

DOES UNIVERSITY PERFORMANCE MATTER FOR EU PROGRAMMES IN SOUTH EAST EUROPE: CASE STUDY HORIZON 2020

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Abstract. *This paper examines the educational system in South East Europe (SEE) within the framework of opportunities coming from the European Union, particularly Horizon 2020, a recent EU innovation and research programme. The specific goal of this article is to measure the impact of the performance of universities in South East Europe and the likelihood of obtaining EU programmes, specifically Horizon 2020 projects. The additional aim is to investigate whether high-ranking universities are successful in obtaining Horizon 2020 projects and, more specifically, if university performance is a significant factor in the success rate in obtaining Horizon 2020 projects. In*

order to analyse this phenomenon empirically, we compare the main public universities of South East Europe and consider their overall performance in relation to EU programmes obtained. The final outcome of the paper is that there is a clear relationship between the university performance and obtaining Horizon 2020 projects. Therefore, the high performance of a university positively correlates with a high success rate in obtaining Horizon 2020 projects for most of the universities.

Key Words: *EU programmes, innovation, management, performance, funds, Horizon 2020*

1. INTRODUCTION

Within the framework of European integration, the EU offers different programmes to SEE countries such as ERASMUS+, COSME, COST, and Horizon 2020 as the main innovative framework. While Erasmus is the framework for capacity building in the higher educational institutions (HEIs), Horizon 2020 is the core framework of the EU for innovation and research excellence.

According to the European Commission Report 2018 with regard to Horizon 2020, universities, SMEs and other organisations based in the UK participated in more EU-funded research and innovation projects than their counterparts from other countries over the first three years (2014–2016). Therefore, there is an assumption that the high rate of UK participation in a Horizon projects is due to the high quality of research and innovation offered by

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UK universities. The question remains if these conditions are also reflected in SEE countries.

In order to analyse and determine the level of usefulness of funds dedicated to HEIs, our paper focuses on institutional theory as one of the most powerful explanatory tools for studying various organisational issues, especially those in the context of higher education. This theory dates back to 1957 when it was introduced as the old institutional theory, and then in 1977 and 1983 it was updated to the new institutional theory, as defined by Meyer et al. (1977).

Bastedo (2009) in his paper on institutional logic in public higher educational institutions supports the statement of Clark Kerr, that during the construction of public systems of higher education, the basic logic lies in the fact that the functions of all units need to be distinguished in order to increase the efficiency of the system and improve the overall educational system. In general, given the local constraints on resources, EU support in all SEE countries could be considered an important resource for enhancing the education level in the region. Among the most important challenges for SEE countries is capacity building or institutional efficiency. One of these challenges is the limited effort of local institutions to increase the level of education to create monitoring institutions, and furthermore, to support research and innovation activities.

The main research questions to be addressed in this paper are: RQ1: *Does a university's scientific performance matter for the success rate at Horizon 2020*; and RQ2: *Does university's management capability significantly impact the success rate of Horizon 2020 programmes?*

The paper is structured as follows. The introduction is followed by a theoretical

background providing an overview of Horizon 2020, the EU programmes and SEE. Results are presented and aim to provide evidence related to the research questions. Finally, the conclusions are presented.

2. AN OVERVIEW OF HORIZON 2020

Horizon 2020 represents a very effective way to enhance the research and innovation in participating countries. The highly relevant issue, when it comes to education, is that this programme offers HEIs the opportunity to expand their capacities, to develop skills, to advance knowledge, and to support their creative and innovative activities.

Horizon 2020 is considered to be the biggest project on research and innovation, with almost €80 billion of funding, available for 2014–2020; its defined aim is to support sustainable and inclusive economic growth. This programme is a useful instrument for supporting research, innovation, knowledge, and growth especially for countries with limited financial capabilities.

