

POSITIONING SERBIA ON THE COMPETITIVE MARKET ACCORDING TO THE INNOVATIVE PERFORMANCE OF SMES

Summary: *Innovations are key drivers of the growth and development of small and medium-sized enterprises. The development of innovations is monitored through the achieved innovative performances, on the basis of which the future directions of the development of innovations are defined and the perceived obstacles to their development are removed. The aim of the paper is to identify the level of innovative performance of Serbia, as well as the positioning of Serbia in comparison with the innovation results of the countries of the European Union (EU). The paper analyzes the innovative performances of Serbia and EU countries: innovation index and three indicators of innovative activities (product innovations, business process innovations, and indicators of innovative SMEs collaborating with others). By applying the comparative method the position of Serbia towards the EU was identified. The results show that the innovation index of Serbia follows the trend of this index in the EU. Serbia does not lag behind the results of the EU regarding the performance of innovative activities. Serbia achieves good results in the area of business process innovation and product innovation, while in the case of indicators of innovative SMEs cooperating with others, it achieves worse results compared to the EU.*

Keywords: *Innovation performance, Innovation index, Small and medium-sized enterprises, Serbia*

1. INTRODUCTION

In a knowledge-based society, innovation is the driving force of economic growth in all types of businesses and at all levels¹. The literature indicates that innovation is a critical element of companies' long-term survival and growth, and it also plays an important role in adapting and responding to environmental changes². If companies want to maintain their

* PhD, Jasmina Ognjanović, Assistant Professor at the Faculty of Hotel Management and Tourism in Vrnjačka Banja, University of Kragujevac, Vrnjačka Banja, Serbia, jasminka.lukic@kg.ac.rs

¹ Errico Fabrizio *et al.* (2023): "Source of funding and specialized competences: the impact on the innovative performance of start-ups", *Journal of Knowledge Management Ahead-of-print*, 1.

² Al-Hakimi Mohammed, Borade Dileep, Saleh Moad Hamod (2022): "The mediating role of innovation between entrepreneurial orientation and supply chain resilience", *Asia-Pacific Journal of Business Administration* 14/4, 592-616.

market position, innovative activities are essential³. Authors⁴ observe innovation as a social process that drives companies in conditions of global competition and economic pressures.

Organizational innovation is also the basic factor of organizational success and competitiveness in a fast-changing environment because it helps companies surpass competitors, delight customers, build new product programs⁵, and achieve business success⁶. Authors⁷ agree with this, stating that innovation is increasingly recognized as a key source of sustainable competitive advantage that companies use to cope with changes in the environment. Competitive advantage is immediate and does not last long, which leads companies to the need for permanent development of creativity as a means of stimulating innovation⁸. Competitive advantage built through innovation is created by employees. They are the ones who notice and create solutions for changes in the environment and problems of their customers using knowledge⁹.

Several research gaps have been identified in the literature. First, previous studies confirm that innovation has a positive effect on organizational performance¹⁰; competitiveness¹¹; success and sustainability of the company¹². Also, numerous studies have confirmed the positive effect of entrepreneurial orientation on innovation¹³. Accordingly, the further development of innovations implies the identification of the state and perspectives

³ Valaei Naser, Rezaei Sajad, Emami Maryam (2017): "Explorative learning strategy and its impact on creativity and innovation: An empirical investigation among ICT-SMEs", *Business Process Management Journal* 23/5, 957-983.

⁴ Yuan Yue, Wang Ping, Tian SongYuan (2022): "How to recover from difficult condition? The relationship between leader-employee congruence in creativity goal and innovative performance", *Journal of Organizational Change Management* 35/7, 984-999.

⁵ Dedahanov Alisher Tohirovich, Rhee Changjoon, Yoon Junghyun (2017): "Organizational structure and innovation performance: Is employee innovative behavior a missing link?", *Career Development International* 22/4, 334-350.

⁶ Ullah Irfan, Mirza Bilal, Jamil Amber (2021): "The influence of ethical leadership on innovative performance: modeling the mediating role of intellectual capital", *Journal of Management Development* 40/4, 273-292.

⁷ Yeh-Yun Lin Carol, Liu Feng-Chuan (2012): "A cross-level analysis of organizational creativity climate and perceived innovation: The mediating effect of work motivation", *European Journal of Innovation Management* 15/1, 55-76.

⁸ Valaei Naser, Rezaei Sajad, Emami Maryam.

⁹ Zhou Huiping et al. (2019): "The moderating role of knowledge structure in the open innovation effect", *Management Decision* 57/9, 2223-2238.

¹⁰ Khalili Hasan, Nejadhussein Syyedhamzeh, Fazel Ali (2013): "The influence of entrepreneurial orientation on innovative performance: Study of a petrochemical company in Iran", *Journal of Knowledge-based Innovation in China* 5/3, 262-278.; Poblete Carlos (2018): "Growth expectations through innovative entrepreneurship: The role of subjective values and duration of entrepreneurial experience", *International Journal of Entrepreneurial Behavior & Research* 24/1, 191-213; Stojcic Nebojša, Hashi Iraj, Orlic Edvard (2018): "Creativity, innovation effectiveness and productive efficiency in the UK", *European Journal of Innovation Management*, 21/4, 564-580.; Valaei Naser, Rezaei Sajad, Emami Maryam.

