of the operational method used (Case C-304/07, Directmedia Publishing GmbH, ECLI:EU:C:2008:552, paragraphs 35 and 36). Ergo, a ‚transfer' must still occur, albeit irrespective of the method or form. However, as the the Romans have said: ‚Non multa, sed multum'; the details matter, as does their quality. It should be noted that the acts of extraction in databases are typically carried out using various specific, lawful, and ethical technological means, such as Web Scraping, Data Mining Tools, and Data Extraction Tools. More importantly, however, there are techniques for extracting data from databases that do not transfer the contents of the database to another medium. Examples include: In-Database Analytics, Data Virtualization, Federated Queries, On-the-Fly Query Processing, Data Access Control and Views. The existence of technological measures which prevent such extraction without transfer can also reasonably be assumed, but which can also be circumvented. In such a hypothesis, would it be legal to protect TM against such "extraction", which even according to the broadest definition of the term was carried out without transferring the contents of the database to another medium? Or, to put it another way, does the prohibition of TM circumvention, provided for in Directive 2001/29 and not only there, apply in this case? It is a separate question whether in such cases of use without "transfer" the protection of the database manufacturer is adequate, if any.

5. CONCLUSION

The axiom states: any technological measure can be "broken", if we allow ourselves a characteristic borrowing from the specific jargon. That is, any defense can be circumvented and broken. This option encourages technical and economic progress. It is imperative, however, to return to the field of law, where the matter must be resolved. That is where the right question should be asked. And it is, if paraphrase Cory Doctorow, how are TMs technologically useful for stopping lawbreakers if the only thing stopping those lawbreakers from breaking it was the law - not the technological efficacy of DRM itself (Doctorow, 2017)? In order to be useful both to rights holders and to society as a whole, TMs must be „effective". In the context of the EU, should we rejoice or mourn that the directive advocates „effective" measures? What exactly did the legislator put in this adjective and are there effective technological measures, since there is always the objective possibility of being „broken"? A wise approach would consider that, like everything, this too is relative and a function of time. The axiom would lead some to jump to the conclusion that TMs are useless for their intended legal purpose. However, a wiser and more objective approach suggests another alternative to such a conclusion. A wise approach should take into account that TMs have deviated from their initial idea, making them infinitely useful for other purposes at the expense of the main one for which they were legalized, but where they have become less useful and in some cases harmful. Therefore, things must return to their proper place, in the field of law. Where there are no „good" and „bad" technological measures. But there are laws that reinforce the feeling of that contradictory union which gave birth to the expression „L'union de l'aveugle et le paralytique." But there should not be.

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References

CJEU. (n.d.). https://curia.europa.eu/jcms/jcms/j_6/en/

Doctorow, C. (2017, November 27). One of the net's most important freedom canaries died the day the W3C greenlit web-wide DRM; What can we learn from the fight? Boing Boing. https://boingboing.net/2017/11/27/piracy-is-always-a-smokescreen.html

EME. (2016). Information about W3C and Encrypted Media Extensions. https://www.w3.org/press-releases/2016/eme-factsheet/

IFLA. (2017). Statement on Technological Protection Measures, and the Proposed Integration of Encrypted Media Extensions into the HTML Standard, https://www.ifla.org/publications/ifla-statement-on-technological-protection-measures-and-the-proposed-integration-of-encrypted-media-extensions-into-the-html-standard-16-july-2017/#_ftnref2

La Rue, F. (2016, December 22). Letter from Frank La Rue to EME regarding digital rights issues. United Nations Educational, Scientific and Cultural Organization. https://s3.documentcloud.org/documents/3535173/Eme-Letter-Frank-La-Rue.pdf

Osipov, M**.** (2023). To the question of understanding the phenomenon of "legal protection." *Advances in Law Studies*, 11(1), 11-15. https://doi.org/10.29039/2409-5087-2023-11-1-11-15

Riesenhuber, K. (2006). Europäische Methodenlehre (p. 247). Berlin: De Gruyter.

Rosati, E. (2021). Are directives good for the EU internal market? The case of the Copyright DSM Directive and its national transpositions. *Journal of Intellectual Property Law & Practice*, 16(10), 1027–1028. https://doi.org/10.1093/jiplp/jpab142

UNESCO. (2017). Eme-Letter-Frank-La-Rue https://s3.documentcloud.org/documents/3535173/Eme-Letter-Frank-La-Rue.pdf

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A Review of Online Content Regulation in Albania: Challenges and Recommendations

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Abstract: *The introduction of the Digital Services Act marks a turning point in online content regulation, with many countries now adopting a more proactive approach to preventing illegal and harmful content on online platforms. Reports of illegal and harmful content increase each year. This highlights the insufficiency of online platforms' efforts in addressing these issues and underscores the need to shift from a self-regulation model to stricter government intervention. Naturally, each country develops its own approach to regulating online content, focusing on and prioritizing specific types of harmful content. In Albania, despite the growing use of the internet, progress in online safety remains slow, and the regulation of online content is still in its early stages. This paper provides a comprehensive analysis of the current situation in Albania regarding online content regulation, highlighting key challenges and proposing recommendations to advance regulatory efforts.*

1. INTRODUCTION

Online content regulation has currently become one of the most critical issues of internet governance. At a time when many international organizations show an increase in concerns and reports that users encounter online about illegal and harmful content, governments are becoming more doubtful about the effectiveness of self-regulatory initiatives as a mechanism to regulate the activities of online platforms (Vermeulen, 2019).

The Digital Services Act, which has recently been enacted, constitutes one of the most fundamental acts of cyberspace regulation, establishing clear and stricter rules and obligations for online platforms to protect the basic rights of users, particularly the protection against illegal and harmful online content. Additionally, various countries have implemented their regulatory frameworks, such as Germany's Network Enforcement Act, the UK's Online Safety Bill, and France's Avia Law. These key regulatory acts demonstrate that both the EU as a whole and individual member states are shifting their policies to exercise greater control over online content. This represents a shift from the concept of free access towards a more public order-focused approach to content regulation (Flonk et al., 2024).

Since cyberspace transcends borders, Albanian users inevitably encounter illegal and harmful online content. Albania is one of the countries that have extensive use of the Internet every year. According to the Institute of Statistics (INSTAT, 2023), 82.6% of the population (age group 16-74) uses the Internet, of which 91.6% use it every day. Also, based on the annual report by the Electronic and Postal Communications Authority (AKEP, 2023), the volume of data transmitted on mobile networks has seen an increase of 18.57% during 2022, while the average monthly consumption of internet from mobile phones has increased by approximately 14%. Although Albania

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has experienced rapid growth in internet coverage and usage, progress in online safety has been relatively slow.

The main objective of this paper is to present a thorough analysis of the current state of online content regulation in Albania. It conducts a detailed review of the country's regulatory framework by identifying key authorities and assessing existing problems and challenges. The paper concludes by offering recommendations and potential suggestions to improve online content regulation in Albania.

2. METHODOLOGY

The methodological approach of this paper was conducted through using primary and secondary data analysis.

The primary data for this research was collected and analyzed by the authors. This involved the authors' own elaboration on the processes, challenges, and mechanisms of online content regulation in Albania. The primary data focused on the current practices of internet service providers (ISPs), governmental entities, and other stakeholders in managing illegal and harmful online content.

Secondary data consisted of an extensive review of legal frameworks relevant to online content regulation in Albania. This included analysis of laws, policies, and regulations governing the blocking and removal of illegal and harmful content. In the context of Albania, the research focused on national laws such as Law No. 9918/2008 "On Electronic Communications" and Law No. 25/2024 "On Cyber Security," along with reports and guidelines from agencies like the Electronic and Postal Communications Authority (AKEP) and the National Authority for Electronic Certification and Cyber Security (AKCESK). These legal texts provided the main basis for assessing the effectiveness and gaps in Albania's current regulatory regime.

The integration of primary and secondary data enabled the identification of key challenges within the current system and the provision of recommendations for improving content regulation.

3. REGULATORY MODELS FOR ONLINE CONTENT REGULATION

Tackling illegal or harmful internet content should be a shared responsibility between the government, ISPs, users, IT industry and civil society. Each actor must do its part to identify, report and then block or remove this content.

There are several regulatory options to consider regarding online content regulation. It is up to each country, depending on its specific situation and problems with illegal and harmful internet content, to determine which regulatory model it will follow in order to achieve its objectives.

The first regulatory model requires the broad involvement of end-users and ISPs. This method is a decentralized, somewhat self-regulated model, which consists of several bottom-up measures. In this context, the Internet service provider can apply user-level protection by setting rules in the firewall and by using filtering software in order to prevent the end-user from accessing illegal or harmful Internet content (Parti & Marin, 2013). Filtering based on pre-selected keywords is a very efficient solution. However, end-user awareness to identify and report illegal or harmful internet content is a prerequisite. In Albania, in recent years some ISPs offer special packages of

filtered internet and parental control that can be useful, especially for protecting children online. For example, Vodafone has developed an application called Vodafone Secure Net used by more than 100,000 clients. Although these solutions may be productive, efforts to inform parents of the existence of these packages remain limited and fragmented (Sulstarova et al., 2019).