Compared to other EU programmes, Horizon 2020 embraces all existing EU research and innovation funding, including the Framework Programme for Research (FP7), the innovation-related activities of the Competitiveness and Innovation Framework Programme (CIP) and the EIT (UK Higher Education International Unit, 2012). The current programme, Horizon 2020, is a continuation of an earlier initiative for research and innovation (Geryk, 2016). One of the aims of this programme is to support the European Union with world-class science by removing barriers to innovation and delivering it to the public and private sector.

Furthermore, within this programme, the EU aims to support international

cooperation between students, academics, and researchers, as well as structured cooperation between HEIs and public authorities in different countries. Thus, progressive human resource management practices, including selectivity in staffing, training, and incentive compensation are positively related to perceptual measures of organisational performance (Delaney and Huselid, 1996). The further objective of Horizon 2020 is to create new opportunities for people in higher education by cooperating in national and international programmes and by promoting the innovation and value-added products. The current globalisation trend requires deep reforms and changes to the education system in order to improve the ranking of the universities; therefore, these reforms support developing ways to improve the staff and performance of the universities (Lew, 2009).

One basic factor in the slow advancement of the development process is the wasted human potential associated with high illiteracy and lack of skills (Bennett, 1995). Organisations should, therefore, continue to facilitate the learning process following the completion of training to promote positive transfer (Grossman et al., 2011). Organisations make increasingly large investments in training because it serves as a powerful tool for producing the targeted cognitive, behavioural, and affective learning outcomes essential for their survival (Salas et al., 2009). The most important obstacles are the lack of transparency, gender equality, research performance, human resource policies, and social security obstacles. However, since Horizon 2020 is open to everyone, the EU aims to break down these barriers to create a genuine single market for knowledge, research, and innovation. Lew (2009) considers that employees to be an essential strategic asset since universities aim to employ academic

staff with high research profiles as well as those who are committed to value-added research and creativity.

One of the main challenges for SEE countries is the improvement of local institutional capabilities in order to increase their ability to access EU funds, and respectively to absorb the pre-accession financial support before their membership. Technically speaking, involvement in these programmes means reforming local institutions and increase in their academic and administrative capabilities. Higher education is a highly internationalised sector (Higher Education Authority, 2016). Thus, searching for the perfect model of financing science is, in fact, striving to achieve excellence. Lewis et al. (2001) consider that higher educational institutions must increasingly compete to obtain more EU funds and less local public funds.

Currently, all SEE countries are participating in this programme, and almost each one has benefited at a different level of utilisation. Although, according to the statistics, it seems that not all SEE countries have satisfactory results from EU funding programmes, especially when it comes to new ones. The EU has encouraged these countries to increase their participation by providing information sessions, training, workshops; other supportive activities as effective training and lifelong learning programmes can increase productivity, research, innovation and culminate in competitive advantage (Salas et al., 2006).

3. METHODOLOGY

The main purpose of this paper is to address the success rate of SEE countries with respect to educational programmes and how this rate is affected by the university's

performance. Thus, the objective of this paper is to explore and determine the relationship between EU programmes and the university's performance in SEE countries. The analysis is conducted by comparing the effectiveness of SEE countries in the Horizon 2020 programme and the ranking of the largest public universities in these countries.

4. RESULTS

When analysing the performance of HEIs in SEE countries, it is evident that universities in this region are rather young: higher education in the region essentially developed after 1945. Exceptions are the flagship universities of Croatia, where the University of Zagreb was founded in 1874. Most of the other universities were founded after 1945 (Vukosavić, 2012). Many changes occurred after this period. All countries have risen slowly and they are still developing.

According to Lew (2009), one of the primary criteria for world-class universities is the ability to attract and retain excellent and experienced academics, and, as a result of this, research projects and programmes. Thus, the European integration process facilitated and increased the education level of HEIs in SEE countries by providing financial support and also by designating different programmes. These programmes

facilitated the mobility and exchange of university students between HEIs in the EU and SEE. Even though the universities in the SEE have undertaken the required reforms for implementing the Bologna Process and the ETCS system, the research activities at the universities still lack quality assurance. According to Marinkovic and Dalke (2014), the SEE countries as a region are facing significant challenges, including those in the area of governance and policy; therefore, research and innovation are not high on the list of priorities. In fact, according to Mataković et al. (2013), richer countries are those who traditionally spend more funds on scientific research, since consumption trends are changing periodically.