¹¹ Yeh-Yun Lin Carol, Liu Feng-Chuan.

¹² Gelaidan Hamid Mahmood, Al-Swidi Abdullah Kaid, Al-Hakimi A. Mohammed (2023): "Servant and authentic leadership as drivers of innovative work behaviour: the moderating role of creative self-efficacy", *European Journal of Innovation Management* Ahead-of-print.

¹³ Al-Hakimi Mohammed, Borade Dileep, Saleh Moad Hamod.

of innovative activities through the analysis of innovation performance. This kind of analysis is particularly important for developing countries, such as Serbia, since there is a difference in the level of competitiveness of developed and emerging countries when it comes to the development of innovations¹⁴. Second, the literature indicates that innovative performance is an important issue that SMEs need to identify and recognize¹⁵. Research proves that a company's focus on knowledge development helps to increase its innovative performance which creates added value and unique advantages¹⁶. Innovative performance was the subject of previous research¹⁷, but the further development of innovation implies the identification of Serbia's position in the group of innovative countries and the trend of innovative performance in the previous period. In addition, defining further directions for the development of innovation in Serbia implies a comparison of the innovative performance of Serbia and the results achieved in the EU. Therefore, the aim of the paper is to identify the level of innovative performance of Serbia, as well as the positioning of Serbia in comparison with the innovation results of the countries of the EU.

Based on the observed research gaps, the paper aims to answer the following research questions:

1. What is the trend of the innovation index of Serbia in the observed seven-year period?
2. Is there a deviation in the values of innovative performance in Serbia in comparison to these values achieved in EU countries?

The contribution of the paper is reflected in the identification of Serbia's position on the European innovation market through the value of the innovation index and the value of the indicators of innovative activities: product innovation, business process innovation, and indicators of innovative SMEs collaborating with others. Second, the paper compares the achieved innovative performances of Serbia with the results of EU countries. Deviations are identified and a discussion is provided on possible reasons for deviations as well as investment directions that will lead to the growth of these performances.

In addition to the introduction and conclusion, the paper contains four more parts. In the first part, a description of innovation is given and its role in strengthening the competitiveness of SMEs is discussed. The second part indicates the importance of creativity as an activity that precedes innovation, while the third part clarifies innovative performance and provides an overview of studies that have analyzed this performance. In the fourth part, trends in the innovation index of Serbia by year are shown, and a comparison of the achieved innovation performances of Serbia and EU countries is given, along with a discussion of the presented results.

¹⁴ Donado Alexandra *et al.* (2023): "Dominant Logic and External Collaboration: Determinants of Innovation in An Emerging Economy and A Developed Country", *Journal of Technology Management & Innovation* 18/1, 67-82.

¹⁵ Khalili Hasan, Nejadhussein Syedhamzeh, Fazel Ali.

¹⁶ Zhou Huiping *et al.*

¹⁷ Errico Fabrizio *et al.*; Khalili Hasan, Nejadhussein Syedhamzeh, Fazel Ali.; Yuan Yue, Wang Ping, Tian SongYuan; Zhou Huiping *et al.*

2. INNOVATION AS A COMPETITIVENESS FACTOR OF SMES

The modern business environment is characterized by a rapid increase in the number of new competitors, a sense of distrust in conventional methods of corporate management, and a reduction in the number of employees that threatens the productivity and growth potential of the company¹⁸. Consequently, adapting to change and creating innovation are recognized as key elements that will lead to successful business in these uncertain business conditions¹⁹. Authors²⁰ also agree with this stating that innovation is recognized as one of the key dynamic capabilities that make companies more resilient to disruptions. In addition, Schumpeter argued that the main actors of economic growth are entrepreneurs who introduce innovations that stimulate economic activity²¹. Given that innovation is central to entrepreneurship and all economic activity, economic growth can be promoted by encouraging more people to start new businesses²².

Entrepreneurial orientation is considered a critical organizational process that helps a company survive and improve its organizational performance in a turbulent and uncertain environment²³. Entrepreneurial innovativeness allows businesses to gain a larger base of loyal customers, and provide competitive prices or higher entry barriers to avoid potential threats²⁴. Entrepreneurial innovation is defined as exploratory behavior that involves doing something different, but not imitations and variants of what others also offer²⁵. As a result of entrepreneurial activity, innovation represents the ability to introduce something new through the application of new ideas, methods, skills, and knowledge, which affects the competitiveness of the company and creates recognizable capabilities²⁶. Innovations appear in the following forms: new products/services, new/improved production processes, organizational processes, or business models²⁷. According to the literature on strategic management, innovation is one of the dynamic capabilities that adds value and generates competitive advantages for a firm in a business environment characterized by rapid changes and uncertainty, i.e. with innovations, companies are better able to respond to the various challenges of the business environment²⁸.

