



Possibility of Application of the Triple Helix Model with the Aim of Sustainable Development of Republic of Srpska's Spa

Vesna Novakovic¹ 
Sanel Jakupovic² 

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Abstract: *This study aims to show how we can apply the Triple helix model to improve the development and management of the spa recreational potential of the Republic of Srpska. The lack of a unique platform that would represent the spa-recreational potential of the Republic of Srpska as a destination that is rich in visual content and is based on a segmentation model, was an incentive for this paper. The research concept is based on the Triple Helix model by bringing together higher education institutions, tourism small and medium enterprises, and government representatives. Also, the research aims to collect and analyze data on the possibilities of improving the business of spas through greater promotion of their activities.*

1. INTRODUCTION

In previous decades, tourism has stood out as one of the fastest-growing industries globally. The consumption by tourists contributes to an increase in employment, an increase in production, and represents a significant increase in the income of the entire national economy (Pavlic et al., 2014). What is important for this research paper is the aspect of using water as the main resource for numerous activities in tourism. Along with the medical importance and influence of medicinal water on people's health, at the beginning of the 20th century, there was an acceptance of access to spa tourism in terms of leisure and vacation. Modern spas still use the same healing waters for similar purposes as they did millennia ago, which proves their importance in many cultures. Traditional resorts or medical spas are mainly located in "Germany, France, Baltic States, Central and Eastern European countries and Russia" (Kurek et al., 2020). Water is a symbol of health tourism through its two main components: spa tourism and wellness tourism (Nistoreanu & Aluculesei, 2021). Therefore, geothermal waters are optimal for tourist and recreational purposes, and correspond to the concept of sanum per aquam (spa) (Kurek et al., 2020). The works by Lund and Boyd (2016) estimate that 25% of geothermal water worldwide is used in spas and health facilities for its balneotherapeutic potential. These figures show the global character of the geothermal spa industry, and that geothermal spa tourism is expanding its niche. Thus, in the Republic of Srpska, through strategic documents, the importance of the development of the tourism potential of the Republic of Srpska, as well as the importance of spa tourism, was recognized. The Tourism Development Strategy of the Republic of Srpska for the period 2021–2027 defines one measure to achieve the fifth priority as the need to "create a comprehensive and high-quality bilingual (English and Serbian) website of the destination that is rich in visual content and is based on a

¹ Pan-European University "APEIRON" Banja Luka, Faculty of Business Economics, Vojvode Pere Krece 13, Post. box 51 Banja Luka 78102, Bosnia and Herzegovina/RS

² Pan-European University "APEIRON" Banja Luka, Faculty of Business Economics, Vojvode Pere Krece 13, Post. box 51 Banja Luka 78102, Bosnia and Herzegovina/RS

segmentation model, offering information and with the possibility of switching users to products and experiences which are offered by specific subjects using the model of voluntary access to the Internet market".

The purpose of our research was to provide an answer to the posed problem: "Whether digitalization of the process would lead to a simpler and faster performance of daily activities?" Also, the research was aimed at collecting and analyzing data on the capacities of the spa-recreational potential. Regarding the posed problem, the authors defined the hypothesis that the digitization of business processes leads to business improvement. The research concept was based on the Triple Helix model in such a way that it is implemented in cooperation with a business organization, government representatives and higher education institutions. As a result of the research and project, we have a completed product that was created with the cooperation of the interdisciplinary team and the company. The authors suggested an adequate solution for the development of spa and recreational potential in the Republic of Srpska and created a platform that can be the basis for the promotion of the entire tourist potential of the Republic of Srpska. The Triple Helix model also includes a user-oriented innovation model to fully utilize the potential of all participants, and not only those who are in a given organizational system, as in the closed innovation model (Novakovic, 2018). Mutual relations can be reflected in the financing of research done by young researchers and professors at the university to realize priority programs defined by governments as shown in Figure 1 (Leydesdorff & Ivanova, 2016).

