Ekonomski horizonti

Ekonomski fakultet Univerziteta u Kragujevcu
ISSN 1450-863X
2026 *28* (1)

Mastilo, Z.
Bugarčić, F. Ž.
Berber, N.
Jovanović, D.
Jolović, I.
Zubović, V.
Puška, A.
Slavić, A.
Čupić, M.
Medved, I.
Zdravković, S.
Štilić, A.
Skvarciany, V.
Gašić, D.
Poljašević, J.
Jolović, N.
Petaković Ikica, E.

Ekonomski horizonti

Ekonomski fakultet
Univerziteta u Kragujevcu

Izdavač
Ekonomski fakultet Univerziteta u Kragujevcu, Kragujevac

Za Izdavača
Dekan, Milena Jakšić

Glavni i odgovorni urednik
Vladimir Mihajlović

Urednik
Nemanja Lojanica

Sekretar Uredništva
Aleksandra Stevanović

Lektor
Slobodan Rakić

Tehnički urednik
Slavoljub Radojević

Štamparija
InterPrint, Kragujevac
Tiraž - 50

Časopis se referiše u bazama:

SCOPUS, EconLit, Cabell's Directories, EBSCO, DOAJ, Index Copernicus, ProQuest - ABI/INFORM, Ulrich's Web

Izdavanje časopisa Ekonomski horizonti finansijski je podržalo **Ministarstvo nauke, tehnološkog razvoja i inovacija Republike Srbije**

Kontakt
Ekonomski fakultet Univerziteta u Kragujevcu,
Liceja Kneževine Srbije 3, 34 000 Kragujevac; Tel. 034 303 507
www.horizonti.ekfak.kg.ac.rs horizonti@kg.ac.rs

Uredništvo

Lubica Bajzikova, Faculty of Management, Comenius University, Bratislava, Slovakia
Bastien Chabé-Ferret, Middlesex University, London, United Kingdom
Danijela Despotović, Ekonomski fakultet Univerziteta u Kragujevcu
Marija Džunić, Ekonomski fakultet Univerziteta u Nišu, Republika Srbija
Angappa Gunasekaran, University of Massachusetts, Dartmouth, USA
Nebojša Gvozdenović, Ekonomski fakultet u Subotici Univerziteta u Novom Sadu
Harald Hagemann, University Hohenheim, Germany
Nebojša Janićijević, Ekonomski fakultet Univerziteta u Beogradu, Republika Srbija
Svenn Are Jenssen, Bodo Graduate School of Business, University of Nordland, Bodø, Norway
Nemanja Karapavlović, Ekonomski fakultet Univerziteta u Kragujevcu, Republika Srbija
Kyriaki Kosmidou, School of Economics, Aristotle University of Thessaloniki, Greece
Davorin Kračun, Faculty of Economics and Business, University of Maribor, Maribor, Slovenia
Pawel Lula, Cracow University of Economics, Cracow, Poland
Srđan Marinković, Ekonomski fakultet Univerziteta u Nišu, Republika Srbija
Pece Nedanovski, Faculty of Economics, University of Skopje, Skopje, Northern Macedonia
Goran Putnik, University of Minho, Guimarães, Portugal
Dragana Rejman Petrović, Ekonomski fakultet Univerziteta u Kragujevcu, Republika Srbija
Tomasz Rojek, Cracow University of Economics, Faculty of Management, Cracow, Poland
Matthew Todd Royle, Langdale College of Business, Valdosta State University, Georgia, USA
Dejan Spasić, Ekonomski fakultet Univerziteta u Beogradu, Republika Srbija
Vladimir Stančić, Ekonomski fakultet Univerziteta u Kragujevcu, Republika Srbija
Dejana Zlatanović, Ekonomski fakultet Univerziteta u Kragujevcu, Republika Srbija
Andreas Zins, Department of Tourism and Hospitality Management, Vienna University of Economics and Business Administration, Wien, Austria

ČASOPIS IZLAZI TRI PUTA GODIŠNJE - u aprilu, avgustu i decembru

ISSN 1450-863X eISSN 2217-9232 UDC 33 COBISS.SR-ID 158022663

Ekonomski horizonti

Ekonomski fakultet
Univerziteta u Kragujevcu

SADRŽAJ

Volumen 28 Sveska 1 **Januar - April 2026.**

UVODNIK

Vladimir Mihajlović ..... 1-2.

IZVORNI NAUČNI ČLANCI

An assessment of the potential of artificial intelligence applications for sustainable development in Southeastern European countries

Zoran Mastilo, Adis Puška and Anđelka Štilić ..... 3-18.

doi:10.5937/ekonhor2601003M

Logistics as a driver of international trade: An industry-level analysis

Filip Ž. Bugarčić and Viktorija Skvarciany ..... 19-30.

doi:10.5937/ekonhor2601019B

Odnos brenda poslodavca i namere zaposlenih da ostanu u organizacijama

Nemanja Berber, Agneš Slavić i Dimitrije Gašić ..... 31-47.

doi:10.5937/ekonhor2601031B

Identifikovanje, merenje i evidencija ekoloških troškova: Slučaj kompanija u Srbiji

Dejan Jovanović, Milan Čupić, Ivana Medved i Jelena Poljašević ..... 47-64.

doi:10.5937/ekonhor2601047J

Medijatorski mehanizam organizacione posvećenosti: Razotkrivanje uticaja percipirane organizacione pravde na nameru odlaska zaposlenih

Ivana Jolović, Stefan Zdravković i Nevena Jolović ..... 65-82.

doi:10.5937/ekonhor2601065J

PREGLEDNI ČLANAK

Quality dimensions in slow tourism: Trends and perspectives from a systematic literature review
Vedran Zubović and Ema Petaković Ikica .....83-97.
doi:10.5937/ekonhor2601083Z

NAJAVA KONFERENCIJE

Međunarodna naučna konferencija: Contemporary Issues in Economics, Business and Management - EBM 2026. Decembar 16-17, 2026, Kragujevac, Republika Srbija
Jelena Erić Nielsen ..... 99-100.

iThenticate®
Professional Plagiarism Prevention

Ekonomski horizonti, Januar - April 2026, Volumen 28, Sveska 1, 1 - 2
UDC: 33 ISSN: 1450-863 X
© Ekonomski fakultet Univerziteta u Kragujevcu
www. ekfak.kg.ac.rs

UVODNIK

Sveska 1 Volumen 28 Godište 2026 naučnog časopisa *Ekonomski horizonti,* nakon sprovedenog dvostruko anonimnog recenzentskog postupka, sadrži pet izvornih naučnih članaka, jedan pregledni članak i najavu naučne konferencije.