¹⁸ Tseng Cheng, Tseng Chien-Chi (2019): "Corporate entrepreneurship as a strategic approach for internal innovation performance", *Asia Pacific Journal of Innovation and Entrepreneurship* 13/1, 108-120.

¹⁹ Al-Hakimi Mohammed, Borade Dileep, Saleh Moad Hamod; Tseng Cheng, Tseng Chien-Chi; Yuan Yue, Wang Ping, Tian SongYuan.

²⁰ Al-Hakimi Mohammed, Borade Dileep, Saleh Moad Hamod.

²¹ Khalili Hasan, Nejadhussein Syyedhamzeh, Fazel Ali.

²² Errico Fabrizio *et al.*

²³ Khalili Hasan, Nejadhussein Syyedhamzeh, Fazel Ali.

²⁴ Poblete Carlos.

²⁵ Errico Fabrizio *et al.*

²⁶ Al-Hakimi Mohammed, Borade Dileep, Saleh Moad Hamod.

²⁷ Khalili Hasan, Nejadhussein Syyedhamzeh, Fazel Ali.

²⁸ Al-Hakimi Mohammed, Borade Dileep, Saleh Moad Hamod.

According to the resource-based view, achieving a competitive advantage mainly relies on available internal resources, i.e. knowledge and capabilities within the company²⁹ that are crucial for innovation³⁰. The knowledge-based theory also contributes to the development of innovations, according to which human resources and knowledge practices lead to the dominant advantages of companies in creating successful innovations³¹. Accordingly, the authors³² state that recent research advocates the thesis that employees have a key role in generating and promoting innovation activities because they offer different knowledge and experiences. The authors³³ agree with this, stating that the individual creativity of employees is the starting point for innovation and thus a competitive advantage. By employing highly skilled and knowledgeable individuals, companies produce, distribute, and use knowledge and information as their competitive advantage³⁴. The authors³⁵ emphasize that the leader's support and trust in employees additionally stimulate internal creativity and the active commitment of employees to innovative work in the company. The authors³⁶ also state the importance of external technology for innovation through the synergy of external and internal knowledge resources. Therefore, the ability to collect and recombine knowledge from the external environment becomes critical for the creation and sustainability of internal product/service innovations that positively contribute to the profitability and competitiveness of the company³⁷.

The development of an environment suitable for the creation of innovations contributes to both employees and companies³⁸. Individuals engaged in innovative activities have the opportunity to develop their competencies, so they can be promoted or rewarded for their innovation³⁹. By creating an entrepreneurial environment, the company will not only help creative employees develop innovations and realize their full potential but also reduce the turnover rate of such individuals⁴⁰. By summarizing the positive contributions at the individual level, companies realize benefits at the corporate level as well - business growth⁴¹ and performance growth in turbulent conditions⁴². The innovativeness of employees also

²⁹ Valaei Naser, Rezaei Sajad, Emami Maryam.

³⁰ Zhou Huiping *et al.*

³¹ Bulut Cagri *et al.* (2022): "Linking incremental and radical creativity to product and process innovation with organisational knowledge", *Journal of Manufacturing Technology Management* 33/4, 763-784.

³² Dedahanov Alisher Tohirovich, Rhee Changjoon, Yoon Junghyun; Ullah Irfan, Mirza Bilal, Jamil Amber.

³³ Dedahanov Alisher Tohirovich, Rhee Changjoon, Yoon Junghyun; Zhou Huiping *et al.*

³⁴ *Ibid.*

³⁵ Yuan Yue, Wang Ping, Tian SongYuan.

³⁶ Zhou Huiping *et al.*

³⁷ *Ibid.*

³⁸ Yuan Yue, Wang Ping, Tian SongYuan.

³⁹ Dedahanov Alisher Tohirovich, Rhee Changjoon, Yoon Junghyun

⁴⁰ Tseng Cheng, Tseng Chien-Chi.

⁴¹ Errico Fabrizio *et al.*

⁴² Tseng Cheng, Tseng Chien-Chi.

contributes to the improvement of innovation performance, since individuals are the sources of new innovations⁴³.

All activities aimed at the creation and development of innovations aim to strengthen the competitiveness of the company and its market position. By constantly innovating products and processes, companies respond to constant changes in the environment, thereby ensuring their survival and success in the market.

3. CREATIVITY AS AN ANTECEDENT OF INNOVATION

Creativity is an important antecedent of innovation and refers to the intellectual efforts and practices of an individual to achieve new, higher results in the form of value-added products or processes⁴⁴. The authors⁴⁵ view creativity as the starting point and root of innovation. When it comes to entrepreneurial ability, authors⁴⁶ believe that creativity has a key role since it is related to identifying business opportunities. The triangular theory of creativity views creativity as a challenge for individuals/employees to create new ideas through beliefs, assumptions, and practices⁴⁷. A creativity goal is defined as a personal standard or aspiration that one's work output be creative⁴⁸. In a business environment, creativity positively affects the way work is done, either by improving products and services or by opening a new way to approach a process⁴⁹.