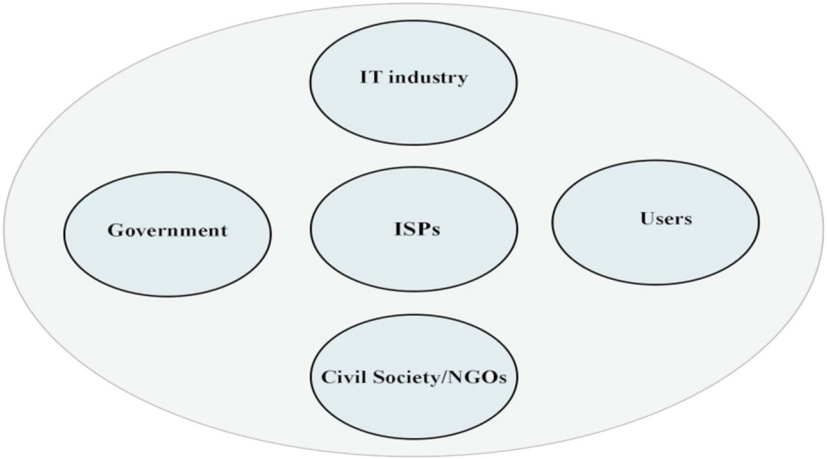


Figure 1. Tackling illegal and harmful internet content, a shared responsibility
Source: Own processing

This regulatory model requires end-user's consent and approval to be implemented. If the ISP applies the filtering of content to all its users without their consent, this can be interpreted as a possible violation of net neutrality and transparency. Although each internet service provider should value the offering of secure internet as a competitive advantage, it may result into a potential loss of its own end-users that may seek to have internet access from other ISPs, which do not apply these filtering mechanisms.

So, another regulatory model is the cooperation of ISPs with each other in order to have a common, mutual approach to illegal or harmful internet content. Application of shared filter systems designed by several service providers jointly can be achieved through codes of conduct, memoranda of cooperation or understanding and any other kinds of agreement (Parti & Marin, 2013). ISPs can cooperate promptly to remove or block access whenever they know illegal or harmful internet content or activity. This is also a decentralized, self-regulated model. According to Ofcom, since 2004, the UK's mobile operators have provided filters that restrict children's access to inappropriate internet content based on the British Board of Film Classification (BBFC) framework. Also in 2013, BT, Sky, Talk Talk and Virgin Media agreed to offer 'family-friendly' filtering to screen out content unsuitable for children.

Another regulatory model for tackling illegal or harmful internet content is the intervention of public administrative authorities with the power to issue orders for blocking and removal of this content. This is a centralized, top-down model where ISPs are obliged to take the appropriate measures in order to block or remove illegal or harmful content. This option is acknowledged as potentially the most invasive regulatory option, so its impact on individual freedoms has to be considered (Parti & Marin, 2013).

In this context, there is a wide-ranging, global debate about whether and how illegal or harmful internet content should be addressed through regulation (Ofcom, 2018). Each model has its strengths and weaknesses. Decentralized regulation conforms to the Internet's openness but it is not unified.

Users need to play an active role in tackling illegal or harmful internet content. Even so, the level of experience and perception of each user regarding what is legal and illegal, what is harmful and not, is different. This is the reason why applying shared filters by ISPs is a pretty good and unified solution. Although internet self-regulation regarding technical protocols and functionalities exists, online content regulation has raised most public debate and concern (Price & Verhulst, 2000).

Reality shows that a hybrid model can be followed, which combines government intervention with self-regulation. In particular, determining whether content is legal or illegal is the responsibility of public administrative authorities. On the other hand, due to the diverse nature of harmful content and the fact that this content can become very disturbing for a user or some users, agreements between ISPs with each other but also with NGOs, IT industry companies, etc. are very important to block and remove this content within a short time. However, this does not mean that government regulation should not exist. Tackling online child sexual exploitation and abuse has shown to be more effective when cooperation between government bodies, ISPs, NGOs for children's rights, private helplines, and hotline services exist. In Albania, UNICEF in cooperation with the Municipality of Tirana and internet service providers has established the introduction of Friendly WiFi Spots. In some public areas in Tirana, free internet access is filtered from online child exploitation and abuse material (UNICEF, 2020).

4. ONLINE CONTENT REGULATION IN ALBANIA

4.1. Relevant Administrative Entities

At the moment in Albania, there is no specific law that deals with and regulates blocking, filtering and take-down or removal of illegal or harmful internet content. This means that there are a number of public institutions and authorities, in the organic laws of which, there are special provisions that regulate certain types of illegal and harmful internet content.

First of all, it is important to define the administrative authorities, which have the liability of managing, administering and supervising the filtering, blocking and removal procedures.

AKEP is the **Electronic and Postal Communications Authority**, which operates under the Law no.9918/2008 "On Electronic Communications". Based on this law, any new operator or entrepreneur that intends to offer electronic communications networks and services is obliged to apply for general authorisation in order to be licensed by AKEP. This authorization is subject to many conditions and requirements, which are mandatory to be followed by electronic communications operators. One of these obligations is to respect the restrictions regarding illegal or harmful internet content, defined by Article 15, paragraph 1(e). In this context, whenever AKEP receives a request or decision from competent bodies, it sends or forwards the request to internet service providers in order to take appropriate measures to block access or remove illegal or harmful content immediately. At this point, it is necessary to specify that Law no. 9918/2008 "On Electronic Communications" does not apply to the content of the services provided by electronic communication networks (Article 2, paragraph 1). This means that AKEP, under no circumstances, can send an order to ISPs without explicit decision or request by the administrative authorities. Moreover, it can never become a decision-making institution regarding illegal and harmful internet content, but is its responsibility to supervise and guarantee that blocking and removal measures are done by all internet service providers in Albania. According to AKEP (2024), 6395 requests to block illegal and harmful content have been sent to the ISPs so far.

Another important institution regarding managing and administering filtering, blocking and removal procedures of illegal internet content is AKCESK, which is the **National Cyber Security Authority**. AKCESK operates and is responsible for overseeing enforcement of the Law no.25/2024 "On Cyber Security" and the Decision of the Council of Ministers no.141/2017 "For the organisation and functioning of AKCESK". Specifically, the Decision of the Council of Ministers (point 4.21) defines that AKCESK sets up, administers and maintains a unique online system for publishing illegal internet content sites that need to be blocked. This system was established in 2020 and now public entities can upload lists of websites that they have decided to block and internet service providers are automatically notified of any new decisions or orders in real time. AKEP has also access to this system to monitor the implementation of blocking and removal measures by ISPs. AKCESK has published a guideline about the administration of the online portal to support public bodies and ISPs in using the system. It is also worth mentioning that AKCESK can neither evaluate nor decide whether certain content is illegal or not. Although on their official website, there is a specific form to report illegal or harmful internet content, AKCESK just forwards these reports to the competent authorities. Similarly to AKEP, it is not a decision-making entity.

So far, we have mentioned the institutions that hold the task of managing, administering and supervising the filtering, blocking and removal procedures of illegal and/or harmful internet content.

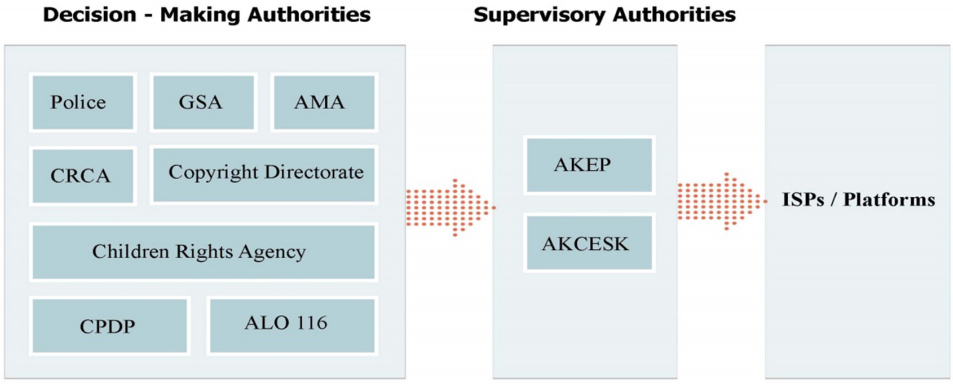


Figure 2. Relevant administrative authorities in Albania
Source: Own research

Important components in this system are also public institutions and authorities that can decide, request, or order the removal of illegal and harmful internet content, based and mandated by law. Competent entities that have and can exercise these legal rights are listed below.