Polazeći od činjenice da je veštačka inteligencija postala značajan faktor ekonomskog razvoja, koautori *Zoran Mastilo, Adis Puška* i *Anđelka Štilić* istražuju potencijal zemalja Jugoistočne Evrope (SEE) u oblasti primene veštačke inteligencije. U radu se koriste vrednosti Indeksa spremnosti vlade za veštačku inteligenciju (Government AI Readiness Index), koji obuhvata devet indikatora, kako bi se procenio potencijal zemalja SEE u ovoj važnoj oblasti. Pored toga, primenjen je i metod višekritrijumskog odlučivanja radi poređenja zemalja SEE prema stepenu korišćenja veštačke inteligencije. Rezultati sprovedene analize ukazuju da indikatori zrelosti i prilagodljivosti imaju veće vrednosti pondera u odnosu na ostale indikatore, pri čemu Grčka i Bugarska imaju najpovoljnije vrednosti indikatora. Ovi rezultati su potvrđeni primenom analize osetljivosti.

Rast globalne trgovine tokom poslednjih nekoliko decenija, kao i sve aktivnije uključivanje zemalja u trgovinske tokove i lance snabdevanja, istakli su logistiku kao jedan od najvažnijih faktora koji olakšavaju međunarodnu trgovinu. Međutim, postavlja se pitanje ko ima najviše koristi od logistike. Shodno tome, koautori *Filip Ž. Bugarčić* i *Viktorija Skvarciany* za cilj svog istraživanja postavljaju ispitivanje doprinosa logistike unapređenju izvoza i uvoza u odabranim industrijama u OECD zemljama, kao i utvrđivanje značaja logističkih performansi u zavisnosti od specifičnosti sektora i karakteristika proizvoda. Rezultati analize primenom panel regresionog modeliranja ukazuju na značajan uticaj logistike na međunarodnu trgovinu u okviru industrije. Poseban doprinos logistike je u podsticanju trgovine industrijskim proizvodima i robom osetljivom na vreme isporuke, pri čemu je izraženiji njen uticaj na uvoz. Ovi rezultati naglašavaju poseban značaj logističkog sistema i povezanih operacija u identifikovanim sektorima.

U savremenom, izuzetno konkurentnom poslovnom okruženju, kompanije koje karakteriše nedostatak radne snage bore se da privuku, motivišu i zadrže talente. Brend poslodavca, kao kombinacija funkcionalnih, ekonomskih i psiholoških benefita koje pruža zaposlenje, jedan je od pristupa koji kompanije razvijaju kako bi kreirale vrednosnu ponudu za zaposlene i održale svoju radnu snagu. Shodno tome, koautori *Nemanja Berber, Agneš Slavić* i *Dimitrije Gašić* istražuju odnos između percipiranog brenda poslodavca i namere zaposlenih da ostanu u organizaciji. Rezultati primene PLS-SEM analize na uzorku od 209 zaposlenih u Republici Srbiji ukazuju na pozitivnu vezu posmatranih varijabli i na zaključak da pozitivna percepcija brenda poslodavca vodi ka izraženijoj nameri zaposlenih da ostanu u organizaciji. Najjače efekte na nameru ostanka imali su: zdrav radni ambijent, obuka i razvoj, ravnoteža između posla i privatnog života, etika i društvena odgovornost i kompenzacije i beneficije.

Shodno činjenici da je, pored ekonomske, za poslovanje kompanija važna i ekološka dimenzija, kao i da je stepen integracije ekoloških aspekata u računovodstvene prakse nizak, koautori *Dejan Jovanović, Milan Čupić, Ivana Medved* i *Jelena Poljašević* ispituju u kojoj meri su firme upoznate sa metodama obračuna ekoloških troškova i da li se praksa kompanija razlikuje u zavisnosti od primene ISO 14001 standarda. Istraživanje je sprovedeno na uzorku preduzeća iz Republike Srbije koja su u obavezi da dostavljaju podatke Nacionalnom registru izvora zagađenja. Rezultati istraživanja zasnovanog na primeni deskriptivne statistike i neparametarskih testova ukazuju da kompanije vode

* *Korespondencija:* V. Mihajlović, Ekonomski fakultet Univerziteta u Kragujevcu, Liceja Kneževine Srbije 3, 34000 Kragujevac, Republika Srbija; e-mail: vmihajlovic@kg.ac.rs

reaktivnu ekološku politiku, troškove prepoznaju tek kada nastanu, a preventivne zanemaruju. Ekološki troškovi su često prikriveni u opštim troškovima zbog oslanjanja na tradicionalne metode obračuna. Koautori zaključuju da su glavni problemi neadekvatan regulatorni okvir i izostanak motivacije, te ukazuju na potrebu za sistemskim promenama, većom motivacijom kompanija i unapređenjem regulatornog okvira.

Naglašavajući važnost prepoznavanja subjektivnih iskustava zaposlenih u organizaciji o okolnostima na radnom mestu koje utiču na njihove postupke, koautori *Ivana Jolović*, *Stefan Zdravković* i *Nevena Jolović* istražuju uticaj percipirane organizacione pravde na nameru odlaska zaposlenih iz organizacije. Pored toga, koautori paralelno ispituju potencijalnu posredničku ulogu organizacione posvećenosti u navedenoj relaciji. Istraživanje se zasnivalo na kombinaciji teorijske analize relevantne literature i empirijske analize stavova milenijalaca zaposlenih u privredi Republike Srbije, uz primenu naprednih statističkih alata. Nalazi su potvrdili hipotezu da organizaciona posvećenost posreduje u odnosu percipirane organizacione pravde i namere zaposlenih milenijalaca da napuste organizaciju.