Studies recognize creativity as the main driver of innovation, profitability, market share, and company survival⁵⁰. Research shows that a suitable climate in the workplace is essential for maintaining high creativity⁵¹. Research also indicates that creative skills contribute to the generation of new ideas⁵². Some authors consider the knowledge of individuals as a tool that enables creative practices⁵³. All of the above leads to the fact that creativity contributes to the improvement of individual innovative performance⁵⁴, that it becomes an important factor of innovation and a predictor of organizational performance of companies⁵⁵.

Based on the results of previous research, it can be concluded that creativity and innovation are essentially related activities that represent tools for effectively dealing with a

⁴³ Dedahanov Alisher Tohirovich, Rhee Changjoon, Yoon Junghyun.

⁴⁴ Bulut Cagri *et al.*

⁴⁵ Yeh-Yun Lin Carol, Liu Feng-Chuan.

⁴⁶ Valaei Naser, Rezaei Sajad, Emami Maryam.

⁴⁷ Gelaidan Hamid Mahmood, Al-Swidi Abdullah Kaid, Al-Hakimi A. Mohammed.

⁴⁸ Yuan Yue, Wang Ping, Tian SongYuan.

⁴⁹ Sik Attila (2016): "Creativity in cross-domain collaborations: searching factors to increase efficiency", *Management Research Review* 39/2, 144-166.

⁵⁰ Stojcic Nebojša, Hashi Iraj, Orlic Edvard.

⁵¹ Sik Attila.

⁵² Stojcic Nebojša, Hashi Iraj, Orlic Edvard.

⁵³ Valaei Naser, Rezaei Sajad, Emami Maryam.

⁵⁴ Yuan Yue, Wang Ping, Tian SongYuan.

⁵⁵ Yeh-Yun Lin Carol, Liu Feng-Chuan.

rapidly changing business environment⁵⁶. Many studies consider creativity and innovation to be synonymous⁵⁷. Innovations represent the output or result of activities in the creativity process⁵⁸. Creativity refers to the generation of new, useful ideas or solutions that are fit for purpose, while innovation is the implementation of the outcomes of creativity⁵⁹. The authors⁶⁰ consider creativity as an aspect of entrepreneurship, while the development of innovative products is based on the application of creative abilities. The authors⁶¹ believe that the creative pool of enterprises usually includes individuals from different professions, while the innovation process requires a set of different skills and thinking.

The authors⁶² explain the relationship between creativity and the innovation process by considering the interdependence between the different stages of the innovation process and the contribution of creativity to each of these stages. The innovation process starts with a creative idea that has its own market potential, has financial resources, and overcomes some challenges, such as technological challenges and competitive pressures⁶³. Therefore, innovation arises as a result of the success of creative ideas and efforts in the development of products, processes, or their combination⁶⁴. These ideas are the result of brainstorming activities of creative individuals or teams that are managed in a way that increases their creative potential⁶⁵. The above leads to the conclusion that no innovation is possible without creative processes, because this process is often the initial invention/idea that moves to the next stage - innovation development⁶⁶.

Previous research considers creativity and innovation as key factors in the long-term success and survival of a company⁶⁷. Studies also point to the importance of human resources in the process of creating innovations. The authors⁶⁸ believe that companies should foster creativity and innovation among employees, which will not only positively affect productive business frameworks but will also improve the company's competitive position. Previous studies show that leadership is a critical factor influencing employee creativity and innovation⁶⁹. The importance of interpersonal relationships among employees is also discussed by the authors⁷⁰ since these relationships lead to the use of individual creativity and the success of the innovation process.

⁵⁶ Gelaidan Hamid Mahmood, Al-Swidi Abdullah Kaid, Al-Hakimi A. Mohammed.

⁵⁷ *Ibrd.*

⁵⁸ Valaei Naser, Rezaei Sajad, Emami Maryam.

⁵⁹ Gelaidan Hamid Mahmood, Al-Swidi Abdullah Kaid, Al-Hakimi A. Mohammed.

⁶⁰ Valaei Naser, Rezaei Sajad, Emami Maryam.

⁶¹ Stojcic Nebojša, Hashi Iraj, Orlic Edvard.

⁶² *Ibrd.*

⁶³ *Ibrd.*

⁶⁴ Bulut Cagri *et al.*

⁶⁵ Stojcic Nebojša, Hashi Iraj, Orlic Edvard.

⁶⁶ *Ibrd.*

⁶⁷ Yeh-Yun Lin Carol, Liu Feng-Chuan.

⁶⁸ Gelaidan Hamid Mahmood, Al-Swidi Abdullah Kaid, Al-Hakimi A. Mohammed.

⁶⁹ *Ibrd.*

⁷⁰ Stojcic Nebojša, Hashi Iraj, Orlic Edvard.