Judicial and Law enforcement agencies may decide and request the blocking and removal of illegal and harmful content based on the legal provisions set out in the criminal code. This includes relevant articles regarding:

- computer distribution and internet dissemination of materials in favor of genocide or crimes against humanity,
- threats with racist and xenophobic motives through the internet,
- distribution of racist or xenophobic materials over the internet,
- insults due to racist or xenophobic motives over the internet,
- incitement, public calling and propaganda for committing acts with terrorist intent.

Law no. 155/2015 "On Gambling in the Republic of Albania" gives to **Gambling Supervisory Authority (GSA)** the right to request blocking and removal of internet sites that offer illegal and unlicensed gambling.

Audio-visual Media Authority (AMA) operates and is responsible to oversight enforcement of the Law no.97/2013 "On audio-visual Media in the Republic of Albania". Following this law, the main responsibility of AMA is the licensing of audio-visual media. Thus AMA has the right to request blocking and removal of unlicensed audio-visual media and illegal internet content consisting on piracy of copyrighted audio-visual content. At the end of August 2024, AMA announced the start of cooperation with the TikTok platform to remove videos with harmful content. So far, about 232 complaints have been sent by citizens and reported to the TikTok platform (AMA, 2024).

The **Copyright Directorate**, which operates under the Law no.35/2016 "On Copyright and Related Rights", has the right to request blocking and removal of illegal internet content that consists of copyright infringement or piracy.

According to Law no. 9887/2008 "On Personal Data Protection", Article 30 paragraph 1/b, the **Commissioner for Personal Data Protection (CPDP)** has the right to order the blocking, removal, destruction or suspension of the unlawful processing of personal data.

The **State Agency for the Protection of Children Rights** is mandated by the Law no.18/2017 "On the Rights and Protection of the Child" and the Decision of the Council of Ministers no.465/2019 "On Measures to Protect Children from Access to Illegal and/or Harmful Internet Content", to request blocking and removal of illegal and harmful Internet content for children.

The **Albanian National Child Helpline ALO 116 111**, which was founded in 2009, is the only fully toll-free telephone line that functions both as a helpline in order to provide immediate psychological support to victims and as a hotline in order to refer to the responsible government agencies all the cases of violation of children's rights and more specifically cases regarding online child sexual exploitation and abuse.

The **Children's Human Rights Centre of Albania – CRCA** is a non-governmental and non-profit organisation for the rights of children and youth in Albania. CRCA administers isigurt.al portal that is a web-based platform established in 2016 for reporting online child exploitation and abuse material. All the cases reported to this platform are passed to ALO 116 and after a preliminary evaluation, they are referred to the responsible authorities, specifically to the State Agency for the Protection of Children Rights and State Police.

Based on the data reported on the platform www.isigurt.al, more than 300 complaints have been filed, of which only 240 have been cases that have been proven to constitute illegal or harmful internet content for children (Pulaha & Hazizaj, 2020).

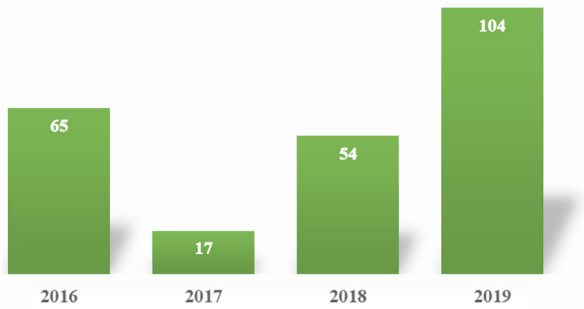


Figure 3. Cases managed by the platform isigurt.al during 2016-2019

Source: Pulaha and Hazizaj (2020)

4.2. Problems and Challenges

So, there are many entities, that have well-defined roles and responsibilities for identifying illegal and/or harmful internet content, ordering blocking and removal of this content, and managing and supervising measures taken by ISPs to comply with these restrictions. The above institutions also have signed memorandums of cooperation and understanding with each other in order to be more effective and efficient in performing functions and responsibilities regarding blocking and removal of illegal internet content. However, there are problems and challenges in the functioning of this model that are interrelated.

The main problem is that **this system does not operate according to a unified practice**. In this aspect, although AKCESK is the responsible institution mandated by Government Decision no.141/2017, a significant amount of blocking and removal requests or orders by the relevant entities are reported directly to AKEP. These requests or orders should normally be notified and uploaded to the online system set up by AKCESK. This means that there is no single standard to be used for notifying blocking and removal orders and then for taking the appropriate measures to block or take down this content by ISPs. In this regard, it is important to mention that this problem derives from the fact that often the legal definitions are ambiguous and sometimes in conflict with each other, resulting in institutions not being clear about their legal powers, responsibilities and capabilities to act. Particularly, the requirement for ISPs to be registered in the online system for blocking and removal of illegal internet content is not included in the Law no.9918/2008 "On electronic communications" and Regulation no.47/2017 "On the implementation of General Authorization Regime" published by AKEP, although these important documents clearly define the legal obligation of ISPs to respect the restrictions regarding illegal or harmful internet content. According to its official website, in 2020 AKEP has published for public consultation a document regarding some additions and amendments to Annex E, of Regulation no. 47/2017 "On the implementation of General Authorization Regime". In this document, it is proposed that ISPs must register in the online portal administered by AKCESK, in order to be notified of any order, to confirm the implementation of measures and to follow and continuously implement the obligations imposed by AKCESK regarding blocking and removal of illegal internet content. Although the public consultation period is over since 2020, AKEP has not approved this document for unknown reasons. As a result of this, even though AKCESK has requested several times from ISPs to register in the system, at the moment not all Internet Service Providers are registered in it. At this point, despite these institutions' cooperation with each other, government intervention through possible legal changes is more than important to clarify the competencies and responsibilities of each institution for blocking and removal of illegal internet content.

Also, there is **no institution to assess the legality of the orders or decisions** taken by public authorities. As a result, decisions are not always in complete accordance with their legal provisions and are perceived as a violation of freedom of expression. A problem that is related to the above one is that **ISPs do not show an explanatory message** about the reason every time they block or remove content. This makes the process less transparent.

Another problem is that **this fragmented four-tier system causes significant delays**, especially in particular cases e.g. child sexual exploitation and abuse where blocking and removal of illegal and harmful internet content is essential to be performed as quickly as possible to prevent mass distribution of this content. An important factor that slows down the response is the fact that requests or orders issued by relevant public bodies are submitted physically in hard copy to AKEP.

From a legal point of view, the study by the Swiss Institute of Comparative Law (2015) stated that the Criminal Code contains many provisions that penalize criminal offences performed through the Internet, however, **it does not provide legal regulations for the blocking or filtering of illegal or harmful Internet content**. Also according to Sulstarova et al. (2019), the broad definition of harmful material or content is a problem. Different laws state the need for blocking and removal of illegal or harmful internet content, but the definition of harmful content is too general, making it difficult to identify what it encompasses and leaves space for individual discretion. A specific definition of the cases and conditions when the content will be categorized as harmful is needed.

Another important problem is **the clarification of legal time frames within which ISPs are obliged to conduct blocking and removal procedures**. In Annex E, point 9.4 of Regulation no.47/2017 "On the implementation of General Authorization Regime" published by AKEP, it is defined that internet service providers have to act immediately to block or remove illegal or harmful internet content upon receipt of the request from AKEP. Meanwhile, Article 8, point 1 of the guideline issued by AKCESK regarding the administration of the online portal for blocking and removal of illegal internet content, states that ISPs should access the online system and conduct blocking and removal procedures within 3 (three) calendar days. Whereas point 3 of the same article, defines that in emergency cases they should block and remove illegal internet content immediately upon receipt of the notice. The definition of the term "immediately" is meaningless and nonspecific because it does not refer to a specific time frame. So, it is crucial to determine what is meant by immediately. Also, it is necessary to define what constitutes an emergency case.

A technical problem is that **often the requests or orders taken by administrative authorities are domain-based and as a result, the blocking measures applied by ISPs make the whole domain or platform inaccessible and not just the illegal or harmful internet content**. In April 2020, for example, a request by the Audio-visual Media Authority to block a pirated copy of a film by an Albanian comedian hosted on the popular online platform medium.com, led to the temporary block of the entire platform by some ISPs.

4.3. Recommendations for Enhancing Online Content Regulation in Albania

Based on the problems and challenges identified above, the authors propose some recommendations that can be undertaken in order to improve online content regulation and create a safer digital space in Albania:

- **Establish a Unified Legal Framework for Online Content Regulation**
  It is recommended that a unified legal framework be introduced, refining the responsibilities of regulatory bodies such as AKEP, AMA and AKCESK. This law should address the gaps in current legislation and ensure that a single, standardized process is followed for content removal and blocking requests across all public institutions with clear legal definitions and timeframes.
- **Designate a Regulatory Body as a Digital Services Coordinator**
  One of the key requirements of the Digital Services Act is that each member state must designate a competent authority as its Digital Services Coordinator. The coordinator is responsible for all matters relating to online content regulation and for ensuring coordination at the national level. Accordingly, the Albanian government needs to appoint an administrative authority to serve as the Digital Services Coordinator. Given that many EU member states have designated their electronic communications authorities for this role, AKEP could potentially fulfill this responsibility in Albania.