Ističući da se turizam suočava sa izazovima savremenog, ubrzanog načina života, koautori *Vedran Zubović* i *Ema Petaković Ikica* istražuju koncept sporog turizma (slow tourism), koji promoviše ređa, ali bogatija i održivija putnička iskustva, usmerena na kvalitet umesto na kvantitet. U radu se analizira 47 naučnih radova iz baza *Web of Science* i *Scopus*, kako bi se ispitao uticaj sporog turizma na održivost, kao i na percepciju kvaliteta turizma i turističkih usluga. Istraživanjem je identifikovano šest ključnih dimenzija kvaliteta: prostorni kvalitet, kvalitet proizvoda i usluga, lokalni kvalitet života, kvalitet turističkog iskustva, percipirani kvalitet usluga i kvalitet transporta. Dobijeni rezultati produbljuju razumevanje značaja sporog turizma za turiste, ali i za turističke destinacije.

Ova Sveska Časopisa sadrži najavu međunarodne naučne konferencije *Contemporary Issues in Economics, Business and Management - EBM 2026*, koju je priložila *Jelena Erić Nielsen*, predsednica Programskog odbora. Konferencija će, u organizaciji Ekonomskog fakulteta Univerziteta u Kragujevcu, biti održana 16. i 17. decembra 2026. godine u Kragujevcu.

U ime Uredništva Časopisa i u svoje ime zahvaljujem autorima priloga koji su objavljeni u Svesci 1 Časopisa. Istovremeno, posebnu zahvalnost dugujemo recenzentima koji su, svojim konstruktivnim i kritičkim komentarima i sugestijama autorima podnetih priloga, doprineli podizanju nivoa kvaliteta publikovanih članaka.

U januaru 2026. godine, Ekonomski fakultet je izvršio promenu u Uredništvu Časopisa. Članovi prethodnog saziva Uredništva su doprineli da naučni časopis *Ekonomski horizonti* kontinuirano beleži rast u ocenama međunarodnih citatnih baza. Prilika je da se u ime Ekonomskog fakulteta Univerziteta u Kragujevcu, kao izdavača naučnog časopisa Ekonomski horizonti, Uredništva Časopisa i u svoje ime, zahvalim članovima prethodnog saziva Uredništva. Posebnu zahvalnost upućujem prof. dr Mileni Jakšić, koja je svojim angažovanjem i zalaganjem doprinela da Časopis kontinuirano napreduje. Takođe, zahvaljujem eminentnim predstavnicima akademske zajednice koji, prihvatanjem članstva u uređivačkom odboru Časopisa, doprinose ugledu *Ekonomskih horizonata* i Ekonomskog fakulteta Univerziteta u Kragujevcu.

Izdavanje časopisa *Ekonomski horizonti* finansijski je podržalo Ministarstvo nauke, tehnološkog razvoja i inovacija Republike Srbije.

Glavni i odgovorni urednik
Vladimir Mihajlović

Vladimir Mihajlović je vanredni profesor na Ekonomskom fakultetu Univerziteta u Kragujevcu, gde je doktorirao u naučnoj oblasti Opšta ekonomija i privredni razvoj. Glavne oblasti njegovog naučnog istraživanja odnose se na razvoj ekonomske misli, makroekonomsku analizu i modeliranje, i tržište rada.

Ekonomski horizonti, Januar - April 2026, Volumen 28, Sveska 1, 3 - 18
UDC: 33 ISSN: 1450-863 X
© Ekonomski fakultet Univerziteta u Kragujevcu
www. ekfak.kg.ac.rs

Original scientific paper
UDC: 004.896: 502.131.1
doi:10.5937/ekonhor2601003M

AN ASSESSMENT OF THE POTENTIAL OF ARTIFICIAL INTELLIGENCE APPLICATIONS FOR SUSTAINABLE DEVELOPMENT IN SOUTHEASTERN EUROPEAN COUNTRIES

Zoran Mastilo[1], Adis Puška[2] and Anđelka Štilić[3]*

[1]*University of East Sarajevo, Faculty of Business Economics, Bijeljina, Bosnia and Herzegovina*
[2]*Government of the Brčko District of BiH, Brčko, Bosnia and Herzegovina*
[3]*Academy of Applied Studies, Belgrade, Republic of Serbia*

Artificial Intelligence (AI) has become a key factor in the development of countries. Countries have recognized the potential of using AI to achieve sustainable development. This research explores the potential of the Southeast European (SEE) countries in the field of AI applications. The Government AI Readiness Index, with its nine indicators, is used to assess readiness for AI applications. A comparison of the SEE countries for the application of AI was conducted using Multi-Criteria Decision Making (MCDM) methods. The methods used were MEREC (Method based on the Removal Effects of Criteria) and CORASO (COmpromise Ranking from Alternative SOlutions). The results of the MEREC method show that the maturity and adaptability indicators have higher weight values compared to the other ones. The results of the CORASO method show that Greece and Bulgaria have the strongest indicators, with the sensitivity analysis confirming these findings.

Keywords: artificial intelligence, sustainable development, Government AI Readiness Index, MCDM, MEREC, CORASO

JEL Classification: F01, Q01, C02, O33

INTRODUCTION

Digital technologies and modern solutions increasingly influence the functioning of countries' economies (Adeyinka, 2023). Among these solutions, there is an increasing focus on developing artificial intelligence (AI) (Kuyoro, Fatade & Onuiri, 2025). Research is increasingly focused on developing new solutions and applying AI in real-world use. AI helps all segments of society and is becoming a key factor in digitalization processes (Peterka & Stroukal, 2024). AI has a wide range of applications and is reflected in processes automation, data analysis, and resource

* *Correspondence to*: A. Štilić, Academy of Applied Studies, 152a Zoran Đinđić Blvd, 11070 Belgrade, Republic of Serbia; e-mail: andelka.stilic@assb.edu.rs

optimization, and can be used in the sustainable development of countries (Dabic-Miletic, 2024). Based on this, many countries are developing strategies so as to incorporate the application of AI in various sectors in order to leverage its benefits.