4. INNOVATIVE PERFORMANCE

Innovative performance is a useful indicator on which companies orient themselves in developing a competitive advantage⁷¹. They are indicators of the success of entrepreneurs in developing new products and new projects, improving the quality of products/services, and adapting the organizational structure to the requirements of the competitive environment⁷². The authors⁷³ view innovation performance as the financial benefits obtained from the commercialization of innovations. The literature points to the creativity and innovativeness of employees as key factors in the growth and development of innovative performance⁷⁴.

Innovative performance refers to the results of the company in terms of delivery of the invention to the market⁷⁵. Innovation performance can be observed through product innovation, business process innovation, and indicators of innovative SMEs collaborating with others (see Report⁷⁶). The same indicators are used within the innovative activity category defined in the European innovation scoreboard (2023)⁷⁷. The authors⁷⁸ state that product innovation and process innovation are the dominant forms in the innovation typology literature. *Product innovation* is the introduction of a new or significantly improved product or service to the market in terms of its features, ease of use, composition, or subsystems. This indicator is a key element of innovation because it creates new demand and improves the competitiveness of companies. A higher value of this indicator indicates a higher level of innovation activities⁷⁹. *Business process innovations* refer to the introduction of at least one innovation in a business process, either new to the company or new to the market⁸⁰. This indicator includes the achieved level of process innovation, marketing, and organizational innovation. *Innovative SMEs collaborating with others* represents the number of those companies that had any contracts on cooperation in innovation activities with other companies or institutions in the last three years⁸¹. Setting the categories of innovation performance to be monitored is of particular importance since they are seen as guides in the direction of further innovation development. A more extensive and detailed indicator of the innovation development of a country is the innovation index, which, in addition to innovative activity, includes three more categories of innovation results.

⁷¹ Yuan Yue, Wang Ping, Tian SongYuan.

⁷² Khalili Hasan, Nejadhussein Syyedhamzeh, Fazel Ali.

⁷³ Zhou Huiping *et al.*

⁷⁴ Dedahanov Alisher Tohirovich, Rhee Changjoon, Yoon Junghyun.

⁷⁵ Khalili Hasan, Nejadhussein Syyedhamzeh, Fazel Ali.

⁷⁶ Report on Small and Medium Enterprises and Entrepreneurship, 2020., *Ministry of Economy of the Republic of Serbia*, Belgrade.

⁷⁷ European Innovation Scoreboard 2023, *European Commission*, Publications Office of the European Union, Luxembourg. ISBN 978-92-68-04715-6

⁷⁸ Bulut Cagri *et al.*

⁷⁹ Report on Small and Medium Enterprises and Entrepreneurship, 2020. 11.

⁸⁰ *Ibid*, 11.

⁸¹ *Ibid*, 11.

The results of the company's innovative activities arise from the research of new possibilities that are realized by the application of new resources⁸². Innovative results can also be defined as new concepts of sustainable products, which are put into the process⁸³. The phases of this process are⁸⁴:

- Generating ideas
- Promotion of the idea
- Implementation of the idea

According to the authors⁸⁵, in the stage of generating ideas, the leader provides a climate that offers new concepts and new thinking, as well as resources for effective work implementation. Promotion of ideas means presenting the idea to experts at different levels and testing the feasibility of producing the innovation. The implementation of an idea refers to the result of undertaken activities, i.e. the creation of innovations that further experience their commercialization on the market. The successful creation of innovations is a complex process preceded by the creation of an idea. That is why it is necessary to point out the place of creativity in the entire process of creating innovations as well as the differences in relation to innovation.

The results of previous research indicate the importance of analyzing and monitoring innovative performance for SMEs. The authors conclude that innovation performance is influenced by: the total amount of grants⁸⁶; dimensions of entrepreneurial orientation⁸⁷; open innovation⁸⁸; creativity congruence between leaders and employees⁸⁹.

5. INNOVATIVE PERFORMANCES IN SERBIA

5.1. Innovation Index

The analysis of the innovative activities of a country is monitored using the innovation index. It is an indicator that includes 32 performances within four categories - framework conditions, investments, innovation activities, and impacts. Within each of these categories, there are 12 dimensions of innovation: human resources, attractive research systems, digitalization, finance and support, firm investments, use of information technologies, innovators, linkages, intellectual assets, employment impacts, sales effects, and environmental sustainability⁹⁰. Based on this comprehensive index, the innovative development of countries is monitored. The innovation index for Serbia and EU countries is shown in Figure 1.

⁸² Valaei Naser, Rezaei Sajad, Emami Maryam.

⁸³ Ullah Irfan, Mirza Bilal, Jamil Amber.

⁸⁴ *Ibid.*

⁸⁵ *Ibid.*

⁸⁶ Errico Fabrizio *et al.*

⁸⁷ Khalili Hasan, Nejadhussein Syiedhamzeh, Fazel Ali.

