

Exploring the Universities' Resilience in Times of Crisis by Reporting to the Pattern of the National Culture

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Received: August 23, 2023 Accepted: November 27, 2023 Published: March 16, 2024

Keywords:

The EU universities' resilience; Public expenditure; Hofstede's model of national culture

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Abstract: Amidst the COVID-19 pandemic, superior education demonstrated remarkable adaptability during crises, particularly by swiftly embracing a borderless virtual learning environment. From this perspective, the paper is focused on the resilience of the university educational system, underlining the importance of two key pillars that model it: the pattern of national culture and the level of public spending on education.

To this end and by reference to Hofstede's cultural dimensions theory, the paper highlights that the pattern of national culture explains a good deal of the levels of budget allocations on education between 2007-2020 of the current 27 EU member states.

Thus, beyond the good practices identified in the institutional development plan by implementing a new management model, the results of the paper analysis indicate the need to consolidate the national educational policies through proper financing of the field, towards achieving the European Education Area.

1. INTRODUCTION

Education is a fundamental pillar of society, the development and modernization of the education system being a constant element on the public agenda and, thus, of the multiple reform measures. The educational strategies have mostly proven their efficiency, also reflected by the resilience of this system during the COVID-19 pandemic.

Considering the circumstances for superior education, the pandemic context has determined the entry of higher education institutions (HEI) in a crisis situation. Compared to other systems that were overwhelmed by the pandemic impact (especially by waves one and three in the spring and autumn of 2020), such as the health system, the superior education rapidly adapted to the new context by transferring the educational activities in the virtual environment.

For experienced universities that had expertise in this type of academic activity, the adjustment was a natural one. But, for the other universities, the transfer into the virtual environment was a type of "emergency remote teaching" (Hodges et al., 2020).

In order to ensure their operation, universities had to adapt their capacities and educational programs to the new, mainly digital, educational scenario and find hybrid solutions for some teaching activities that involve experiential learning (laboratories, practice, workshops a.s.o.).

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Through the advantages offered, in only a few months, the virtual environment turned from a survival mode and a "place of refuge" in a crisis period, into a real organizational success formula

The operation of the activities of these academic structures in the virtual environment started to be the new normality in the university education system's policy. The current operating mode reflects a wider phenomenon than a precise reform determined by new teaching tendencies and/or by various unsolved organizational problems (lack of physical areas and amenities, a small pool of candidates, difficulty in the organization, and performance of remote or low-frequency education, etc.)

The universities no longer rely only on organizational structures but focus mostly on organizational behaviors. In other words, the measures of adaptation to the new pandemic context, a very uncertain one, unequivocally show a new dimension, one of organizational renewal in the context of activating a borderless space.

Each university has its modernization path, according to its orientations, rhythm, or means adopted to make these measures operational. The things these organizations have in common in their modernization steps refer to the resource effectiveness actions, the introduction of new regulations and procedures, the increase of the efficiency degree, the amendment of the organizational architecture's design, and the dynamic of the actions performed. What differentiates them refers to how they can manage the legitimacy crisis they deal with once their action area grows by including the virtual environment.

Entering and staying in a new and insufficiently explored world also needs additional legitimacy compared to the institutional one offered by the legal regime, obtaining the accreditation, and having monopole in its geographic domain.

In an area with special rules, with special requirements regarding the learning-teaching methodologies, and with a diverse public interested in obtaining more and more complex competences, the new legitimacy relies more than ever on another performance model.

Beyond the high training of the teaching staff, the attractiveness of the educational offers and the associated competences, the new performance is also measured concerning the university's ability to stay connected with the beneficiaries of its services and with its partners (the academic community, other similar institutions, the business environment, the local community a.s.o) in the virtual environment.

The challenges are many. First of all, the new profile of the students becomes more international and with a wider and wider age range. The justifications for this change are obvious: the increase of the possibility to train in a virtual environment, as well as the desire and/or need to improve the competences throughout the whole life. Given the new demands, the universities must rapidly adapt their curriculum and the channels of communication with future beneficiaries.