The Southeastern Europe (SEE) countries are facing digital transformations and the development of AI in all segments (Hristozov & Nozharov, 2024). However, for this to be applied in these countries, they must be ready to implement AI solutions. Their readiness for this is examined in terms of the development of their administration, technology, and infrastructure (Borissov & Hristozov, 2024). These are the key aspects that the SEE countries need to have. It is characteristic of the SEE countries that these segments are not developed to the same extent, so some countries are ahead of the others. Therefore, it is necessary to consider the advantages and limitations of the SEE countries when applying AI solutions is concerned.

Resource management is one of the key functions of AI in support of a country's sustainable development. AI-based resource management should be organized in a way to achieve sustainable development (Sarfraz, 2024), with the focus on environmental preservation, simultaneously improving the quality of life for the population. AI can play a significant role in the sustainable development of countries, making it necessary to capitalize on this opportunity (Lipianina-Honcharenko, Komar, Melnyk & Komarnytsky, 2024). The successful integration of AI depends on the relationship among government institutions, academic institutions, and the private sector (Purwanto, 2024). It is necessary to involve all relevant institutions in order to capitalize on the opportunities for applying AI in a country's development (Kaur, Kumar, Singh & Huang, 2024).

Different approaches have been developed to assess a country's readiness to use AI. The Government AI Readiness Index (2024) is one possible approach. This index consists of 40 indicators grouped into the three main categories: government, technology and data, and infrastructure. It highlights a country's readiness to adopt and use AI and can also identify gaps in these countries. Using the indicators contained in this index provides valuable data that can be used to develop strategies for integrating AI solutions in the SEE countries.

Digital transformation and the application of AI are becoming essential tools for improving countries' competitiveness and sustainable development (Driss, Dafri & Zouaoui, 2024). The SEE countries are facing various challenges they must address. AI can assist with this, but it is also necessary to modernize the public sector, education, and various economic sectors (Popescu, 2024). The question arises as to the level of the readiness of these countries to adopt AI in public administration, only to be followed by other sectors within these countries. The report entitled "The Government AI Readiness Index for 2024" (2024) gives the answer to the question of the SEE countries' capacity in terms of AI application. Based on the indicators presented in this report, a deeper analysis will be conducted in order to identify how AI can contribute to the achievement of sustainable development in the SEE countries. This study aims to link AI with sustainable development, which serves as the motivation for this research. The primary objective of this research is to assess the readiness of the SEE countries to implement AI for sustainable development, using the indicators of the Government AI Readiness Index for 2024 and the Multi-Criteria Decision Making (MCDM) method. Based on this research objective, specific research objectives are defined, intending to:

- identify the indicators for assessing the readiness of the SEE countries to implement AI from the Government AI Readiness Index report,
- compare the indicators of the SEE countries in terms of their capacities for AI implementation, especially in public administration,
- determine the importance of the indicators for the SEE countries' readiness to implement AI using the MEREC (MEthod based on the Removal Effects of Criteria) method,
- rank the SEE countries according to their potential for AI implementation using the CORASO (COmpromise Ranking from Alternative SOlutions) method,

- provide recommendations on how the SEE countries can achieve sustainable development through the use of AI.

This research makes multiple contributions, which are first reflected in the theoretical connection between AI and the sustainable development of the SEE countries. Then, it helps determine the potential and readiness of the SEE countries to implement AI, which will be achieved through the methodological framework that represents yet another contribution of this research. Additionally, it provides the current picture of the SEE countries in terms of their readiness to implement AI, based on which guidelines are given on how to enhance the countries' readiness to implement AI and advance their sustainable development.

LITERATURE REVIEW

AI is driving innovation across various sectors, enabling more efficient decision-making (Rajagopal, Qureshi, Durga, Ramirez Asis, Huerta Soto, Gupta & Deepak, 2022) and resource optimization (Wang, Deng, Zhou & Wu, 2023) and improving the quality of life (Olawade, David-Olawade, Wada, Asaolu, Adereni & Ling, 2024). Its applications range from economic and social aspects to environmental initiatives aimed at fostering sustainable development (Kulkov, Kulkova, Rohrbeck, Menvielle, Kaartemo & Makkonen, 2023). AI can contribute to all the dimensions of sustainable development: economic performance (through automation and productivity improvements (Mathew, Brintha & Jappes, 2023), improving the quality of life (through better services in healthcare (Aminizadeh, Heidari, Dehghan, Toumaj, Rezaei, Navimipour, Stroppa & Unal, 2024) and education (Srinivasa, Kurni & Saritha, 2022), as well as environmental sustainability (through energy optimization (Fan, Yan & Wen, 2023) and waste reduction (Onyeaka, Tamasiga, Nwauzoma, Miri, Juliet, Nwaiwu & Akinsemolu, 2023).

In the SEE, which is facing economic convergence and technological modernization challenges, AI represents an opportunity to accelerate development (Bazhal, 2022). However, the degree of the implementation of AI solutions depends on several factors, including institutional capacities, regulatory frameworks, and digitalization levels (Shostak, Lipych, Anatolii, Volynets, Andrew & Morokhova, 2024). Therefore, it is crucial to analyze how ready the SEE governments are to adopt AI technologies and how this affects their sustainable growth. One of the most relevant indicators for assessing a government's readiness for AI is the "Government AI Readiness Index" (Nzobonimpa & Savard, 2023; Nasution, Elveny, Pamucar, Popovic & Andrić Gušavac, 2024). This index evaluates a country's ability to develop, implement, and use AI technologies so as to foster social and economic development. For the SEE, this index can provide an insight into the strengths and weaknesses of individual governments in terms of AI strategies.

Whether a country is ready to implement AI technologies or not requires a systematic approach based on objective indicators (Myllyaho, Raatikainen, Männistö, Mikkonen & Nurminen, 2021; Kar, Choudhary & Singh, 2022). In addition to national strategies, it is vital to consider the role of regional and international initiatives, such as the EU Digital and AI Program, which can accelerate the development of AI systems in the SEE. The connection with the EU funds and regulatory frameworks can significantly impact the implementation of AI technologies in this region. A comparative analysis based on the "Government AI Readiness Index" can indicate specific areas in which improvements are needed in order to make AI a tool for sustainable growth.