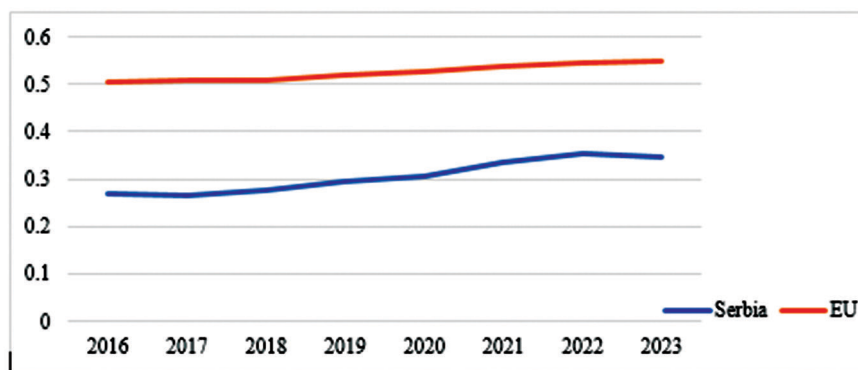
⁸⁸ Zhou Huiping *et al.*

⁸⁹ Yuan Yue, Wang Ping, Tian SongYuan.

⁹⁰ Report on Small and Medium Enterprises and Entrepreneurship, 2020, 10.

In relation to the average of EU countries in the observed period (2016-2023), Serbia lags behind. This is also reflected in the level of its competitiveness in the European innovation market. However, the trend of the innovation index follows the trend of this indicator in the EU countries. The innovation index in Serbia shows a slight growth trend until 2023 and then records a decline of 2.6%. The mean value of the EU innovation index also shows a slight upward trend in the observed period. Compared to 2016, the innovation index is higher by 8.5% in the EU, while in Serbia this index is higher by 28.1%.

Figure 1. Comparison of trends in the innovation index for Serbia and EU countries (2016-2023)



Source: Author according to European Innovation Scoreboard (2023)

In order to monitor progress in terms of innovation development, countries are grouped into four categories according to the value of the innovation index: innovation leaders, strong innovators, moderate innovators, and emerging innovators⁹¹. The analysis of innovation development by EU members gave the following results⁹²:

- Austria, Germany, Luxembourg, Ireland, Cyprus, and France are Strong innovators, performing above the EU average;
- Estonia, Slovenia, Czechia, Italy, Spain, Malta, Portugal, Lithuania, Greece and Hungary are Moderate innovators;
- Croatia, Slovakia, Poland, Latvia, Bulgaria, and Romania are Emerging innovators.

According to the Report⁹³, Serbia is among the Emerging Innovators with performance at 63.2% of the EU average. The performance of Serbia's innovative activity is above the average of Emerging Innovators in the EU. Also, performance is growing at a rate higher than the average in the EU - 8.5% points. The difference in the trend of innovative performance compared to the EU average is decreasing⁹⁴.

⁹¹ European Innovation Scoreboard 2023, 11.

⁹² *Ibid.*

⁹³ *Ibid.*

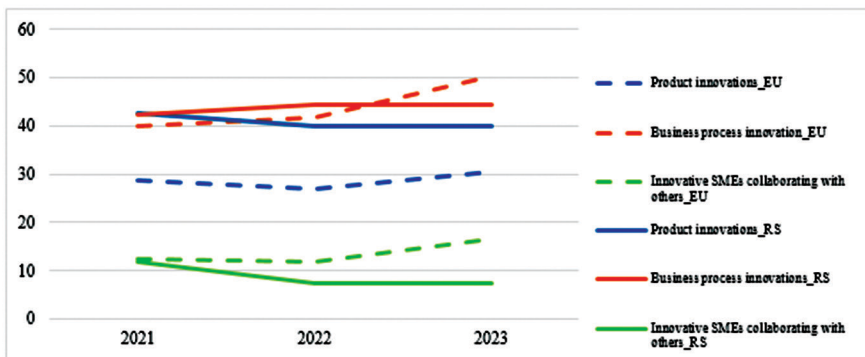
⁹⁴ *Ibid.*

5.2. Indicators of innovative activities

Indicators of success of innovative activities include product innovations, process innovations, and innovative SMEs collaborating with others. This classification was applied by the Ministry of Economy of the Republic of Serbia (see Report⁹⁵). The same indicators of innovation activities are defined in the framework of the European innovation scoreboard.

The positioning of Serbia on the competitive market depends, among other things, on innovative activities. The analysis and comparison of the value of the performance of innovative activities of Serbia with other countries contributes to a realistic understanding of the possibilities and potential of the development of innovations. As part of the European market and increasingly present foreign direct investments, the performance of Serbia's innovative activities must be compared with the average results of EU countries. According to data from the European Commission⁹⁶, EU countries achieved a growth in innovative performance of 8.5% compared to 2016, which confirms the EU's commitment to fostering innovation. In the period from 2016-2022, the innovation performance of 25 EU countries improved. The growth of innovation capabilities during the last year was achieved in 20 member states⁹⁷. Indicators of innovative activities of Serbia and the EU are shown in Figure 2.