Statistics show that during the first three years of implementation of the Horizon 2020 programme, many of the SEE countries, such as Albania, Bosnia and Herzegovina, Macedonia, Montenegro, and Serbia, have signed association agreements with this programme, while Kosovo has obtained the third country status. Research reveals that Serbia was one of the most active countries during this period. With around 1689 applications, it represents the leading SEE country, followed by Macedonia with about 404, Bosnia and Herzegovina with about 244, Albania with around 202, and Montenegro with around 124 applications (see Table 1).

Table 1. Number of applications by the SEE 2014–2016

	Albania	Bosnia & Herzegovina	Macedonia	Montenegro	Serbia
2014	48	53	112	29	508
2015	108	138	199	65	726
2016	46	53	93	30	455

Source: European Commission, 2018

Despite such a large number of applications, many of them did not meet the requirements for implementation. This

is due to the fact that this programme includes a wide range of defined conditions and criteria for use. The enclosed data also

shows that Serbia is still the recipient of a large number of projects, precisely 193 in the first 3 years. The second on the list is Macedonia with about 37 projects, followed by Bosnia and Herzegovina with around 26, Montenegro with 17, and Albania with 15 participations (Table 2).

Table 2. Total number of participations in HORIZON 2020 during 2014–2016

	Albania	Bosnia & Herzegovina	Macedonia	Montenegro	Serbia
2014	4	7	14	5	68
2015	4	8	6	5	65
2016	7	11	17	7	60
Total	15	26	37	17	193

Source: European Commission, 2018

The latest research, however, shows that numbers have changed for each country. According to information from January 2018, the number of participations has risen (adapted from European Commission, 2018). The general number of participations is 544 from SEE countries. With a total of 307 projects, Serbia received 53.9 million, Macedonia with 105 projects received 11.5 million, Montenegro with 52 projects received 4.2 million, Bosnia and Herzegovina with 45 projects received 3.1 million, and Albania with 35 projects received 2.4 million euro (Table 3).

Table 3. Number of participations in HORIZON 2020 (2014–2018)

	Number of projects with the participants from a country	Beneficence (million €)
Albania	35	2.4
Bosnia & Herzegovina	45	3.1
Macedonia	105	11.5
Montenegro	52	4.2
Serbia	307	53.9
Total	544	75.1

Source: European Commission, 2018

Considering that Horizon 2020 provides support in many areas, the interest of these countries is also diverse and multifaceted. Statistics show that requested EU contributions in different fields by SEE countries in total are 790,081,955 €, where out of 3,346 applications submitted, 2,248 are eligible, while the rest are retained (Table 4).

Table 4. Requested EU assistance by country in different areas (2014–2018)

Country name	Eligible Proposals	Retained Proposals	Value of requested grants	Applications
Total	2,248	225	790,081,955 €	3,346
Serbia	1,615	165	547,779,709 €	2,089
Macedonia	389	45	104,833,994 €	483

Bosnia and Herzegovina	245	32	56,428,588 €	316
Albania	203	13	51,041,478 €	254
Montenegro	126	13	23,607,780 €	143
Kosovo	56	10	6,390,409 €	61

Source: European Commission, 2018

When analysing the specific pillars, such as education, requested EU contributions are about 9,831,766 € (Table 5). With 42 applications and 38 eligible proposals, Serbia leads the list, while the others are far below that number: Albania with 6 eligible proposals; Macedonia and Montenegro with 4; Bosnia and Herzegovina with 3; and Kosovo with just one eligible proposal.