In this context, MCDM methods effectively evaluate complex phenomena, such as AI readiness. In various research studies, the MEREC method has been used to identify the importance of indicators (Keshavarz-Ghorabaee, Amiri, Zavadskas, Turskis & Antucheviciene, 2021), which is particularly useful in the analyses which require crucial reliance on objective data in order to obtain objective weights for indicators. On the other hand, the CORASO method enables the precise ranking of alternatives based on their proximity to the best or the worst values for specific indicators. It calculates the deviation of each

alternative from the best or the worst values and determines the final ranking (Puška, Nedeljković, Božanić, Štilić & Muhsen, 2024). A combined application of these methods can contribute to a comprehensive analysis of the readiness of the SEE countries to adopt AI technologies.

The following section provides a brief review of several studies in which the Government AI Readiness Index was used. A study by H. Amin Mohamed (2024) examined how prepared countries were to adopt AI to boost economic growth. The results of this study showed that the level of the readiness of countries to implement AI affected economic growth, particularly through improvements in public services and the enhanced productivity of government agencies. S. Ahangama and S. Krishnan (2023) investigated the relationship between e-participation and readiness to implement AI concerning citizens' well-being. The study demonstrated that readiness to implement AI had a positive impact on enhancing living standards through a more efficient use of technology, particularly in the context of AI. M. Alfadhli, N. C. Onat, M. Kucukvar and S. Al-Maadeed (2025) analyzed the readiness of countries to implement AI, with the focus on digital transformation. In their study, they concluded that there was significant room for improving AI application in practice. A. Socol and I. C. Iuga (2024) analyzed the impact of readiness to implement AI in the EU countries and its effect on brain drain. This research showed that wherever there was a greater brain drain in the EU countries, it negatively impacted the country's ability to implement AI. Therefore, it was necessary to retain ITC experts to improve readiness for AI implementation, which would have an influence on the economic development of those countries.

H. M. Tun, L. Naing, O. A. Malik and H. A. Rahman (2025) examined the readiness of the ASEAN countries to implement AI in healthcare. Using the indicators from the Government AI Readiness Index, they demonstrated that significant differences existed between the observed countries. Singapore showed the best results, whereas countries such as Cambodia and Myanmar lagged due to the underdeveloped infrastructure and noncompliance with the regulatory frameworks for AI implementation in healthcare. L. Shonhe and M. Kolobe (2023) used this index to study Botswana's readiness to implement AI. This research identified shortcomings in the country's development strategies, as well as its infrastructure and human resources. According to them, Botswana needed to make more effective plans and investments in digital transformation, particularly for AI implementation.

S. Nzobonimpa and J. Savard (2023) examined the relationship between the potential for AI implementation and innovation. The results of this study showed that, although there was a high level of technical readiness to implement AI, this did not mean that AI would be used responsibly. Still, the principles of transparency and ethics are essential for AI to make a meaningful contribution to a country's development. M. K. M. Nasution *et al* (2024) examined the Government AI Readiness Index methodology, offering alternative approaches to classifying countries. The application of this classification leads to better results in terms of countries' readiness to implement AI. The literature to date suggests that AI has the potential to contribute to sustainable development (Mariani, Machado, Magrelli & Dwivedi, 2023; Verdecchia, Sallou & Cruz, 2023). However, its implementation varies depending on the political priorities, technological capacities, and institutional readiness of each country (Afolabi, 2023).

This paper attempts to contribute to the understanding of the potential for AI implementation in the SEE countries by combining the "Government AI Readiness Index" with the MCDM methods, which will determine which SEE countries have the greatest potential for artificial intelligence application and provide the guidelines on what these countries need to improve in order to apply AI. The results are expected to contribute to a better understanding of the potential of AI in the SEE countries, enabling these countries to achieve sustainable growth and development. The reason for initiating this research lies in the fact that the SEE countries have not been studied separately to date. In addition, observing these countries provides an insight into how the EU member states and EU accession candidate countries can leverage the potential application of AI, which

will help identify how the candidate countries can improve themselves so as to avoid falling behind the EU member states in the AI application potential.

METHODOLOGY AND RESEARCH METHODS

This research used the Government AI Readiness Index report to assess the countries' readiness to implement AI. Recognized by the leading global organizations, such as UNESCO and the G20, this report has become the key reference in the field. Therefore, it is used as a reliable and recognizable source to assess how institutions and countries are prepared to apply AI. The 2024 edition evaluated 188 countries, measuring their preparedness for AI adoption. This assessment is particularly relevant given AI's growing role in national development. Additionally, this index assesses AI's capacity to improve public services and contribute to national development. Moreover, economic uncertainty, climate change, and inequality have made AI adoption increasingly important for governments seeking improved outcomes.

The Government AI Readiness Index report distinguishes three dimensions: Government, Technology, and Data and Infrastructure, each being divided into three indicators, each indicator being further clarified with forty additional dimensions. These indicators were selected in order to ensure the consistency of the data related to the potential of AI applications in individual countries. The report summarizes all the dimensions into nine indicators grouped into three main categories. Each indicator includes additional dimensions as part of its structure. Selecting these nine indicators in this way ensures data accuracy, simultaneously preserving the value of all the dimensions and maintaining the representativeness of the data. Additionally, these nine indicators provide a more detailed explanation of countries' readiness to adopt AI in relation to the three main categories. However, if all 40 dimensions were observed, the data would be too scattered, and some dimensions would not have a significant impact, while the others would have a greater impact. Moreover, the individual impact of a large number of dimensions is smaller than when there are fewer dimensions, for which reason nine indicators were selected, not three main categories or all 40 dimensions. In this way, the values of these indicators are relevant for countries to adopt the policies that improve the conditions for AI applications. The indicators used are as follows:

- data representativeness (C1), which shows how many countries have helpful data on AI application and development. If the data are not representative, country analyses can be debatable. Therefore, data on AI solutions development in a single country must be unbiased.
- data availability (C2), which shows how easy it is to access data on AI development and how open these data are for a broader use. If data are available, they enable faster AI development and foster innovation. Open data enable cooperation between the public and private sectors.
- infrastructure (C3), which shows the availability of the information technology (IT) infrastructure and a country's technological development. A lack of infrastructure can significantly jeopardize AI implementation.
- human capital (C4), which refers to the availability of AI experts. A country needs to invest in the education of the personnel required for AI implementation. A lack of these personnel can slow down AI implementation.
- the innovation capability (C5), which is reflected in the application and development of new technologies and solutions. To encourage innovative activities, cooperation between the academic community, business entities, and the public sector is necessary. The countries that enable innovative activities are better able to apply AI technologies.
- maturity (C6), which refers to the level at which a particular country is in AI implementation. This includes the existence of the legal bases and research institutions that will increase AI application. The higher the maturity level of a state, the more willing it is to apply AI solutions.