- **Digitalization of Online Content Moderation Processes**
  To ensure that notification, blocking, and removal procedures for illegal and harmful content occur swiftly, thereby preventing mass distribution online, transitioning to a fully digitalized system is necessary and would allow for faster action. The existing online portal of AKCESK should be fully utilized, and ISPs should be required to register and comply with its processes.
- **Improve Transparency in Content Blocking and Removal**
  To ensure greater accountability, ISPs should be required to display explanatory messages when content is blocked or removed, outlining the legal basis for the action. This will increase transparency and help address public concerns about violations of freedom of expression.
- **Increase Public Awareness and End-User Participation**
  Public education and awareness campaigns should be launched to inform users about tools for filtering harmful content, such as parental control features offered by ISPs, and to promote reporting of illegal and harmful content encountered online.

5. CONCLUSION

Online content regulation has become a significant issue in Albania, reflecting both global and local concerns over the rise of illegal and harmful content on the internet.

Although Albania has the appropriate public institutions and each of them has a regulatory legal framework, there is still no law or regulatory act that regulates all the processes and procedures related to the regulation of online content. During the detailed analysis that the authors developed, a series of problems and challenges were identified in the current online content regulation system, including a fragmented legal framework, non-standardized and non-unified processes, significant delays, and limited transparency in procedures. Even though Albania has made great progress in the digitization of public services, the regulation of online content is still in the early stages of development.

Moving forward, Albania needs to establish a unified and clear legal structure that clearly defines the roles and responsibilities of key regulatory bodies, such as AKEP and AKCESK. In this direction, Albania can use as a guide the main regulatory acts such as the EU Digital Services Act, Germany's Network Enforcement Act, the UK's Online Safety Bill, and France's Avia Law.

Appointing a regulatory body as a digital services coordinator and digitalizing content moderation processes are crucial steps in improving the efficiency and transparency of harmful content removal. Additionally, increasing public awareness and engagement through educational campaigns will empower citizens to play an active role in reporting and mitigating harmful content, ultimately leading to a safer online environment for all.

References

Audio-visual Media Authority (AMA). (2024, August 22). *AMA cooperation with TikTok: Krasniqi urges to report harmful content.* https://ama.gov.al/ama-bashkepunim-me-tiktok-krasniqi-raportoni-permbajtjet-e-demshme/

Audio-visual Media Authority (AMA). (2024, September 6). *Transparency on AMA's cooperation with TikTok: Two-week report—403 videos blocked for piracy.* https://ama.gov.al/transparence-mbi-bashkepunimin-ama-tiktok-bilanci-2-javor-403-video-te-bllokuara-per-pirateri/

Electronic and Postal Communications Authority (AKEP). (2017). *Regulation No. 47, On the implementation of the General Authorization Regime.* AKEP.

Electronic and Postal Communications Authority (AKEP). (2023). *Annual Report for the Year 2022.* https://www.akep.al/

Electronic and Postal Communications Authority (AKEP). (2024). *List of domains/URLs for access blocking, updated 28.08.2024.*

Flonk, D., Jachtenfuchs, M., & Obendiek, A. (2024). Controlling internet content in the EU: towards digital sovereignty. *Journal of European Public Policy*, *31*(8), 2316–2342. https://doi.org/10.1080/13501763.2024.2309179

INSTAT (Institute of Statistics). (2023). *Annual report on the use of information and communication technology.* https://www.instat.gov.al/

Ofcom. (2018). *Addressing harmful online content: A perspective from broadcasting and on-demand standards regulation.* https://www.ofcom.org.uk/

Parti, K., & Marin, L. (2013). Ensuring freedoms and protecting rights in the governance of the internet: A comparative analysis on blocking measures and internet providers' removal of illegal internet content

Price, M., & Verhulst, S. (2000). *The concept of self-regulation and the Internet.* Departmental Papers (ASC), University of Pennsylvania. https://repository.upenn.edu/asc_papers/

Pulaha, K., & Hazizaj, A. (2020). *2nd National Report on Online Safety of Children and Youth in Albania.* CRCA Albania. https://www.isigurt.al/

Republic of Albania. (2008). *Law no 9887, On protection of personal data.* Official Gazette of the Republic of Albania.

Republic of Albania. (2008). *Law No. 9918, On Electronic Communications in the Republic of Albania (as amended).* Official Gazette of the Republic of Albania.

Republic of Albania. (2013). *Law no. 97, On audio and audio-visual media services in the Republic of Albania.* Official Gazette of the Republic of Albania.

Republic of Albania. (2015). *Law no. 155, On Gambling in the Republic of Albania.* Official Gazette of the Republic of Albania.

Republic of Albania. (2016). *Law no.35, On Copyright and Related Rights.* Official Gazette of the Republic of Albania.

Republic of Albania. (2017). *Decision of the Council of Ministers no.141 "For the organisation and functioning of AKCESK".* Official Gazette of the Republic of Albania.

Republic of Albania. (2017). *Law no. 18, On the rights and protection of the child.* Official Gazette of the Republic of Albania.

Republic of Albania. (2019). *Decision of the Council of Ministers no.465 "On Measures to Protect Children from Access to Illegal and/or Harmful Internet Content".* Official Gazette of the Republic of Albania.

Republic of Albania. (2024). *Law No. 25, For Cyber Security.* Official Gazette of the Republic of Albania.

Sulstarova, A., Bisha, E., Ymeri, H., & Shapo, Z. (2019). *WebFactor: Assessment of the Legal Framework and Institutional Readiness to address Child Sexual Exploitation and Abuse online in Albania.* UNICEF Albania/Shapo Consulting.

Swiss Institute of Comparative Law. (2015). *Comparative study on blocking, filtering, and take-down of illegal internet content.* Council of Europe. https://www.isdc.ch/

UNICEF. (2020). https://www.unicef.org/

Vermeulen, M. (2019). Is that the question? Online content: To regulate or not to regulate. Association for Progressive Communications. https://ssrn.com/abstract=3557914

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Judicial Precedent: Case Study Republic of North Macedonia

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North Macedonia

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Abstract: *Judicial precedent refers to previously decided judgments of the courts, which judges are bound to follow. It is an important formal source of law of the common law countries. Previous court judgements are not legally binding on future judicial decisions under the civil law systems. Republic of North Macedonia is part of the civil law system. The primary formal sources of law in the Republic of North Macedonia are written statutes. The purpose of this paper is to analyse the importance of judicial precedent in the Macedonian legal system. This paper consists of an introduction, two parts and a conclusion. The introduction describes the basic issues related to judicial precedent as a formal source of law. The first part analyzes the theories of precedent. The second part analyzes the situation with the judicial precedent as a source of law in the Republic of North Macedonia. The conclusion summarizes the main findings, observes how they relate to the research question and gives recommendations.*

1. INTRODUCTION

Judicial precedent, also known as case law or stare decisis (from Latin: to stand by things decided) refers to a court decision that is considered an authority for deciding subsequent cases involving identical or similar facts, or similar legal issues (Cornell Law School, 2024). Judicial precedent is a cornerstone of the common law jurisdictions. Salmond found that a judicial precedent speaks in England in 1998 with a voice of authority; it is not merely evidence of the law but a source of it; and the courts are bound to follow the law that is so established. However, previous court judgments are not legally binding on future judicial decisions under the civil law systems (Varetskyi, 2021, p. 58). The Republic of North Macedonia (hereinafter: North Macedonia) is part of the civil law system. The primary formal sources of law in North Macedonia are written laws. According to Lindquist and Cross (2010), stable legal rules are not the only way to ensure predictability and political factors influence legal change through legislative enactments (p. 1). Smejkalová (2020) states that the choice to follow previous judicial decisions in precedential as well as non-precedential legal systems as well as to cite such a decision in another judicial decision may be explained in terms of the concept of optimal relevance. Thus, this paper aims to open up the debate about the use of past judicial decisions as a source of law in North Macedonia.

2. THE THEORIES OF JUDICIAL PRECEDENT

Theories of judicial precedent generally fall into three categories: the formalist theory, the realist theory, and the critical legal theory. Each offers a unique perspective on how precedents should be applied and the role they play in the legal system. Each of these theories has its impact on the judicial decision-making process.