Another important challenge refers to dismantling the university monopoly. The immersion into the virtual environment also maintains fierce competition between universities but, as Veldsman (2019) notices, also among them and other education suppliers (that offer a degree or not) outside the university sector.

Currently, a university that is interactive in the virtual environment is perceived as being more performant and more legitimate, because it is consistent with the current need of interested people to interconnect from any place on the globe and also to remain connected to the local collectivity they come from. In order to obtain the maximum audience for the supplied educational service, universities must develop their management system through the optimum combination of marketing-mix instruments (product, price, distribution and promotion). The university's inter-relationship capacity in the virtual environment becomes the cross-link for all these four marketing instruments.

But is this characteristic sufficient in the long run for the university to maintain its competitive advantage? Certainly not. The redesign of the informational and organizational system by expanding activities in the virtual environment is only a basic necessity that seems to shape the future of universities, but not a sufficient one. The exposed considerations reflect the stringent need for new endeavors that the universities must make to consolidate their mission and performance in an extremely uncertain future in which all of us (HEI implicitly) are hostages (see Blanco, 2021, p. 178, for more detail). In this respect, it also targeted a better institutionalization of the good practices shown during the COVID-19 pandemic.

2. STEPS PERFORMED BY HEI TO INCREASE INSTITUTIONAL RESILIENCE

Recent scientific landmarks show a series of tendencies in the preparation of universities for the future, and which bear the "fingerprint" of post-COVID-19 recovery actions (van't Land et al., 2021). Among these, we have:

1. the transfer to the model of a democratic civic university aimed towards re-connecting to the community and ensuring sustainable development. The change was reflected in the consolidation of the universities' mandate on all its dimensions (research, teaching and serving society).

A successful initiative in this respect is represented by the conclusion of the recent revision of Magna Charta Universitatum (MCU) in 2020 through which universities restate the adhesion to fundamental academic values, as well as taking over a new behavior, more civically involved and active, more socially inclusive and responsible and which shall direct their activities to the XXIst century. This promise undertaken by every institution shall contribute to increasing the confidence the civil society grants to universities within the social contract the two "signatory" parties have.

Currently, universities have an increased responsibility for the development of human democracy and conditions, moreover as the HEI civil and democratic purposes have obtained the highest level of importance from their statement over 270 years ago by Benjamin Franklin (see Harkavy, 2021, p. 55, for more detail). The consolidation of their active role in solving the problems of society shall contribute to diminishing the "substantial criticism from various sides and perspectives" they currently face (Noorda, 2018, p. 28).

In light of the new institutional model, universities must ensure that students more sophisticated values, knowledge and competences to approach the "global citizenship and local contextual challenges of the present and the future" (UNESCO, 2014, p. 1), such as systems thinking competency, strategic competency, collaboration competency, critical thinking competency, integrated problem-solving competency a.s.o. (see UNESCO, 2018, p. 10, for more detail).

The endeavor can be supported by a series of approaches already successfully used in the academic environment and which one must continue to promote: experiential learning, volunteering projects, learning throughout life a.s.o.

But a major challenge is maintained. Technological innovation and digitalization continue to lead to deepening inequalities and even diminish the progress obtained from universities until the start of the COVID-19 pandemic, due to a lack of IT infrastructures and/or digital competences of its beneficiaries.

- 2. continuous promotion of academic values. Noorda and Lock (2021) grant this educational marketing instrument the degree of "global currency with local impact for universities". The recognition and undertaking of academic values represents an important vehicle through which universities identify, present their mission and even justify their decisions in time of crisis. In addition, the transparency regarding the services and performances of the universities reduces the informational asymmetry and leads to an increase in the trust of the beneficiaries in HEI.
- 3. the sharing and transfer of knowledge and resources through the consolidation and expansion of the collaboration of universities with higher education institutions and other stakeholders in the country and abroad, from the public sector, business environment, civil society a.s.o. Partnerships benefit from the added value generated by universities by structuring and developing knowledge, but also by facilitating the "lighting" and emergency of the new.