- adaptability (C7), which measures a state's ability to adapt to new trends in the AI industry. Greater flexibility enables countries to adopt new AI solutions more quickly, increasing their own competitiveness.
- the digital capability (C8), which refers to the general digital infrastructure, new digital literacy, and the use of digital technologies. The widespread application of these technologies facilitates the implementation of AI solutions and increases a country's efficiency. Countries with a higher level of digital capacity adopt technological innovations, including AI application, more efficiently and faster.
- governance and ethics (C9), which show the existence of the legal frameworks for the ethical use of AI technologies. It is necessary to define how AI solutions are reliably and transparently applied. This reduces the risk of the misuse of AI applications. Clear ethical standards are essential for building trust in AI solutions and ensuring their sustainable use.

Each SEE country is assessed based on these indicators and the scores listed in the 2024 Government AI Readiness Index. A combination of the MCDM methods, namely MEREC and CORASO, are used to examine which SEE countries have the best indicators based on this report. The MEREC method determines the importance of these indicators, while the CORASO method ranks the SEE countries based on these indicators. In this study, the importance of the indicators is first determined using the MEREC method, which objectively determines weights using the indicators of the observed SEE countries. This method was developed by M. Keshavarz-Ghorabaee *et al* (2021), and includes the following steps:

Step 1. Forming a decision matrix.

Step 2. Data normalization. Since all indicators should have higher scores, the following normalization is applied:

$$n_{ij} = \frac{x_{ij}}{\max x_j}; \text{ for the benefit indicators} \quad (1)$$

$x_{j\,max}$ - the maximum value of the indicator

Step 3. The calculation of the overall performance of the alternatives (S_i).

$$S_i = \ln\left(1 + \left(\frac{1}{m}\sum_j \left|\ln\left(n_{ij}^x\right)\right|\right)\right) \quad (2)$$

Step 4. The calculation of the effects of the alternatives.

$$S'_{ij} = \ln\left(1 + \left(\frac{1}{m}\sum_{k,k\neq j} \left|\ln\left(n_{ik}^x\right)\right|\right)\right) \quad (3)$$

Step 5. The calculation of the sum of deviations.

$$E_j = \sum_i \left|S'_{ij} - S_i\right| \quad (4)$$

Step 6. The calculation of the weights of the indicators.

$$w_j = \frac{E_j}{\sum_k E_k} \quad (5)$$

After determining the importance of the indicators in terms of the weights, the SEE countries are ranked so as to identify which countries are more prepared to implement AI. The CORASO method was designed to rank the alternatives based on the alternative solutions representing the maximum or minimum values of the alternatives for individual indicators, based on which it can be said that the ranking is performed on the best or the worst values of the alternatives for the indicators. For an alternative to rank better, this method (Puška *et al*, 2024) requires values closer to the maximum values and as far from the minimum values as possible.

Step 1. Forming a decision matrix.

Step 2. Data normalization.

$$n_{ij} = \frac{x_{ij}}{\max x_j}; \text{ for the benefit indicators} \quad (6)$$

Step 7. Determining alternative solutions.

Step 8. Weighting normalized data.

$$v_j = w_j \cdot n_{ij} \quad (7)$$

Step 9. Aggregate values.

$$S_j = \sum_{i=1}^{n} \tilde{v}_j \quad (8)$$

Step 10. Deviations from alternative solutions.

$$R_j = \frac{S_j}{S_{j\,max\,AS}} \quad (9)$$

$$R'_j = \frac{S_{min\,AS}}{S_j} \quad (10)$$

Step 11. Determining the value of the CORASO method.

$$Q_i = \frac{R_j - R'_j}{R_j + R'_j} \quad (11)$$

After the ranking order is determined, a sensitivity analysis is performed in order to determine the indicator with the biggest influence on the ranking order (Lukić, 2024) of the SEE countries.

RESULTS

To identify the SEE countries with the biggest potential for applying AI in order to foster sustainable growth, the initial decision matrix (Table 1) is first created, which is the first step in both the MEREC and CORASO methods.

After the initial decision matrix is formed, it is necessary to normalize the data to make it uniform and ready for analysis. Since each indicator should be as large as possible, it is necessary that normalization, in which the highest values are first identified for each indicator, then the individual data within each indicator are divided by the highest value, should be performed for the benefit indicators. For the indicator C1 and Albania, the calculation is as follows:

$$n_{11} = \frac{83.88}{98.75} = 0.849 \quad (12)$$

This procedure is applied to all the data in the decision matrix, forming normalized data and the normalized decision matrix (Table 2). The resulting normalized decision matrix is used to calculate the importance of the indicator weights using the MEREC method and determine the ranking of the SEE countries using the CORASO method.