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According to the formalist theory, the law is a set of rules that judges apply mechanically and precedents are binding. According to Capurso (1998), a judge's decision is the result of two fixed elements: the facts and the rule of law (p.9). The Formalists maintain that every judicial opinion is capable of being broken down into a three-part equation: the rules of law, "R"; the facts of the case, "F"; and the decision of the judge, "D" (Capurso, 1998, p. 9). This is represented by the formula R x F = D (Capurso, 1998, p. 9). This perspective links judicial precedent to the consistency in court decisions and predictability for legal practitioners because it is dedicated to the exact law wording, not personal views, or external factors. While it contributes to the stability and coherence of the legal system, formalism is not without its limitations. The main criticisms of the formalist theory of judicial precedent are: its rigidity, obstruction to legal reforms, and ignoring of social, economic, and political factors in making courts` decisions.

In contrast to formalist theory, the realist theory emphasizes the practical and contextual application of judicial precedents. Realists argue that legal decisions are influenced by a range of factors beyond mere legal rules, including judges' personal experiences, societal needs, and contemporary values (Capurso, 1998; Hanna, 1957). The Realists suggest their formula, S x P = D: the judicial hunch or stimuli, " S," multiplied by the judge's personality, "P," equals the decision, "D" (Capurso, 1998, p. 10). This approach stimulates judges to think beyond statutory laws and consider social, economic and political factors. Realists argue that the judicial decision-making process is flexible and affected by societal realities. This theory has its advantages: contributes to the evolution of the law, reflects changes in society and values, and considering the experience of judges, it faces several challenges. The main criticisms of the realistic theory of judicial precedent are: that flexibility can lead to inconsistency in judicial decisions, the judicial decision-making process might be based on the subjective judgments of individual judges and their personal beliefs. Also, the flexibility might lead to less uniform laws.

According to the critical legal theory`s approach to the legal precedent, the law and precedents are not neutral or objective but are influenced by the prevailing ideologies and interests of those in power. It emphasizes the role of power, ideology, and social context in shaping legal decisions. While critical theory provides valuable insights into the complexities of judicial precedent, it also faces several criticisms: critical theory's emphasis on power and ideology influences can lead to relativism, where the law becomes subjective; by focusing on the social and political contexts of legal decisions, critical theory may overlook the importance of legal principles and judges are expected to navigate complex legal doctrines while balancing competing interests.

3. JUDICIAL PRECEDENT AS A SOURCE OF LAW IN THE REPUBLIC OF NORTH MACEDONIA

According to Shkarik (2008) the latest novelties of the reform process in North Macedonia, which originate from the social and reform development starting from 2010, are mainly focused on introducing essential elements of the common law legal system into the Macedonian civil law judicial system, which gradually turns its civil law legal system into a mixed system (p. 95).

According to Article 98 of the Constitution of North Macedonia, Courts judge on the basis of the Constitution and laws and international agreements ratified in accordance with the Constitution. Macedonian Law on Courts contains equivalent provision in article 2 (Law on Courts, North Macedonia). However, the legislator could not always foresee legal detailed solutions for every situation in real life that appears in front of the court. This is precisely why so-called legal gaps

or legal vacuum appear in practice. The Macedonian legal theory defines legal gaps as social relations that are not regulated by the law, i.e. legal situations that the legislator previously failed to foresee (Macedonian Constitutional Court Report, 2007, p. 16).

The Assembly of the Republic of Macedonia is a representative body of the citizens and the legislative power of the Republic is vested in it (Article 61 paragraph 1 of the Constitution of the Republic of North Macedonia). According to Article 108 of the Macedonian Constitution, the Constitutional Court of North Macedonia is a body of the Republic protecting constitutionality and legality. Article 110 of the Constitution paragraphs 1 and 2, stipulates that the Macedonian Constitutional Court decides on the conformity of laws with the Constitution and decides on the conformity of collective agreements and other regulations with the Constitution and laws. This provision provides that the jurisdiction of the Constitutional Court does not refer to overcoming the legal gaps. In case the Constitutional Court refuses to examine and evaluate the legal gaps, most often, the court`s justification refers to the jurisdiction of the Constitutional Court to decide on the constitutionality and legality of the provisions contained in the laws, and that the Constitutional Court does not have the authority to decide on what the law does not contain, but should have contained, according to the opinion of the petitioner of the initiative (Macedonian Constitutional Court Report, 2007). However, article 8 paragraph 2 of the Macedonian Law on Courts stipulates that the court cannot reject a request related to the exercise of a particular right because of a legal gap and shall be obliged to decide upon it, by invoking the general principles of law, unless explicitly prohibited by law. This means that even though there is a legal gap for a particular issue, the courts make a decision and thus create case law. Although judicial practice is not cited as a formal source of law in North Macedonia, it is not without impact. Namely, article 18 paragraph 6 of the Law on Courts, stipulates that when deciding, the court is obliged to apply the views expressed in final judgments of the European Court of Human Rights. Paragraph 5 of the same article provides that in specific cases, the Court immediately applies the final and enforceable decisions of the European Court of Human Rights, the International Criminal Court or another court, whose competence is recognized by the Republic of Macedonia. Also, article 19 paragraph 2 of the same Law, stipulates that the court of higher instance may require from the court of lower instance within its area data about the application of the laws, the problems emerging during the trial, the monitoring and harmonization of the court practice, the deferral of the procedure regarding particular cases, and other data, but it may inspect the work of those courts in another manner, as well as hold joint meetings in order to discuss the abovementioned matters.

According to article 37 paragraph 1 alinea 1 and alinea 3 of the Macedonian Law on Courts, the Supreme Court of North Macedonia, at a general session, shall: define general views and legal opinions on issues of significance for provision of the unity by the application of the laws by the courts within three months, but not longer than six months at its own initiative or at the initiative of a president of a court or by an initiative of the sessions of judges or the session of the court divisions in the courts or by an initiative of lawyers and shall publish them on the web site of the Supreme Court of North Macedonia, and review issues concerning the work of the courts, the application of laws and the court practice. The general views and legal opinions determined by the Supreme Court of North Macedonia at a general session are binding for all of the councils of the Supreme Court (Article 37 paragraph 2 of the Macedonian Law on Courts) i.e. for the judges and the President of the Supreme Court (Article 66 of the Macedonian Supreme Court Rules). This legal provision indicates that general views and legal opinions are binding only on the councils of the Supreme Court and not on the lower courts. This legal wording follows the Constitutional provision of article 98 which stipulates that judicial power is exercised by the courts and that the courts are autonomous and independent.

Also, the provision of article 19 paragraph 3 of the Law on Courts stipulates that in the exercise of the powers, the court of higher instance cannot in any way exert influence on the independence and autonomy of the court of lower instance in the adjudication of particular cases. This wording is interesting from the following point of view: the lower courts are independent in their work, but there are still other legal provisions that bind the lower courts to the general views and legal opinions of the revision court, that is, the Supreme Court. Namely, Article 386 of the Macedonian Law on Civil Procedure stipulates that the court to which the case is returned for a retrial is bound by the legal understanding on the basis of which the decision of the revision court (Supreme Court) is based, which abolished the second instance decision or the decisions of the two lower courts. Nedelkova (2016) states that the Macedonian Law on Criminal Procedure, which is much more oriented to the common law legal system, does not contain precise legal duty for applying the general views and legal opinions of the highest court - the Supreme Court, but the strength of the decision`s legal arguments implies that *eo ipso* (p.5). Hence, article 386 of the Law on Civil Procedure introduces a new legal term, the so-called "legal understanding", which is quite broad and needs further elaboration and interpretation. Such interpretation is necessary to clarify this legal term. At the same time, that explanation is necessary to clarify whether it belongs to the interpretation of substantive law or procedural law, or both, or whether it simply refers to the essence of the reasoning of the Supreme Court (Ristic et al., 2015, p. 15).

Regarding the previous, it can be concluded that in Macedonian law there is no clear legal norm about the legal effect of general views and legal opinions (Ristic et al., 2015, p. 26). This could be a problem in terms of ensuring uniformity in courts` decisions across the country, if cases end with a final judgment of the second-level court (Appellate Court) and they do not reach the Supreme Court to be reviewed and decided upon them (Article 375 of Law on Civil Procedure, article 463 of Law on Criminal Procedure).

The Supreme Court Rules regulate the procedure for determining the general views and legal opinions. Article 63 of the Supreme Court Rules stipulates that the Supreme Court at the general session establishes general views and legal opinions which is of importance for ensuring unity in the application of laws by the courts. According to paragraph 2 and 3 of this article, the general view represents a position determined by the Supreme Court of North Macedonia on matters of importance for ensuring unity in the application of laws by the courts, while a legal opinion is the position of the Supreme Court of North Macedonia established at the General Session due to unequal practice in the application of laws. General views and legal opinions of the Supreme Court of North Macedonia elaborate not only on the legal provision but also on the principles and values protected by that provision. This does not mean changing the law, only developing its *ratio legis* in relation to the application of the law, in the interest of human rights, equality of citizens before the law and legal certainty (Nedelkova, 2016, p. 3). Within the Supreme Court of North Macedonia, a special department for monitoring judicial practice has been established. Its purpose is to monitor and study judicial practice, initiate a review of the adopted legal opinions and propose to the Supreme Court General Session to take a position on a separate legal issue. This department organizes meetings with appellate courts to discuss certain legal issues with the aim: unification of the courts practice. The department also monitors the practice of the European Court of Human Rights. (Article 71 of the Supreme Court Rules). The determined legal opinions and conclusions of the Department and the determined sentences of the councils are published on the website of the Supreme Court.