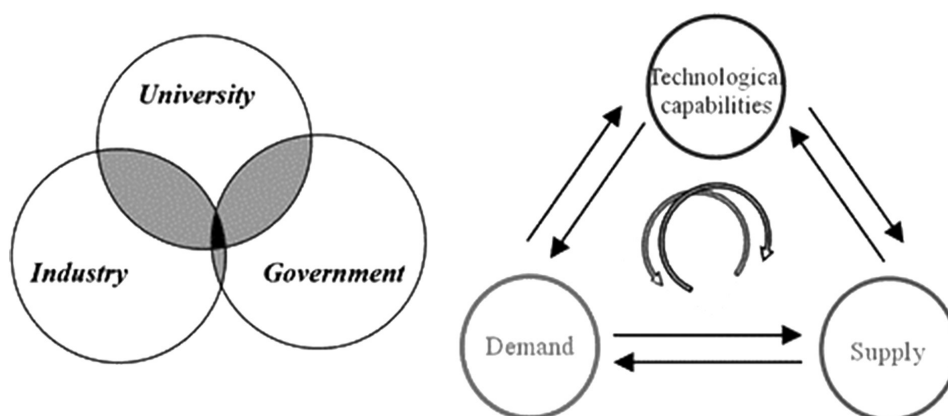


Figure 1. TripleHelix Model

Source: Leydesdorff & Ivanova, 2016

It enables representatives of all three participants: university, government, and industry to understand the problems themselves. The Triple Helix model does not exclude concentrating on two of the three participants by studying, for example, university-industry relations (Clark, 1998), however, the third participant must at least be recognized as an additional source of variation (Leydesdorff, 2012). The Triple Helix model for innovations can also be used for guidance on network development, and knowledge transfer, highlighting the importance of the role of universities and the incubation of new start-ups (Leydesdorff, 2012).

2. METHODOLOGY

The methodology used in this research was primarily based on analytical methods along with cabinet and field research. The authors focused on the cabinet's data collection and literature review in the field of tourism development and the Triple Helix model. During field data collection,

authors used the interview method, and managers of spas in the Republic of Srpska were interviewed. An indispensable link of all research nowadays is the connection with the Sustainable Development Goals. Therefore, the research was directly connected with the Sustainable Development Framework in Bosnia and Herzegovina through Goal 3 – Good health and well-being. The research the authors conducted was done based on interviewing spa managers. Through the interview, we heard their attitudes regarding the innovative activities they undertake, as well as the degree of digitalization of business processes. The interview was conducted in the period August - December 2022. At the beginning, we should note that most of the business entities that were the subject of research are privately owned, while three spas are public companies.

Guided by the information that eight spas are operating in the territory of Republika Srpska³, we suggested to the managers of these economic entities to interview them. Out of a total of eight registered spas, we spoke with representatives of seven spas. On the other hand, the answer from the management of the Public Health Institution, Institute for Physical Medicine, and Rehabilitation "Dr. Miroslav Zotović", Banjaluka was that this public health institution is focused more on the health segment of business, than on the spa, and that it is not an adequate interlocutor for the needs of this research. We conducted the interview through pre-defined questions.

The first segment of the conversation was related to the innovative and promotional activities of spas in the Republic of Srpska, and the degree of occupancy of accommodation facilities, while the conversation continued towards the expressed need for digitalization of business.

We also draw attention to the limitations we have had during the research. Namely, the sample of respondents is limited, there are eight registered spas in the Republic of Srpska, we note that out of the total number of potential respondents, the research was conducted with 87.5% of participants. Another limitation of the research is that managers in spas did not adequately monitor the effects of the existing digitalization processes that they partially implemented in their facilities.

When we talk about the economy and society based on knowledge, the university should overcome its traditional role in society, to focus on educational and research activities to stimulate the social and economic development of society (Zhou & Etzkowitz, 2021). Higher education institutions (HEIs) should participate in the economic development of the regions in which they are located (Soyer et al., 2020). Therefore, it is necessary to direct forces during cooperation to effectively connect corporative and academic knowledge systems (Lopes et al., 2021). The Triple Helix model emphasizes the importance of the university and gives it a significant role in the innovation process, as it initiates changes in the environment and actively participates in the process of those changes (Fidanoski et al., 2022). Tourism is a globally important sector with strong competitiveness and a high level of knowledge transfer (Tučková et al., 2017). Scientists also accept the Triple Helix model for the development of innovative projects and sustainable solutions in the tourism sector as well, we can see it in Figure 2 (Lopes et al., 2021).

³ Companies within this economic activity have also formed a special group of spas within the Association of Trade, Tourism and Hospitality at the Chamber of Commerce of the Republic of Srpska. (<https://komorars.ba/grupacia-banja/>, accessed on 17.10.22), the spas registered so far in the Republic of Srpska are: "Health tourism center "Banja Vrućica", Teslić, "Banja Laktasi", Laktasi, "Banja Dvorovi", Bijeljina, "Banja Kulaši", Kulaši, Prnjavor, "Institute for Physical Medicine and Rehabilitation Dr. Miroslav Zotović, Spa "Slatina", "Hospital for Physical Medicine and Rehabilitation "Mlječanica", Kozarska Dubica, Public institution Rehabilitation Center "Vilina Vlas", Visegrad, Spa "Ozren".