Table 5. Requested EU grants by country for education (2014–2018)

Country name	Eligible Proposals	Retained Proposals	Assistance	Applications
Total	56	6	9,831,766 €	62
Serbia	38	4	6,807,244 €	42
Albania	6	0	1,490,656 €	6
Macedonia	4	1	772,882 €	5
Montenegro	4	1	406,047 €	5
BIH	3	0	351,438 €	3
Kosovo	1	0	3,500 €	1

Source: European Commission, 2018

On the other hand, very few countries took part in programmes dedicated to the evolution of science and an appropriate educational approach to its useful application. Unfortunately, only Serbia and Kosovo have participated with just 2 eligible proposals (Table 6).

Table 6. Developing a future science and education programme applicable for transfer to practice

Country name	Eligible Proposals	Retained Proposals	Funds	Applications
Total	2	0	243,500 €	2
Serbia	1	0	240,000 €	1
Kosovo	1	0	3,500 €	1

Source: European Commission, 2018

Despite its enormous potential for exceptional analysis and new ideas, and how they can successively affect the economy and social welfare, project schemes dedicated to the area of study and efficiency have not been addressed sufficiently. With only 8 project proposals, from five countries, only seven were eligible to become a part of a strategic framework dedicated to the educational branch of knowledge and abilities concerning young innovators (Table 7).

Table 7. Project proposal engagement on education & skills: Empowering Europe's young innovators scheme (2014–2018)

Country name	Eligible Proposals	Retained Proposals	Required EU contribution	Applications
Total	7	1	913,043 €	8
Serbia	4	0	532,885 €	4
Macedonia	1	0	136,744 €	1
BIH	1	0	89,250 €	1
Albania	1	0	54,381 €	1
Montenegro	1	0	99,784 €	1

Source: European Commission, 2018

In the meantime, a total of 6 eligible proposals from third countries were submitted under HORIZON 2020 in the field of inventive ideas for making education as a discipline and scientific work attractive to young people, with about 1,072,820 € requested EU contributions (European Commission, 2018).

When it comes to research and education networking as one of the main objectives of Horizon 2020, the total number of requested EU contributions was 950,617 € coming from only three third countries; Serbia, Montenegro, and Macedonia with only one application.

Considering the objectives and the reason for the creation of the Horizon 2020 programme, in addition to its diversity, attractiveness, and accessibility, SEE countries are increasingly beginning to realise the importance of accessing this programme and,

at the same time, the difficulties in realising this goal. The statistics show that from the very beginning, until today, these countries have been active but not sufficiently enough. However, this does not mean that each of them has reached the same position.

Among the SEE countries examined, Serbia is one of the most active, from the number of applications to eligible proposals, followed by Macedonia, Montenegro, BIH, Albania and Kosovo. From another point of view, according to the ranking web in 2018, the University of Belgrade is ranked 512th, meaning that this university has reached the best position compared to other SEE universities. In the second position is the University of Skopje, which was ranked 1612th, then University of Sarajevo at 2039th, University of Prishtina at 3320th, the University of Montenegro at 3380th and the University of Tirana at 5978th (Table 8).

Table 8. Ranking web of SEE universities

Country	University	Ranking Web of Universities
Albania	University of Tirana	5978
BIH	University of Sarajevo	2039
Macedonia	Ss. Cyril & Methodius University	1612
Kosovo	University of Pristina	3320
Montenegro	University of Montenegro	3380
Serbia	University of Belgrade	512

Source: http://www.webometrics.info/en/Ranking_Europe/Central_Eastern_Europe

HORIZON 2020 truly represents a very attractive set of programmes, with a variety of possibilities for SEE countries, and the most important funding is on an enviable level, which is quite favourable for all countries. By having such opportunities, scientists' motivation is increasing, which can ultimately boost the number of SEE participants.

5. CONCLUSIONS

Despite the institutional challenges and long transition in SEE countries, the European integration process has facilitated and increased the educational level by means of financial support and also by designating different programmes and frameworks, such as Tempus, Erasmus, Bologna Process, Horizon 2020, and other instruments. These programmes have facilitated the mobility and exchange of university students between HEIs in the EU and SEE. The main actor supporting the educational activities in the SEE is the European Union. The SEE countries participated in Tempus programme, Erasmus Mundus, lifelong learning programmes, which have enabled these countries to fully adapt the Bologna Process, improve their education systems, and increase the exchange between EU and SEE universities.