The Supreme Court of North Macedonia is competent to decide upon a request of the parties and the other participants in the procedure for violation of the right to trial within a reasonable period, in a procedure defined by law before the courts in the Republic of Macedonia in accordance with

the rules and principles determined by the European Convention for the Protection of Human Rights and Fundamental Freedoms and directed by the court practice of the European Court of Human Rights (Article 35 paragraph 5 of the Law on Courts).

Macedonian Law on Civil Procedure provides for an extraordinary remedy Repetition of a procedure on the occasion of a final judgment of the European Court of Human Rights in Strasbourg. Namely, article 400 paragraph 1 and 2 of this law provides that: when the European Court of Human Rights determines a violation of a human right or of the fundamental freedoms provided in the European Convention for the Protection of Fundamental Human Rights and Freedoms and in the Additional Protocols of Convention, which the Republic of Macedonia has ratified, the dispute party may, within 30 days from the finality of the judgment of the European Court of Human Rights, submit a request to amend the decision by which that right or fundamental freedom was violated. This request should be submitted to the court in the Republic of Macedonia that judged in the first instance in which the decision that violated human rights or fundamental freedom, was made. In this procedure, the provisions for repeating the procedure shall be applied accordingly. Paragraph 3 of this article, stipulates that in the repetition of the procedure, the courts are obliged to respect the legal positions expressed in the final judgment of the European Court of Human Rights, which established a violation of basic human rights or freedoms.

4. CONCLUSION

One of the most neglected topics in the Macedonian judicial system is the status and significance of judicial precedent.

There is a certain contradiction between the legal provisions which, on the one hand, provide that the court of a higher level must not in any way influence the independence and autonomy of the court of a lower level in making decisions in specific cases (article 19 paragraph 3 of the Law on Courts), and on the other hand, article 386 of the Law on Civil Procedure determines that the court to which the case is returned for a retrial is bound by the legal understanding based on which the decision of the revision court (Supreme Court) was based, which annulled the second instance decision or decisions of the two lower courts. According to the wording of these legal provisions, this obligation for legal understanding of the Supreme Court applies only to cases for which revision is allowed as an extraordinary legal remedy.

Pursuant to the Supreme Court Rules, a separate Department for Judicial Practice has been established, through which activities the Supreme Court harmonizes the practice with the lower courts to ensure uniform application of the laws by courts, as well as with the practice of the European Court of Human Rights.

The website of the Supreme Court contains general views and legal opinions as well as court decisions, but the structure of the web side is not user friendly; it is complicated and more data is required to find a document. The section Bulletin contains only one document: Supreme Court Case Law Bulletin 2016-2017. This base of data should be continually updated and available, both for the needs of the courts and for lawyers as well as any other person.

There is no legal provision about the mandatory nature of general views and legal opinions of the Macedonian Supreme Court, but such a provision exists for the positions expressed in final judgments of the European Court of Human Rights.

It can be concluded that efforts are being made to establish certain rules and standards that will contribute to unifying the application of laws, along with the opinions of the European Court of Human Rights expressed in its final judgments. At the same time, there is no doubt that the improvement relating judicial precedent is necessary. As for beginning, creation of an updated user friendly database and necessary information; and perhaps most important of all, ensuring the quality of the judges, their knowledge and integrity. Through argumentation of the decisions they make, the judges will convince the parties that their case was fully considered, and decided in the legal procedure and in a fair way.

Each approach for judicial precedent has its practical impact on the decision-making process of the judges, thus the process could differ in significant ways. As legal systems evolve, the challenge remains to balance adherence to precedents with the need for flexibility and responsiveness to changing societal conditions. Judges should not be reluctant to challenge established norms and introduce progressive changes.

References

Capurso, J. T. (1998). How Judges Judge: Theories on Judicial Decision Making. *University of Baltimor Law Forum.* 29 (1), 5-15. https://scholarworks.law.ubalt.edu/cgi/viewcontent.cgi?article=1909&context=lf

Constitutional Court of the Republic of Macedonia. (2007). XIV Congress of the Conference of European Constitutional Courts "The problem of legislative failure in constitutional-judicial practice". National report, Skopje). https://www.confeuconstco.org/reports/rep-xiv/report_Macedonia_ma.pdf

The Constitution of the Republic of North Macedonia. https://www.sobranie.mk/the-constitution-of-the-republic-of-macedonia-ns_article-constitution-of-the-republic-of-north-macedonia.nspx

Cornell Law School. (2024, March). Legal Information Institute, Precedent. law.conell.edu. https://www.law.cornell.edu/wex/precedent

Hanna, J. (1957). The Role of Precedent in Judicial Decision. *Villanova Law Review,* 2, 367-384. https://digitalcommons.law.villanova.edu/cgi/viewcontent.cgi?article=1425&context=vlr

Law on Civil Procedure, Official Gazette of the Republic of Macedonia No.79/05, 110/08, 83/09, 116/10 and 124/15

Law on Courts, Official Gazette of Republic of Macedonia No. 58/06, 35/08, 150/10, 83/18 , 198/18 and Official Gazette of Republic of North Macedonia No. 96/19), https://www.venice.coe.int/webforms/documents/default.aspx?pdffile=CDL-REF(2019)016-e

Law on Criminal Procedure, Official Gazette of the Republic of Macedonia No.150/2010; 100/12 and 198/18

Lindquist, A. S., & Cross, F. C. (2010). Stability, Predictability and The Rule of Law: Stare Decisis as Reciprocity Norm. law.utexaas.edu. https://law.utexas.edu/conferences/measuring/The%20Papers/Rule%20of%20Law%20Conference.crosslindquist.pdf

Nedelkova, L. (2016). The role of the Supreme Court in promoting (ensuring) effective justice and unifying judicial practice. China).

Ristic, J., Jonoski, L., & Nadjinska, G. (2015). (Ed.). *Unifying the Court Practice in Macedonia Possibilities vs. Challenges.* Center for Legal Research and Analysis,

Salmond, J. (1998). The theory of Judicial Precedents. In Brewer, S. (Ed.). *Precedents, Statutes, and Analysis of Legal Concepts*, New York: Routledge. https://www.taylorfrancis.com/books/edit/10.4324/9781315051833/precedents-statutes-analysis-legal-concepts-scott-brewer?refId=fdea4878-2292-4d57-9199-8191c9c52652&context=ubx

Shkarik, S. (2008). Jurisprudence of the European Court of Justice, Model for Reform of the Judiciary and the Constitutional Court of the Republic of Macedonia – Reform of the Institutions and Its Significance for the development of the Republic of Macedonia. In Collection of Scientific Discussion. Macedonian Academy for Sciences and Arts (p. 95). In Ristic, J., Jonoski, L & Nadjinska, G. (2015). (Ed.). *Unifying the Court Practice in Macedonia Possibilities vs. Challenges.* Center for Legal Research and Analysis. p.6.

Smejkalová, T. (2020). Importance of Judicial Decisions as a Perceived Level of Relevance. *Utrecht Law Review*, 16 (1), 39-56. https://utrechtlawreview.org/articles/10.36633/ulr.504

Supreme Court Rules, Official Gazette of the Republic of Macedonia No.14/2022.

Varetskyi, A. (2021). The Role of Precedent in the System of Sources of Law. *Veritas Iuris, 1*, 57-69. https://veritasiuris.lazarski.pl/fileadmin/user_upload/user_upload/07VeritasIuris_1-21_art3_Varetskyi.pdf

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The Place of Custom in French and Tunisian Law

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Abstract: *At first solitary, Homo sapiens soon realized that to survive it had to work with others. This collaboration took the form of human communities based on common interests and values. However, for society to function and develop well, in addition to a system of shared values, there must be a set of rules to guide the behaviour of community members, especially as self-interest can sometimes take precedence over the general interest. The creation of customs- unwritten rules that arise from repeated and accepted practices within the community, has not only ensured that the members of the community live well together, but has also led to its evolution. Thus, by taking a brief trip down through history, custom shows us how legal rules emerged from existing beliefs and customs within the community. So the law of a state is alive, it emerges as a result of social interactions and is not just a set of rules laid down and imposed by a particular authority. Today, it is written law that dominates, but custom continues to play a fundamental role, especially in areas where the law is ambiguous.*

1. INTRODUCTION

The continental-European legal system to which countries such as France, Germany, Spain and Italy belong is the result of the reception of Roman law in Europe. Its formation is deeply rooted in history, based on canon law, largely inspired by Roman imperial public law; the customs of the Germanic tribes of northern France and ancient Roman law (Ciucă, 2019). It is based mainly on written codes - the law is the main source of law; unlike *common law*, which is based on case law - court decisions serve as precedents for future cases and judges play an active role in the creation of law. A benchmark for this system is the creation of the Napoleonic Civil Code of 1804, which became the model for many other codes around the world. It had a significant influence in Africa, particularly in the former French colonies. Examples include the adoption of the Algerian Civil Code of 1834, that of Guinea (1892), Madagascar (1896), and the adoption of the Personal Status Codes of Tunisia (1956), Morocco (1957-1978) and Algeria in 1984 (Halpérin, 2005).