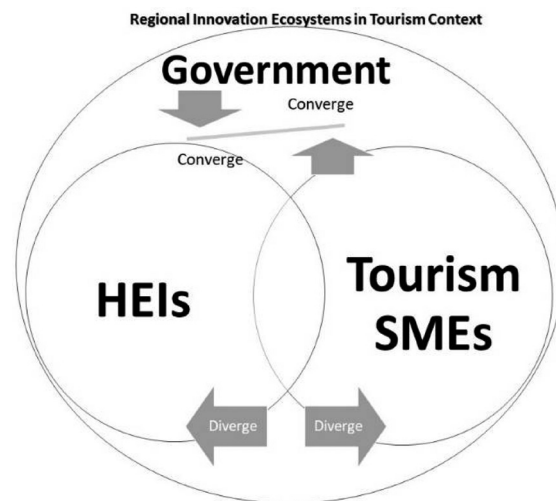


Figure 2. The Triple Helix Model in Tourism

Source: Lopes et al., 2021

During the cabinet research work, we reviewed strategic documents and statistical data on the participation of tourists in the total GDP of the Republic of Srpska. It was noticed that there are already adopted strategic documents related to the development of tourism in the Republic of Srpska with a special emphasis on spa tourism. The Ministry of Tourism adopted the Tourism Development Strategy. Although spa tourism is well developed in the Republic of Srpska and the spas of Srpska are clearly distinguished as traditional spas that influence health improvement, a sufficiently good marketing mechanism that would promote the potential of the Republic of Srpska spa tourism abroad has not yet been developed. Spas of the Republic of Srpska have a developed brand in the Republic of Srpska thanks to the cooperation with relevant ministries.

Spa resorts, according to the definition of the Republic Institute for Statistics of the Republic of Srpska, are those resorts where curative properties of thermal and mineral waters and other geological and mineral properties were determined scientifically and medically or empirically, and which also have adequate facilities for treatment and rehabilitation of visitors.

3. RESULTS

Eight spas are operating in the Republic of Srpska, which were also identified through the strategic documents of the Republic of Srpska, and during our cabinet research. Strategic documents are aimed at developing the potential of the Republic of Srpska, which already exists thanks to the natural wealth we have. The natural resources and natural potential that a locality offers are crucial for spa tourism. The Tourism Development Strategy of the Republic of Srpska 2021-2027, following the Spatial Plan of the Republic of Srpska until 2025, identified six potential tourist zones, and tourism clusters were defined based on them. Tourist zones are planned according to natural resources. At least one spa operates in most of the identified tourist zones, which represents the backbone of spa tourism in the Republic of Srpska. By reviewing the statistical data available on the website of the Republic of Srpska Institute of Statistics, we can see that the coronavirus pandemic has had a negative impact on the participation of tourism in the overall economic activity on a global scale, also in the Republic of Srpska. Table 1 shows the percentage of domestic and foreign tourists in the total number of tourists visiting spas. We see that in 2019 there was the smallest difference in that participation and that year, the participation of foreign tourists in the total number of tourists who visited the spas was 44.21%.

Table 1. The Percentage of Domestic and Foreign Tourists
in the Total Number of Tourists Visiting Spas

%	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Domestic tourists	72.43	71.29	68.25	63.95	65.44	62.01	58.26	57.75	55.79	77.01
Foreign tourists	27.57	28.71	31.75	36.67	34.56	37.99	41.74	42.25	44.21	22.99

Source: Own calculations

After conducting field research, and analyzing the data we collected through interviewing spa managers we can state that the representatives of the spas in the Republic of Srpska already invested part of the profit from the previous year in innovation and digitalization of business. Namely, to the first question, “What percentage of profit do you invest in business innovation (product, service, process innovation), the answers are distributed as in Table 2.

Table 2. What percentage of profit do you invest in business innovation
(product, service, process innovation)

Answers of the spa managers	Number of the answers	%
Less than 5%	2	28.60%
More than 5%	5	71.40%
Total	7	100,00%

Source: Own calculations

The next question was: “Did the investment in business innovation of your company increase profits in the first three years after the innovation?” The answers we can see in Table 3.