The strategic framework for European cooperation in education and training towards the European education area and beyond, as well as the initiative package of the European Commission adopted on January 18, 2022, the European strategy for universities and the Proposal for a Council Recommendation on building bridges for effective European higher education cooperation, highlight the fact that the future of universities belongs to international cooperation across borders and cultures (see Council, 2021a, 2021b; European Commission, 2022a, 2022b, for more detail).

The need for expansion is based on an inherent characteristic of social systemic and specifically, on the information non-genotropic principle. According to this principle applied to universities (considered as social organizations), the more isolated they are and the less they exchange information, the less capable they are of maintaining a certain degree of non-geotropy (differentiation and organization) and the more vulnerable they are towards the factors in the internal and external environment (see Matei, 2006, p. 57 for more detail). The idea of an isolated higher education institution that employs its full capacity only to comply with its interests is no longer valid (see de la Fuente, 2021, p. 21, for more detail).

4. orientation is more inclined to support learning throughout life, recognized as being a "right to learning" (Singh, 2016, art. 43). The assurance of this learning cycle is not only one of the purposes that form the mission of each university but also an approach which shall support the increase of HEI resilience in front of the new challenges of the usage of TIC (technologies of information and communication) in all activity sectors and of a world which will be even more strongly connected in the near future.

At the EU level, in light of the socio-economic consequences caused by the COVID-19 pandemic and amplified by Russia's war of aggression against Ukraine, the Council resolution on The European Education Area (2023), the efficiency of the expenses is placed in the center of economic recovery, as well as of the recovery of the resilience of national education systems. The identification of the optimum level for budget allocations remains an open challenge for member states. Recent Eurostat (2023a) statistical data reflect that the evolution of 'education' expenditure over 1995-2021 was a tortuous one (Figure 1). In 2021 the general government expenditure in the EU on 'education' (as a share of GDP) registers a new minimum (4.8% of GDP), amid the GPD decrease during the COVID-19 pandemic.

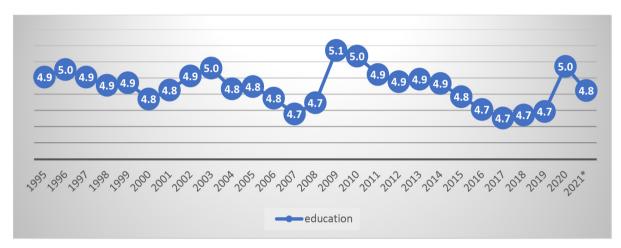


Figure 1. Evolution of 'education' expenditure over 1995-2021 (% of GDP)

Source: Eurostat, 2023a

3. THE CORRELATION BETWEEN THE PATTERN OF NATIONAL CULTURE AND THE LEVEL OF PUBLIC SPENDING ON EDUCATION, AT EU27 (FROM 2020)

At the EU level, the member states undertook a common effort so that "the European Education Area can become a reality by 2025" (Council, 2023). Thus, the national policies of member states are defined to contribute to reaching this ideal. Progress is promising (Council, 2023) but a series of obstacles remain, reflected in the "large differences between countries in the importance of expenditure on education" underlined by the data of Eurostat (2023a).

From this perspective, the authors of this work think that the national levels of public spending on education are partially justified by the influence of the pattern of national culture, despite the integration of common values and a convergence belief by the member states (Hofstede, 1983, p. 75) of the supra-national EU construction they are part of.

The analysis performed to test this hypothesis is based on Hofstede's cultural dimensions theory and Hofstede's model of national culture (Hofstede, 2011) subsumes six operational dimensions (Hofstede, 2011, pp. 7-8) assessed through scores for 111 countries:

- 1. Power Distance, related to the different solutions to the basic problem of human inequality (PDI);
- 2. Uncertainty Avoidance, related to the level of stress in a society in the face of an unknown future (UAI).
- 3. Individualism versus Collectivism, related to the integration of individuals into primary groups (IND).