2. DEFINITION AND ELEMENTS OF COMMON LAW

Common law (custom or *consuetudo*) is a custom or practice of the people, which, by "common adoption and acceptance, and by long and constant custom, has become binding and has acquired the force of law in respect of the place or subject of regulation to which it relates". (Black, 1968). From this definition, we can draw many characteristics of common law: repeatability (it arises from general and repeated use within a community, which gives it binding force); collective recognition (it must be recognized and accepted by the population, expressly or tacitly); and flexibility (it can evolve according to the needs of society). Also, common law arises spontaneously within the community and is diverse, thus reflecting its particularities; unlike law which emanates from a public authority. People not only accept custom but obey it because they are aware that in a society

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without rules chaos rules. Even strong-willed individuals obey it to avoid conflict or repercussions within their community. (Sapir, 2021).

Common law has two main components: a material element and a psychological element. The material element is the constant and general repetition of a behaviour or practice within a community. Accordingly, the custom must be of a certain antiquity (practised for a considerable period); it must be constant (followed regularly), respected and recognized by those to whom it applies (Germain, 2019). The psychological element of custom is the belief that repeated use is a rule of law (Germain, 2019). People perceive the practice as binding and comply with it. A practice, even repeated, cannot become a rule of law without this internal conviction.

Historically, for centuries in many societies, custom was the main source of law. Today, although custom is a recognized source of law, its importance has been considerably diminished. It plays a secondary role in the written law. In some countries, such as those in the *common law* system, custom still plays a key role compared to countries in the continental European system where written law predominates. In what follows, we will focus our attention on the development of customary law in a country in the continental-European system of law where the motto *"Liberté, Égalité, Fraternité"* was born.

3. CUSTOMARY LAW IN FRANCE

From a legal point of view, France was divided in two: in the north, we had unwritten law (*pays de droit coutumier*) based on the consent of the population, and in the south, written law (*pays de droit écrit*) based mainly on codification, inspired by Roman law (Ginoulhiac, 1859). Before the conquest of Gaul by Julius Caesar in the 1st century BC., (Duval, 1989) the indigenous population was governed by a legal system based on custom that managed to survive until the French Revolution. How did it have such a long "life"?

Perhaps this is because customary law is deeply rooted in the values of a community; values that are reflected in the behaviour of individuals. It is also not a static law as it evolves in response to the needs of individuals, allowing for continuous adaptation to local realities. At the same time, unlike written law which is difficult to change, rigid, customary law is elastic (it does not have to go through a certain procedure to be changed; change is "dictated" by individuals). Last but not least, customary law does not originate from some state authority, which sometimes seeks to satisfy its own interests through the rules it adopts; it comes from the people, more precisely from the generations that have walked this earth. Customs could vary from one region to another, which sometimes led to inequalities in their application and conflicts of interpretation, but this inconvenience did not lead people to abandon them.

The need to clarify and unify these customs became evident in the Middle Ages. Thus, in 1454, Charles VII ordered that all the customs of the kingdom should be set down in writing (Ordinance of Montils-lès-Tours) to reduce the diversity of interpretations and have uniform law. The ordinance was intended to make the judicial system more efficient by shortening trials, reducing costs for the parties involved, facilitating the work of judges (by compiling the customs in a compendium) and, of course, strengthening royal authority by limiting the power of the nobles (Université numérique juridique francophone, s.d.). The drafting process was a laborious one because each province had its customs which made it difficult to bring them together in a common body. In addition, there was fierce opposition from the nobles who felt their privileges were threatened by the attempt to standardize the law (Zink, 2007-2008).

The task of bringing together the different customs into a common body fell to legal practitioners, who worked with representatives of different social classes (nobility, clergy) under the authority of royal commissioners (Grinberg, 1997). Thus, about five years after the adoption of the Ordinance of Montils-lès-Tours (1459), the Custom of the Duchy of Burgundy was drawn up. Every aspect of the life of individuals is included under the dome of this common law. The Custom of Burgundy laid down clear rules on property rights and their transmission; marriage, filiation, inheritance and even punishments for committing offenses (Begat & Depringle, 1652).

In 1510, the Custom of Paris was drafted - a veritable model that would be incorporated into the Napoleonic Civil Code. It not only influenced the customs of other regions but also left its mark on the development of Quebec civil law (Ruggiu). Similarly, the Custom of Burgundy contained provisions relating to family law (*e.g.* community of property of the spouses, termination of community by separation or death of one of the spouses, etc.) or inheritance law (*e.g.* vacant succession; restrictions on the freedom of testament - the impossibility of leaving a will to a concubine or illegitimate child; forced heirship, etc.) (Zoltvany, 1971). Keeping in step with the needs of the community, the Custom of Paris was revised in 1580. The revision focused on the sphere of civil law and contained regulations on movable and immovable property; personal guarantees and mortgages; prescription; guardianship, donations and judgments (Johnson, 1989). With 362 articles, French minister Du Moulin considered it to be "the common law of customs." (Johnson, 1989).

The efforts of jurists to transform customs (unwritten, oral law) into written texts were essential to the development of law in France. As a result of their hard work, the disparities between different legal practices and the conflicts over their interpretation were reduced, thus creating a stable legal framework that favored the evolution towards written law. Although we have only discussed customary law, it coexisted for a long time with Roman and canon law. They interacted and influenced each other. The contact between customary law and Roman law was particularly visible in the 13th century when the latter gradually penetrated the *pays de droit coutumier*. As a result of this interaction, the process of the "Romanization" of customs begins (Poumarède, 1999). At the same time, the jurists of the time used Roman law as a reference to reform and codify local customs, trying to give them a more solid and rational basis (Poumarède, 1999). The dynamic between Roman law and customary law was decisive for the further development of French law.

Customs reigned for centuries in France. Its influence began to wane in the 17th century, just before the French Revolution when royal ordinances initiated a codification movement that diminished the role of custom (Breuil, 2018). It would be dethroned with the French Revolution and the introduction of Napoleon's Code in 1804. The French Revolution created a new legal framework that favored written law over customary law. However, the custom was not forgotten but was incorporated into the Civil Code of 1804.

The Civil Code drew inspiration from existing legal traditions, in particular from the Custom of Paris as well as other regional common law. For example, the code integrated provisions on marriage (which remains a civil and religious contract, as in most customs), parental authority and matrimonial regimes, in particular, that of community, which is present in customary law (Aubry de Maromont, 2019). Also, certain customary law adages have been transposed into the Civil Code. Thus, Article 2279 reproduces the adage "in matters of movable property, possession is equivalent to title" (Code civil des français, 1804). In the field of inheritance law, the forced heirship, called

légitime (part of the *de cujus*'s property was reserved to certain heirs, which limited the freedom of testament), is the result of the harmonious interweaving of elements of Roman law with those of customary law. The drafters of the Civil Code strove to strike a balance between revolutionary ideas and ancient customary law and to create a legal framework in which modern aspirations (equality before the law, property) respect the past and traditions.

Unfortunately, this balance is shattered by the new Civil Code which considerably limits the role of custom. Thus, in the New Civil Code, we find only one mention of custom, in Article 593: "He may take vine props in the woods; he may also take annual or periodical products from the trees; all of which being done according to the usage of the country or the custom of the owners" (Code civil français, 2024). Despite this limitation, it should be recalled that many legal institutions of the present day derive from customary law.

4. CUSTOMARY LAW IN TUNISIA

Initially, like other peoples, the Tunisians were governed by customary law. This legal order was disrupted by the Arab conquest in the 7th century. The conquest left its mark on Tunisian law, religion and culture. After the conquest, several Muslim dynasties passed through Tunisian territory over the years: the Aghlabids (The Editors of Encyclopaedia Britannica, n.d.) the Fatimids and the Hafsids, who influenced the development of law. Muslim law gradually made its presence felt and "overshadowed" customary law. It became the main legal system governing Muslim life for a long time. Islamic law regulates all aspects of individuals' social life (*e.g.* marriage, divorce, inheritance) and religious life (prayer, fasting during the month of Ramadan, pilgrimage to Mecca, etc.).