Figure 2. Comparison of indicators of innovation activities of SMEs of Serbia and EU



Source: Author according to European Innovation Scoreboard 2021; 2022; 2023

The business process innovations indicator of Serbia follows the value of this indicator at the EU level. Product innovations in Serbia are at a higher level compared to the EU average, while the indicator of innovative SMEs collaborating with others EU is at a higher level compared to the value of this indicator in Serbia. Satisfactory innovative performances indicate the growing potential of developing competitiveness and the stable market position of Serbia in the European market.

The growth in the performance of innovative activities in Serbia is the result of the high performance of small and medium-sized enterprises in the categories of innovation: product

⁹⁵ Report on Small and Medium Enterprises and Entrepreneurship, 2020.

⁹⁶ European Innovation Scoreboard 2023.

⁹⁷ *Ibid.*

innovations, broadband penetration, and employment in innovative enterprises⁹⁸. According to the data of the Report⁹⁹, the improvement in the performance of Serbia's innovative activities in the last two years is the result of improvements in the areas of introduction of broadband Internet access, venture capital, product and business process innovators, design applications, and employment in innovative companies. The areas in which Serbia can improve the innovation performance of the SME sector are the growth of the scope of technological innovations and the encouragement of cooperation between science and business. An additional problem can be non-technological innovations (improvement of marketing, advanced use of communication technologies), which are not sufficiently represented in small and medium-sized enterprises in Serbia¹⁰⁰.

6. CONCLUSION

The study provides answers to the research questions. First, the innovation index of Serbia follows the trend of this index in the EU. In the observed period (2016-2022), the index shows a slight growth trend, while a decline was recorded in 2023. Second, the results of the study show that Serbia does not lag behind the results of EU countries when it comes to the observed performance of innovative activities. Even more, it achieves good results in the area of business process innovation and product innovation, while in the case of indicators of innovative SMEs collaborating with others, it achieves slightly worse results compared to the EU average. Good results in these innovation segments contribute to Serbia's competitiveness in the European market. Other dimensions of innovation (finance and support, intellectual assets, environmental sustainability) disrupt the value of the innovation index, and their improvement should be worked on through government policy measures and various incentive programs for innovative activities.

Practical implications. Based on the analysis of the positioning of Serbia according to the values of innovation performance, it is possible to determine further directions for the development of innovation dimensions. Orientation towards investments and the development of factors that contribute to the creation of innovations leads to the strengthening of Serbia's competitive position. Innovative SMEs collaborating with others should be improved through the development of cooperation agreements in the field of innovation activities. In this sense, the sources of information should be strengthened and the knowledge needed for collaborating should be strengthened. Other indicators should be maintained at the current level.

Limitation. The presentation of the performance of innovative activities does not include the period before 2021. Data on innovative activities for this period are presented in the European Innovation Scoreboard within different categories. Therefore, instead of the three observed indicators (business process innovation and product innovation, innovative SMEs collaborating with others), this report included the following innovation indicators: product

⁹⁸ *Ibid.*

⁹⁹ Report on Small and Medium Enterprises and Entrepreneurship, 2020, 81.

¹⁰⁰ *Ibid.*, 82.

or process innovation; marketing or organizational innovations, and innovating in-house. Thus, comparability by years was not feasible.

Future research could be based on the analysis of different factors of SMEs that directly affect the values of innovation performance. Also, it would be useful to do a special analysis for entrepreneurs. Future research could be based on a broader analysis and comparison of innovation indicators - all those that are part of the innovation index.

LITERATURE

- Al-Hakimi, M.A., Borade, D.B., Saleh, M.H. (2022): “The mediating role of innovation between entrepreneurial orientation and supply chain resilience”, *Asia-Pacific Journal of Business Administration* 14/4, 592-616. Doi: <https://doi.org/10.1108/APJBA-10-2020-0376>
- Bulut, C., Kaya, T., Mehta, A.M., Danish, R.Q. (2022): “Linking incremental and radical creativity to product and process innovation with organisational knowledge”, *Journal of Manufacturing Technology Management* 33/4, 763-784. Doi: <https://doi.org/10.1108/JMTM-01-2021-0037>
- Dedahanov, A.T., Rhee, C., Yoon, J. (2017): “Organizational structure and innovation performance: Is employee innovative behavior a missing link?”, *Career Development International* 22/4, 334-350. Doi: <https://doi.org/10.1108/CDI-12-2016-0234>
- Donado, A., Hernandez, L., Alvear, C., Castro, I. (2023): “Dominant Logic and External Collaboration: Determinants of Innovation in An Emerging Economy and A Developed Country”, *Journal of Technology Management & Innovation* 18/1, 67-82.
- Errico, F., Messeni Petruzzelli, A., Panniello, U., Scialpi, A. (2023): “Source of funding and specialized competences: the impact on the innovative performance of start-ups”, *Journal of Knowledge Management Ahead-of-print*. Doi: <https://doi.org/10.1108/JKM-11-2022-0928>
- European Innovation Scoreboard 2023, *European Commission*, Publications Office of the European Union, Luxembourg. ISBN 978-92-68-04715-6
- Gelaidan, H.M., Al-Swidi, A.K., Al-Hakimi, M.A. (2023): “Servant and authentic leadership as drivers of innovative work behaviour: the moderating role of creative self-efficacy”, *European Journal of Innovation Management Ahead-of-print*. Doi: <https://doi.org/10.1108/EJIM-07-2022-0382>
- Khalili, H., Nejadhussein, Fazel, A. (2013): “The influence of entrepreneurial orientation on innovative performance: Study of a petrochemical company in Iran”, *Journal of Knowledge-based Innovation in China* 5/3, 262-278. Doi: <https://doi.org/10.1108/JKIC-09-2013-0017>
- Poblete, C. (2018): “Growth expectations through innovative entrepreneurship: The role of subjective values and duration of entrepreneurial experience”, *International Journal of Entrepreneurial Behavior & Research* 24/1, 191-213. Doi: <https://doi.org/10.1108/IJEBr-03-2017-0083>
- Report on Small and Medium Enterprises and Entrepreneurship, 2020., *Ministry of Economy of the Republic of Serbia*, Belgrade.