The next step in the MEREC method is to calculate the overall performance of the alternatives (S_i). In this step, the absolute value of the natural logarithm is first calculated for all the normalized data. The sum of these values is calculated for each alternative, and this value is divided by the number of the indicators, with the value one (1) added to the obtained value. Finally, the value of the natural logarithm of this value is recalculated. The calculation of the individual steps of these methods is explained using the example of Albania and the indicator C1.

$$\begin{aligned} S_1 = \ln(1 + (\frac{1}{9}(&|\ln(0.849)| + |\ln(0.713)| + |\ln(0.563)| \\ &+ |\ln(0.704)| + |\ln(0.670)| + |\ln(0.374)| + |\ln(1.000)| \\ &+ |\ln(1.000)| + |\ln(0.675)|)) = 0.3043 \end{aligned} \quad (13)$$

In this way, the values of the total performance of the alternatives (S_i) are calculated for the other countries. Then, the effects of the alternatives are calculated in the same way as has been done in the previous step, except that the indicator which this step is calculated for is overlooked. This forms the decision matrix

Table 1 The initial decision matrix

	C1	C2	C3	C4	C5	C6	C7	C8	C9
Albania	83.88	59.68	36.77	36.60	35.48	13.01	72.72	59.69	59.31
Bosnia and Herzegovina	78.90	53.72	32.55	36.24	33.42	18.10	33.38	29.09	44.48
Bulgaria	87.58	83.66	65.31	37.59	49.79	26.24	52.05	49.65	59.07
Montenegro	89.41	66.98	52.06	36.76	37.88	25.55	54.11	44.78	58.73
Greece	90.61	81.34	55.69	51.96	52.93	34.77	55.99	58.83	87.84
Croatia	95.05	67.95	59.84	47.56	46.20	25.41	50.29	49.28	63.88
N. Macedonia	98.75	54.86	45.88	34.95	39.53	22.61	49.10	40.80	56.15
Romania	78.80	60.96	53.98	45.53	47.32	28.39	43.25	50.95	82.81
Serbia	85.90	78.40	37.74	49.21	43.57	21.89	50.76	48.73	80.04

Source: Authors

that includes the effects of the alternatives. Lastly, the absolute value of the sum of the deviations is calculated, as well as the indicator weights (Table 3). The results of the MEREC method show that the indicator C6 - maturity - has the highest weight, only to be followed by the indicator C7 - adaptability, while the indicator C1 - data representativeness - has the lowest weight.

Table 2 The normalized decision matrix

	C1	C2	C3	C4	C5	C6	C7	C8	C9
Albania	0.849	0.713	0.563	0.704	0.670	0.374	1.000	1.000	0.675
Bosnia and Herzegovina	0.799	0.642	0.498	0.697	0.631	0.521	0.459	0.487	0.506
Bulgaria	0.887	1.000	1.000	0.723	0.941	0.755	0.716	0.832	0.672
Montenegro	0.905	0.801	0.797	0.707	0.716	0.735	0.744	0.750	0.669
Greece	0.918	0.972	0.853	1.000	1.000	1.000	0.770	0.986	1.000
Croatia	0.963	0.812	0.916	0.915	0.873	0.731	0.692	0.826	0.727
N. Macedonia	1.000	0.656	0.702	0.673	0.747	0.650	0.675	0.684	0.639
Romania	0.798	0.729	0.827	0.876	0.894	0.817	0.595	0.854	0.943
Serbia	0.870	0.937	0.578	0.947	0.823	0.630	0.698	0.816	0.911

Source: Authors

Table 3 The indicator weights calculation by the MEREC method

		C1	C2	C3	C4	C5	C6	C7	C8	C9	S_i
	Albania	0.163	0.338	0.574	0.350	0.400	0.983	0.000	0.000	0.393	0.304
	Bosnia and Herzegovina	0.224	0.443	0.696	0.360	0.460	0.653	0.779	0.719	0.680	0.443
	Bulgaria	0.120	0.000	0.000	0.324	0.061	0.281	0.334	0.184	0.397	0.173
	Montenegro	0.099	0.222	0.227	0.346	0.335	0.308	0.296	0.287	0.403	0.247
	Greece	0.086	0.028	0.159	0.000	0.000	0.000	0.261	0.015	0.000	0.059
	Croatia	0.038	0.208	0.087	0.088	0.136	0.314	0.369	0.192	0.319	0.178
	N. Macedonia	0.000	0.422	0.353	0.397	0.292	0.430	0.393	0.380	0.447	0.297
	Romania	0.226	0.317	0.191	0.132	0.112	0.203	0.520	0.158	0.059	0.193
	Serbia	0.139	0.065	0.548	0.054	0.195	0.463	0.360	0.203	0.093	0.212
		C1	C2	C3	C4	C5	C6	C7	C8	C9	
	Albania	0.291	0.276	0.256	0.275	0.271	0.220	0.304	0.304	0.272	
	Bosnia and Herzegovina	0.427	0.411	0.392	0.417	0.410	0.395	0.386	0.390	0.393	
	Bulgaria	0.162	0.173	0.173	0.142	0.167	0.147	0.141	0.156	0.135	
	Montenegro	0.238	0.228	0.227	0.217	0.218	0.220	0.221	0.222	0.212	
S'_{ij}	Greece	0.050	0.056	0.042	0.059	0.059	0.059	0.031	0.058	0.059	
	Croatia	0.174	0.158	0.170	0.169	0.165	0.148	0.143	0.160	0.148	
	N. Macedonia	0.297	0.262	0.268	0.264	0.273	0.261	0.264	0.265	0.260	
	Romania	0.172	0.164	0.175	0.181	0.183	0.174	0.144	0.178	0.188	
	Serbia	0.199	0.206	0.161	0.207	0.194	0.169	0.179	0.193	0.203	
	E_j	0.096	0.173	0.242	0.175	0.167	0.312	0.292	0.180	0.237	
	w_j	0.051	0.092	0.129	0.093	0.089	0.167	0.156	0.096	0.127	

Source: Authors

After calculating the weights of the indicators, the SEE countries are ranked using the CORASO method based on the Government AI Readiness Index. Then, the normalized data are calculated, and alternative solutions are determined. The maximum alternative solution is the maximum value of the normalized data for each indicator. In contrast, the minimum alternative solution is the minimum value of the normalized data for each indicator. Finally, the normalized data are multiplied by appropriate weights.

$$v_{11} = 0.051 \cdot 0.849 = 0.043 \tag{14}$$

The next step implies the calculation of the aggregate values of the SEE countries and the alternative solutions.

$$S_1 = 0.043 + 0.066 + 0.073 + 0.066 + 0.060 + 0.062 + 0.156 + 0.096 + 0.085 = 0.707 \tag{15}$$

Then, the deviation from the alternative solutions is calculated. Finally, the value of the CORASO method is calculated as well.

$$R_1 = \frac{0.707}{1.000} = 0.707$$
$$R'_1 = \frac{0.528}{0.707} = 0.747$$
$$Q_1 = \frac{0.707-0.747}{0.707+0.747} = -0.027 \tag{16}$$

The results of the CORASO method (Table 4) show that Greece, Bulgaria, and Croatia display the best results. Bosnia and Herzegovina shows the worst results. These results indicate that the EU SEE countries outperform non-EU SEE countries. According to the results of the CORASO method, Greece has results (0.2487) much better than the results of all the other countries, whereas Bosnia and Herzegovina has by far the worst results (-0.2634).