The dynamics of law changed with the conquest of Tunisia by France. On May 12, 1881, the Treaty of Bardo was signed, establishing the French protectorate in Tunisia (Ikeda, 2015). During the protectorate, France initiated the process of codification - the transition from Muslim (religion-based) law to modern law. French laws were incorporated into Tunisian law, which is particularly visible in the organization of the country's courts. The judicial system was thus fragmented: courts applying Muslim law coexisted with rabbinical courts (for Jews) and French courts (Derouiche, 2013).

During this period, the French mark on Tunisian law became increasingly visible through the codification process. This long, laborious process began with the efforts of "commissions set up within the administration of the protectorate for the codification of Muslim law" (Derouiche, 2013). Their work is visible through the adoption of the Land Law (1885), the Code of Obligations (1906), the Code of Civil Procedure (1910) and the Criminal Code in 1913 (Derouiche, 2013). We note that France did not impose its law but tried to preserve and incorporate local law. This is mirrored in the drafting of these codes, where both French and Tunisian jurists made their contributions. The sphere of application of Islamic law is restricted but it continues to be present in the lives of individuals (it regulates their status).

In 1957, after a long period, Tunisia gained its independence (Larané, 2020) which led to numerous legal changes. Reforms to modernize Tunisian society took place especially during Habib Bourguiba's time (Frégosi, n.d.) as president (he tried to reduce the influence of religious law, especially as Islam is both law and religion). Thus, in 1956, Tunisia abolished confessional jurisdictions (Frégosi, n.d.) but important aspects of Muslim law are included in the personal status legislation (Personal Status Code). This Code is quite progressive, especially as it regulates equality between the sexes in certain areas, mutual consent of the parties to the marriage and prohibits polygamy

(Dahmani, 2022) better protecting women's interests. However, certain areas (inheritance law) remain sensitive as traditional rules favor men, leading to inequalities between men and women. These inequalities continue to be the subject of debate today.

In short, since independence, Tunisia's desire to modernize its legal system by incorporating elements of modernity with tradition has been increasingly visible. The complex process of modernization has been and continues to be fraught with challenges.

5. CONCLUSION

Historically, custom was for a long time the main source of French law, but its role diminished especially after the French Revolution. It comes with a new vision of law (it is predictable, clear and, like custom, can adapt to new social realities. Custom is marginalized in a legal framework that prefers written laws. It is subordinate to written laws and is applied when it does not contravene them or when there are legislative gaps. However, its influence is visible today thanks to commercial law and French overseas territories, where the custom is recognized and integrated into the local legal system (*e.g.* Mayotte or New Caledonia).

In Tunisia, the custom (*'urf*) continues to play an important role to this day. It is recognized as a source of law, even if it does not enjoy the same recognition and power as the Quran and the Sunnah. Jurists can see and use contemporary social practices to interpret religious texts. They need to strike a balance in interpreting texts - an *ad litteram* interpretation can create injustices, especially as many aspects of individuals' lives have changed over time and continue to be in a state of flux. On the other hand, a flexible interpretation takes the jurist away from the 'malign territory' of strict interpretation and opens his mind to knowledge, justice and better application of the law.

Tunisia has not renounced customary law but has incorporated it into its legislation, especially in the area of family law and in some cases inheritance law. Although the Personal Status Code has incorporated principles of modern law with those of Islamic law while preserving local customs (*e.g.* rights and obligations of spouses). The integration of custom into the Tunisian legal system proves that Tunisia has not forgotten its heritage and that a balance can be found between the desire for modernization and traditions.

References

Aubry de Maromont C. (2019). Habitude et codification du droit civil (XVIIIe-XIXe siècles). Aubry de Maromont C.; Dargent F. *L'habitude en droit*, Institut Universitaire Varenne; Fondation Varenne, Colloques & Essais. https://hal.univ-reunion.fr/hal-02295630/document

Begat, J., & Depringle, G. (1652). La Coustume du duché de Bourgongne enrichie des commentaires sur son texte. Chez Pierre Cvsset.

Black, H. C. (1968). *Black's Law Dictionary*. 4th Ed. Rev., Ed. St. Paul, Minn. West Publishing Co.

Breuil, I. (2018, February 7). La coutume, source du droit. Gallica. https://gallica.bnf.fr/blog/07022018/la-coutume-source-du-droit?mode=desktop

Ciucă, M. V. (2019). *Drept privat comparat. Lecțiuni*. vol. I, ed. a III-a, *corrigenda, addenda et incrementa*, Ed. Universității „Alexandru Ioan Cuza," Iași.

Code civil des français. (1804). Édition originale et seule officielle, L'Imprimerie de la République, Paris.

Code civil français. (2024). https://www.legifrance.gouv.fr/codes/texte_lc/LEGITEXT000006070721

Dahmani, F. (2022). Tunisie: la polygamie, nouvelle lubie des politiques? https://www.jeuneafrique.com/1387933/politique/tunisie-la-polygamie-nouvelle-lubie-des-politiques/

Derouiche, B. A. S. (2013). L'enseignement du droit en Tunisie pendant la période coloniale. Centre d'études et de documentation économiques, juridiques et sociales. *Politiques législatives: Égypte, Tunisie, Algérie, Maroc* (1-). CEDEJ - Égypte/Soudan 45-58. https://doi.org/10.4000/books.cedej.367

Duval, P. M. (1989). Autour de César. 1. «La relation des exploits de Jules César. La guerre des Gaules». *Travaux sur la Gaule (1946-1986) Rome: École Française de Rome*, 111-137. https://www.persee.fr/doc/efr_0000-0000_1989_ant_116_1_3655

The Editors of Encyclopaedia Britannica. (n.d.). *Aghlabid dynasty. North African dynasty*. https://www.britannica.com/topic/Aghlabid-dynasty

Frégosi, F. (n.d.). La regulation institutionnelle de l'islam en Tunisie: entre audace moderniste et tutelle etatique, 1-25. https://www.sciencespo.fr/ceri/sites/sciencespo.fr.ceri/files/artff.pdf

Germain, I. (2019). Définition et rôle la coutume, source de droit. https://cours-de-droit.net/definition-et-role-de-la-coutume-en-droit-a121608808/

Ginoulhiac, C. (1859). Cours de droit coutumier français dans ses rapports avec notre droit actuel. *Revue Historique de Droit Français et Étranger (1855-1869)*, *5*, 66–79. http://www.jstor.org/stable/43840342

Grinberg, M. (1997). La Rédaction des Coutumes et les Droits Seigneuriaux Nommer, classer, exclure. *Annales Histoire Sciences Sociales*, *52*(5), 1017–1038. https://doi.org/10.3406/ahess.1997.279616

Halpérin, J. L. (2005). Deux cents ans de rayonnement du Code civil des Français? *Les Cahiers de droit, 46 (1-2)*, 229–251. https://doi.org/10.7202/043837ar

Ikeda, R. (2015). Tunisia and Morocco under French Protectorates. *The Imperialism of French Decolonisation. Cambridge Imperial and Post-Colonial Studies Series*. Palgrave Macmillan, London, p.13. https://doi.org/10.1057/9781137368959_2

Johnson, J. (1989). La Coutume de Paris: Louisiana's First Law, *Louisiana History: The Journal of the Louisiana Historical Association*, 30(2) 1989, 145–55. https://www.jstor.org/stable/4232727?read-now=1&seq=5#page_scan_tab_contents

Larané, A. (2020). 20 mars 1956. La Tunisie retrouve son indépendance. https://www.herodote.net/20_mars_1956-evenement-19560320.php

Poumarède, J. (1999). Droit romain et rédaction des coutumes dans le ressort du parlement de Bordeaux. In J. Krynen (éd.), *Droit romain, jus civile et droit français* (1-). Presses de l'Université Toulouse Capitole, 329-345. https://doi.org/10.4000/books.putc.12027

Sapir, E. (2021). *La coutume* (P. Clinquart, Trans.). In C. Baudelot & P. Clinquart (Eds.), *Anthropologie* (Vol. 1). ENS Éditions. https://doi.org/10.4000/books.enseditions.18197

Université numérique juridique francophone. (s.d.). Analyse guidée d'un texte : la coutume. [Ordonnance de Montils-lez-Tours, 1454, extrait de l'art. 125]. https://cours.unjf.fr/repository/coursefilearea/file.php/154/Cours/601_item/globalprintcom.htm

Zink, A. (2007-2008). Les éditions de coutumes a france à l'Époque Moderne. *Ivs Fvgit, 15*, 467-492. https://ifc.dpz.es/recursos/publicaciones/29/26/18zink.pdf

Zoltvany, Y. F. (1971). Esquisse de la Coutume de Paris. *Revue D Histoire De L Amérique Française*, *25*(3), 365-385. https://doi.org/10.7202/303092ar



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