Table 3. Did the investment in business innovation of your company increase profits
in the first three years after the innovation

Answers of the spa managers	Number of the answers	%
Yes	6	85,70%
No	1	14,30%
Total	7	100,00%

Source: Own calculations

The next two questions were: “Is the capacity of the spa filled throughout the year?” and “What measures are you taking to fill the spa's capacity (additional advertising, special offers, etc.)”. In the Table 4, we can see their answers.

Table 4. Is the capacity of the spa filled throughout the year

Answers of the spa managers	Number of the answers	%
Less than 5%	2	28.60%
More than 5%	5	71.40%
Total	7	100,00%

Source: Own calculations

Proposals of measures that the respondents suggested and that could be taken to fill the capacities of the spas throughout the year are advertising via internet sales, through the media, social networks, the traditional approach of word-of-mouth promotion, offers via internet sales, visits to trade fairs, advertising through social networks, promotional packages.

To the question: “Do you think that digitization and visualization of the spa-recreational potential would contribute to better utilization of the spa's capacity?” everyone unanimously stated

that the relevant digitization procedures would significantly contribute to business development and better utilization of spa facilities.

The defined hypothesis was “The digitization of business processes leads to business improvement.” Considering the answers of the spa managers we can conclude that our hypothesis is confirmed. Based on the data of our research, the business entity created a web platform and mobile application that enables the digitization of the spa and recreational potential of the Republic of Srpska, which is available at the link: www.turizamrs.com. Considering the Triple Helix model is made up of three partners, the role of the state in our research was reflected in the investment of grant funds. After the research part, several workshops were held. The first workshop was attended by team members from the University and the management of the “Kulasi” spa. In the following three workshops, which were held on the premises of the University and online, the presenters of Nenasal. Ltd also participated. After creating the conceptual solution, representatives of two more spas were included. The final version of the web platform was created in cooperation with the representatives of “Kulasi” spa, “Vilina Vlas” and “Dvorovi”. In this way, we applied the triple helix model with the aim of sustainable development and promotion of the spa and recreational potential of the Republic of Srpska. We have created a good basis that can be further developed.

4. FUTURE RESEARCH DIRECTIONS

At the end, we can set directions for the following research. It can be focused on the possibilities of including new and interested parties to form a quadruple or quintuple helix model. The significant development of tourism in the Republic of Srpska can certainly be improved through targeted public campaigns that are focused on the categories of tourists they want to attract. When we talk about spa and recreational tourism, we can certainly focus on the development of tourism destinations. One of the strategic goals of the Tourism Development Strategy of the Republic of Srpska is to improve destination marketing, increase the attractiveness of destinations on the main markets by using a greater number of different distribution channels, and intensify digital communication through social networks. Design and implement traditional, digital, and social media campaigns to attract tourists from priority regions. Also, a recommendation for future research is to examine the possibility of increasing the participation of foreign tourists visiting the spa in the Republic of Srpska.

5. CONCLUSION

The results of our research and project directly affect the promotion of the Republic of Srpska through the digitalization of its spa and recreational potential. Although the creative economy is mostly identified with an urban context, numerous examples show that rural environments can take advantage of local traditions, crafts, and customs to create attractive products. Universities are a very important link in the creative economy, which should prepare students for the opportunities offered by the digital age through the creation of innovative solutions, products, and processes. Through the realization of our research, we have shown that cooperation is possible, and as a result, we received a simple product that is also in line with the strategic documents of the Republic of Srpska. Therefore, we found an adequate solution for the development of spa and recreational potential in the Republic of Srpska and created a platform that can be the basis for the promotion of the entire tourist potential of the Republic of Srpska. With the development of information and communication technologies and the emergence of the fourth

industrial revolution, neither the industry, nor the education system, nor state governments remained immune to the wave of digitization (Novaković et al., 2022). They are increasingly using digital technology in their daily business. As Pereira et al. (2022) stated the internationalization of companies is increasingly dependent on their digitalization. Advances in information and communication technologies have the potential to create a fundamental transformation in society by fostering the ability to connect and collaborate with different social actors. The tourist business has become more flexible thanks to digitalization (Barashok et al., 2021).

However, the approach of modern companies, to turn to the model of open innovation, is characterized by the specificity that ideas are created outside the company, and that profit can be made even if the company is not the carrier of the creation of a certain value (Novakovic, 2018).

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