With regard to our research questions, in light of the statistics and comparisons, our conclusion is that university performance matters for the Horizon 2020 success rate in the SEE, while the management capability of the universities has a lower impact on the success rate of Horizon 2020 programmes. Therefore, the main recommendations are the following. First, the role of research activities in society should be increased, especially in SEE countries due to the gap created over the past years in these countries and also due to the challenges coming

from the European Union. Second, the governments in the SEE should increase their financial support for education and should participate actively in enhancing education, research, and innovation in these countries. Third, countries need to develop relevant programmes based on labour needs, thereby improving the quality of human capital through training schemes. Fourth, there should be a combination of teaching activities and research activities at universities in SEE countries.

Finally, while the above-mentioned programmes have increased capabilities of SEE countries, Horizon 2020 is an additional challenge for these countries, especially considering their limited capabilities in science and innovation.

6. REFERENCES

1. Albach, P.G., Reisberg, L., & Rumbley, L.E. (2009), Trends in global higher education: Tracking an academic revolution; a report prepared for the UNESCO 2009 world conference on higher education, (United Nations Educational, Scientific and Cultural Organisation).
2. Barnetson, B., & Cutright, M. (2000), Performance indicators as conceptual technologies, *Higher Education*, 40(3) pp. 277–292, www.jstor.org/stable
3. Bastedo, M.N. (2009), Convergent institutional logics in public higher education: state policymaking and governing board activism, *The Review of Higher Education*, 32(2), pp. 209–234, DOI: 10.1353/rhe.0.0045, <http://muse.jhu.edu/article/254805>
4. Bennett, L.A. (1995), *International Organisations; Principles and Issues*, Sixth Edition (Prentice Hall, New Jersey 1995).

5. Brajkovic, L. (2016), Higher education in Western Balkans: Recent trends and challenges; *International Higher Education*, 87, pp. 27-29.
6. Burke, J.C., & Serban, A.M. (1998). State synopses of performance funding programmes, Performance Funding for Public Higher Education, New Direction for Institutional Research no. 97.
7. de Waal, A., & Sultan, S. (2012), Applicability of the high performance organisation framework in the Middle Eastern; The case of Palestine Polytechnic University, *Education, Business and Society: Contemporary Middle Eastern Issues*, 5(3), pp. 213-233.
8. Delaney, J.T., & Huselid, M.A., (1996), The Impact of Human Resource Management practices on perceptions of organisational performance, *Academy of Management Journal*, 34 (4), pp 949–969.
9. European Commission (2018), HORIZON 2020 in full swing – Three Years On – Key facts and figures 2014–2016, (Directorate-General for Research and Innovation, B-1049 Brussels).
10. European Commission, Enabling synergies between European Structural and Investment Funds, Horizon 2020 and other research, innovation and competitiveness-related Union programmes, (Luxembourg, Publications Office of the European Union, 2014).
11. European Commission (2018), Horizon 2020 country participation: Key, research-related data and recent project success stories, reports on associated countries.
12. Geryk, M. (2016), The new system of financial science HORIZON 2020 as a development opportunity for European and Polish science, (School of Management in Gdansk, College of Engineering and Health in Warsaw.
13. Grossman, R., & Salas, E. (2011), The transfer of training: What really matters, *International Journal of Training and Development*, 15(2), 1360–3736.
14. Higher Education Authority HEA (2016), Brexit and Irish Higher Education and Research: Challenges and Opportunities, November.
15. Lew, T.Y. (2009), The relationships between perceived organisational support, felt obligation, affective organisational commitment and turnover intention of academics working with private Higher Educational Institutions in Malaysia, *European Journal of Social Sciences*, 9(1), 72-87.
16. Lewis, D.R., Ikeda, T., & Dundar, H. (2001), On the use performance indicators in Japan's Higher Education Reform Agenda, *Nagoya Journal of Higher Education*, 1 (2), 67-98.
17. Marinkovic, I., & Dalke, E. (2014), Co-ordination of Research Policies with Western Balkan Countries – 6 year of European and Regional dialogue; R&D and Innovation in Western Balkans, moving towards 2020.
18. Mataković, H., Pejić Bach, M., & Radočaj Novak, I. (2013), Scientific productivity in transition countries: Trends and Obstacles, *Interdisciplinary Description of Complex Systems*: 11 (2), pp.
19. Meyer J.W. & B. Rowan (1977), Institutional organizations: Formal structure as myth and ceremony, *American Journal of Sociology*, 83: pp. 340-63.
20. Pelkmans, J. (2001), *European Integration, Methods and Economic Analysis, Equity for the Union? Social Cohesion and the EU Budget*, Second Edition, (Pearson Education Limited, England),
21. Salas, E., & Stagl, K.C. (2009), 'Design training systematically and follow