- 4. Masculinity versus Femininity, related to the division of emotional roles between women and men (MAS).
- 5. Long-Term versus Short-Term Orientation, related to the choice of focus for people's efforts: the future or the present and past (LTO).
- 6. Indulgence versus Restraint, related to the gratification versus control of basic human desires related to enjoying life (IVR).

Two out of the six dimensions, UAI and MAS are less influenced by the economic dynamics (Tang & Koveos, 2008, p. 1046).

For the current work we selected from the dimension data matrix (Hofstede Insights, 2023) of Hofstede's model of national culture, the scores of the six dimensions related to the current EU member states, except for Cyprus (for which no complete data is available), data shown in table 1.

In relation to the general government expenditure on education (% of GDP) for all 27 EU Member States two time intervals were considered for analysis:

- 1. the 2014-2019 interval overlaps over the budget programming period 2014 2020, but the year 2020 corresponding to the start of the COVID-19 pandemic, when the budget allocations were strongly influenced by the socio-economic impact of the SARS-CoV-2 health crisis, was eliminated.
- 2. the 2007-2020 interval, corresponding to the two budget programming periods 2007 2013 and 2014-2020, without considering the pandemic impact on public decisions and budget allocations.

Also, for both time intervals, we considered the average of this expenditure (% of GDP) seen in terms of accumulation of financial resources.

The statistical correlation between the ranking of general government expenditure (% of GDP) on education and the classification of the scores for each of the six dimensions of Hofstede's model of national culture led to the following results:

- 1. for both time intervals considered for analysis, 2007-2020, respectively, and 2014-2019, the statistical correlation is insignificant for five out of the six dimensions of Hofstede's model (PDI, UAI, IND, LTO and IVR).
- 2. The statistical correlation between the ranking of general government expenditure (% of GDP) on education and the classification of the scores for MAS reflect a moderate negative relationship for both time intervals and these results are significant (at probability value p < .05 and also at p < .01). The correlation is stronger for the longer time interval between 2007-2020 (see Table 1; the Spearman's rank coefficient of correlation (rho)= -0,62, p=0.0008, R^2 =0,38), than for the shorter time interval between 2007-2019 (rho=-0,55, p=0.0036, R^2 =0,30).

According to Hofstede (1994), the higher the MAS value, the national culture is distinguished by a stronger prevalence of some values "like assertiveness, performance, success and competition" compared to values such as solidarity or quality of life (p. 6).

The results of the empirical analysis highlight the fact that the pattern of national culture, in light of MAS, explains more than 38% (R2=0.38) of the levels of public spending on education.

The identified correlation shows that, for the most part, the EU member states that are distinguished by a culture more oriented towards solidarity or maintaining a higher standard of quality of life (lower MAS values) tend to assign more consistent budgets (as a share of GDP) for education, than the states with a national culture much more oriented towards performance and success (higher MAS values).

Table 1. The correlation between the pattern of public spending on education (2007-2020) and the 6-D of the Hofstede model of national culture (at the EU level)