- Sik, A. (2016): "Creativity in cross-domain collaborations: searching factors to increase efficiency", *Management Research Review* 39/2, 144-166. Doi: <https://doi.org/10.1108/MRR-11-2015-0273>
- Stojcic, N., Hashi, I., Orlic, E. (2018): "Creativity, innovation effectiveness and productive efficiency in the UK", *European Journal of Innovation Management*, 21/4, 564-580. Doi:<https://doi.org/10.1108/EJIM-11-2017-0166>
- Tseng, C., Tseng, C.-C. (2019): "Corporate entrepreneurship as a strategic approach for internal innovation performance", *Asia Pacific Journal of Innovation and Entrepreneurship* 13/1, 108-120. Doi:<https://doi.org/10.1108/APJIE-08-2018-0047>
- Ullah, I., Mirza, B., Jamil, A. (2021): "The influence of ethical leadership on innovative performance: modeling the mediating role of intellectual capital", *Journal of Management Development* 40/4, 273-292. Doi:<https://doi.org/10.1108/JMD-08-2020-0277>
- Valaei, N., Rezaei, S., Emami, M. (2017): "Explorative learning strategy and its impact on creativity and innovation: An empirical investigation among ICT-SMEs", *Business Process Management Journal* 23/5, 957-983. Doi:<https://doi.org/10.1108/BPMJ-12-2015-0179>
- YehYun Lin, C., Liu, F. (2012): "A cross-level analysis of organizational creativity climate and perceived innovation: The mediating effect of work motivation", *European Journal of Innovation Management* 15/1, 55-76. Doi: <https://doi.org/10.1108/14601061211192834>
- Yuan, Y., Wang, P., Tian, S. (2022): "How to recover from difficult condition? The relationship between leader-employee congruence in creativity goal and innovative performance", *Journal of Organizational Change Management* 35/7, 984-999. Doi: <https://doi.org/10.1108/JOCM-12-2021-0387>
- Zhou, H., Yuan Wang, K., Yao, Y., Huang, K.-P. (2019): "The moderating role of knowledge structure in the open innovation effect", *Management Decision* 57/9, 2223-2238. Doi:<https://doi.org/10.1108/MD-08-2017-0775>

POZICIONIRANOST SRBIJE NA KONKURENTNOM TRŽIŠTU PREMA INOVATIVNIM PERFORMANSAMA MALIH I SREDNJIH PREDUZEĆA

Sažetak: *Inovacije predstavljaju ključne pokretače rasta i razvoja malih i srednjih preduzeća. Razvoj inovacija prati se putem ostvarenih inovativnih performansi na osnovu kojih se definišu budući pravci razvoja inovacija i otklanjaju uočene prepreke njegovom razvoju. Cilj rada jeste da identifikuje nivo ostvarenih inovativnih performansi Srbije kao i pozicioniranost Srbije u odnosu na rezultate inovacija zemalja Evropske unije (EU). U radu se analiziraju odgovarajuće inovativne performanse Srbije i zemalja EU: indeks inovacija i tri pokazatelja inovativnih aktivnosti (inovacije proizvoda, inovacije poslovnih procesa i pokazatelja saradnje inovativnih preduzeća sa drugima). Primenom komparativnog metoda i poređenjem vrednosti inovativnih performansi identifikovana je pozicija Srbije u odnosu na EU. Rezultati pokazuju da indeks inovacije Srbije prati trend kretanja ovog indeksa u EU. Srbija ne zaostaje za rezultatima zemalja EU i kada su u pitanju posmatrane performanse inovativne aktivnosti. Čak ostvaruje dobre rezultate u oblasti inovacija poslovnih procesa i inovacija proizvoda, dok u slučaju pokazatelja saradnja inovativnih preduzeća sa drugima, ostvaruje lošije rezultate u odnosu na proseku EU.*

Ključne reči: *inovativne performanse, indeks inovacija, mala i srednja preduzeća, Srbija*