- the science of training’, Part II, Handbook of Principles of Organisational Behaviour: Indispensable Knowledge for Evidence-Based Management, 2nd Edition (John Wiley & Sons).
22. Salas, E., Wilson, K., Priest, H., & Guthrie, J. (2006), ‘Design, delivery, and evaluation of training systems’, Chapter 18, Handbook of Human Factors and Ergonomics, 3rd Edition (John Wiley & Sons).
 23. UK Higher Education International Unit; Universities UK; Global opportunities for UK higher education; UK Higher Education Sector Position on the HORIZON 2020 Framework for Research and Innovation.
 24. Vukosavić, M. (2012), European integration in higher education in the Western Balkan countries (WBC), European Integration in Higher Education and Research in the Western Balkans, NORGLOBAL programme of the Norwegian Research Council (project number 203340), August.
 25. WBC Inno (2014), Western Balkans Regional University Innovation Platform, (Inter print, Kragujevac, Serbia March).
 26. Will, B., Milica, U., Niccolo, D., Vassilis, M., & Tanguy, S. (2016), From University to Employment; Higher Education Provision and Labour Market Needs in the Western Balkans; Synthesis Report, (European Commission, Brussels 2016).
 27. Yuzhuo, C., & Mehari, J. (2015), The use of institutional theory in higher education research; In: *Theory and Method in Higher Education Research III*, edited by H. Jeroen & T. Malcolm, pp. 1–25. Bingley: Emerald.

JESU LI REZULTATI SVEUČILIŠTA ZNAČAJNI ZA EU PROGRAME U JUGOISTOČNOJ EUROPI: STUDIJA SLUČAJA HORIZON 2020

Sažetak. U ovom se radu analizira obrazovni sustav u jugoistočnoj Europi (JIE), u okviru mogućnosti koje pruža Europska Unija, a posebno Horizon 2020 – nedavno ustanovljeni program EU za inovacije i istraživanje. Poseban je cilj rada mjerenje utjecaja rezultata sveučilišta i vjerojatnosti dobivanje EU programa, odnosno – specifično, projekata financiranih iz Horizonta 2020. Dodatni je cilj rada istražiti koliko su visokorangirana sveučilišta uspješna u dobivanju projekata iz Horizonta 2020 te, još točnije, koliko su rezultati sveučilišta značajan čimbenik za stopu uspješnosti u natjecanje za Horizon 2020

projekte. Kako bi se izvršila empirijska analiza, uspoređuju se ključna javna sveučilišta na zapadnom Balkanu te se uspoređuju njihovi opći rezultati djelovanja s dobivenim EU programima. U radu se ukazuje da postoji jasna povezanost između rezultata djelovanja i dobivanja projekata Horizonta 2020, odnosno pozitivna korelacija između rezultata sveučilišta i visoke stope uspješnosti u dobivanju Horizon projekata.

Ključne riječi: EU programi, inovacija, menadžment, rezultati djelovanja, financiranje, Horizon 2020.