EU 27 (from 2020)	Average of total general government expenditure on education (% of GDP)		Culture Dimensions Scores (0 = low, 100 = high)					
	2014-2019	2007-2020	PDI	IND	UAI	LTO	IVR	MAS
Italy	3.93	4.12	50	76	75	61	30	70
Spain	4.05	4.21	57	51	86	48	44	42
Austria	4.85	4.92	11	55	70	60	63	79
Germany	4.27	4.26	35	67	65	83	40	66
Sweden	6.67	6.57	31	71	29	53	78	5
Finland	5.87	6.06	33	63	59	38	57	26
Denmark	6.67	6.65	18	74	23	35	70	16
Croatia	4.97	5.09	73	33	80	58	33	40
Belgium	6.22	6.15	65	75	94	82	57	54
Poland	5.08	5.30	68	60	93	38	29	64
Lithuania	4.75	5.23	42	60	65	82	16	19
Bulgaria	3.70	3.69	70	30	85	69	16	40
Slovakia	4.02	4.09	100	52	51	77	28	100
Slovenia	5.55	5.94	71	27	88	49	48	19
Romania	3.18	3.41	90	30	90	52	20	42
Estonia	5.85	6.09	40	60	60	82	16	30
Hungary	5.03	5.08	46	80	82	58	31	88
The Czech Republic	4.40	4.49	57	58	74	70	29	57
Latvia	5.77	5.89	44	70	63	69	13	9
France	5.37	5.44	68	71	86	63	48	43
Portugal	4.78	5.39	63	27	99	28	33	31
Netherlands	5.20	5.31	38	80	53	67	68	14
Greece	4.07	4.15	60	35	100	45	50	57
Ireland	3.53	4.14	28	70	35	24	65	68
Luxembourg	4.53	4.68	40	60	70	64	56	50
Malta	5.05	5.27	56	59	96	47	66	47
Correlation be	tween the to	tal general	rho=-0.29	rho=0.41	rho=0.20	rho=-0.02	rho=0.36	rho=-0.55
government expenditure (% of GDP) on education (average 2014-2019) and each of the 6 D Hofstede's model of national culture			No relationship					*
Correlation be	rho=-0.31 rho=0.36 rho=0.18 rho=-0.08 rho=0.35					rho=-0.62		
government ex on education (a each of the 6 I	No relationship					**		
national culture								

^{*} A moderate negative relationship (Probability value: p < .01) The coefficient of determination R2=0,30

Source: Own processing based on the Eurostat data (2023b) and the dimension data matrix of the Hofstede model (Hofstede Insights, 2023)

^{**} A moderate negative relationship (Probability value: p < .01) The coefficient of determination R2=0,38

4. FUTURE RESEARCH DIRECTIONS

Contributions to this paper may lead to new lines of research in the field of educational policy. Between these are distinguished:

1. the expansion of the time frame for the refining of the statistical correlation between the public spending on education at the EU level and the pattern of national culture.

A longer time frame covers to a larger extent the changes in economic conditions but could offer additional information regarding the development of the statistical correlation value, upon the EU expansion.

 identification of the impact of the determinants of Hofstede's framework on the educational policies promoted by the subnational level of public administration. Special attention must be given to countries with decentralized administrative systems, in whose case local authorities have competences in the education field together with the central public administration authorities.

5. CONCLUSION

Through this research regarding the universities' resilience in times of crisis, a series of tendencies outlined by the HEI steps for the improvement of the organizational functionality during the SARS-CoV-2 health crisis were highlighted. A part of these initiatives were consolidated during the post-crisis period the increase of institutional resilience, especially considering a new possible crisis situation. We notice that the maximization of the advantages of a borderless area is one of the current tendencies that shape the future of universities.

The paper outlines that a new institutional management model is insufficient in order to increase the resilience of universities during times of crisis, also a proper level of general government expenditure on education is necessary.

The level of public budget allocations on education is influenced by the pattern of national culture, an input that is difficult to change in such a short period and which, in case of underfunding, affects the resilience of universities in the long run.

Certain characteristics of the pattern of national culture (the dimensions of Masculinity versus Femininity) explain more than 38% (R^2 =0,38) of the levels of budget allocations of the 26 EU member states (Cyprus was excepted) in the period 2007-2020.

From this perspective, at HEI level a new institutional performance model is necessary to counterbalance the legitimacy crisis and increase institutional resilience in crisis situations, based on two fundamental pillars:

- 1. implementation of the marketing vision (based on marketing mix: product, price, distribution, and promotion).
- 2. the promotion of sturdy and constant educational policies in relation to budget allocations meant for education and adapted to the pattern of national culture for the increase of the population's acceptance degree. At the EU level, for some member states, reaching this optimum of budget allocations means an increase in public spending on education.

Acknowledgment

This research was supported by the National University of Political Studies and Public Administration (SNSPA), within the project "Service Based Learning - innovative tool for strengthening the skills of employing students in the public administration of the 21st century)", won the competition for grants - Researchers in Training – National University of Political Studies and Public Administration (SNSPA) / Faculty of Public Administration 2019, implementation period 2019-2023 (contracting Authority: SNSPA).

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