Sensitivity analysis aims to determine the extent to which an individual indicator affects the ranking (Trung, Dudić, Dung & Truong, 2024). During the sensitivity analysis conducted in this study, scenarios are formed based on the initial weights of the indicators. Each indicator is reduced by 85%. In comparison, the other indicators are increased by 5% (Table 5), so the sum of the weights of the indicators is approximately equal to unity (1). Since there are nine indicators, nine scenarios are formed. The ranking is performed using the CORASO method.

Table 4 The CORASO method results

	S_i	R_i	R'_i	Q_i	Rank
Albania	0.7070	0.7070	0.7470	- 0.0275	7
Bosnia and Herzegovina	0.5549	0.5549	0.9517	- 0.2634	9
Bulgaria	0.8203	0.8203	0.6439	0.1205	2
Montenegro	0.7479	0.7479	0.7062	0.0287	6
Greece	0.9370	0.9370	0.5637	0.2487	1
Croatia	0.8065	0.8065	0.6549	0.1037	3
N. Macedonia	0.6917	0.6917	0.7635	- 0.0493	8
Romania	0.8062	0.8062	0.6551	0.1034	4
Serbia	0.7747	0.7747	0.6818	0.0638	5
MAX AS	1.0000				
MIN AS	0.5282				

Source: Authors

The sensitivity analysis results confirm the original results of the CORASO method, indicating that Greece achieves the best results in all the scenarios, while Bosnia and Herzegovina achieves the worst in all the scenarios (Figure 1). The other countries change their ranking depending on the scenario applied. Thus, Bulgaria's ranking order changes in two scenarios (S2 and S3), the reason for which should be looked for in the fact that Bulgaria has the best indicators of all the countries in terms of data availability (C2) and infrastructure (C3). With the decreasing importance of these indicators, Bulgaria falls to third place in the ranking and is overtaken by Croatia, in the scenario S2, and Romania, in the scenario S3. This analysis reveals that no single indicator is decisive for the ranking of the SEE countries. Still, all of them have an equal impact, so the changes in the ranking are negligible.

DISCUSSION

AI plays a major role in the achievement of national growth and particularly in the sustainable development of countries (Goralski & Tan, 2020;

Table 5 The sensitivity analysis scenarios

	C1	C2	C3	C4	C5	C6	C7	C8	C9
S0	0.0510	0.0923	0.1290	0.0934	0.0891	0.1667	0.1559	0.0959	0.1267
S1	0.0077	0.0969	0.1355	0.0981	0.0936	0.1751	0.1637	0.1007	0.1330
S2	0.1046	0.0138	0.1355	0.0981	0.0936	0.1751	0.1637	0.1007	0.1330
S3	0.1046	0.0969	0.0194	0.0981	0.0936	0.1751	0.1637	0.1007	0.1330
S4	0.1046	0.0969	0.1355	0.0140	0.0936	0.1751	0.1637	0.1007	0.1330
S5	0.1046	0.0969	0.1355	0.0981	0.0134	0.1751	0.1637	0.1007	0.1330
S6	0.1046	0.0969	0.1355	0.0981	0.0936	0.0250	0.1637	0.1007	0.1330
S7	0.1046	0.0969	0.1355	0.0981	0.0936	0.1751	0.0234	0.1007	0.1330
S8	0.1046	0.0969	0.1355	0.0981	0.0936	0.1751	0.1637	0.0144	0.1330
S9	0.1046	0.0969	0.1355	0.0981	0.0936	0.1751	0.1637	0.1007	0.0190

Source: Authors

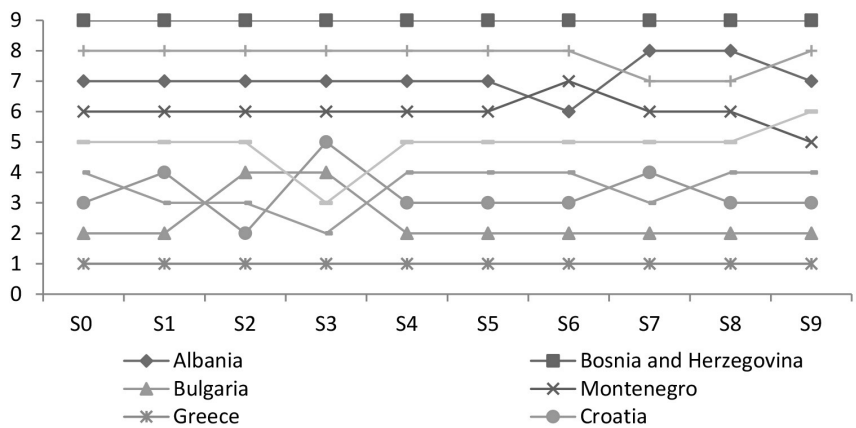


Figure 1 The sensitivity analysis results

Source: Authors

Liengpunsakul, 2021). AI has a wide range of applications and can be used to achieve sustainability goals. However, to achieve sustainable development through AI, a country must have a good potential for AI application. A country's potential for AI application can be investigated in different ways. Applying the Report of the Government AI Readiness Index indicator is one of the methods used in this study. This report has been used in previous studies (Nzobonimpa & Savard, 2023; Nasution *et al*, 2024) but has not been used in ranking the SEE countries.

The readiness to apply AI is an important factor in the assessment of the possibility of integrating AI into various sectors of the economy, public administration, and the functioning of a country's society. Using the Government AI Readiness Index, this research provides an insight into the level of infrastructure, innovation, and the other factors that form the basis for the implementation of AI solutions, as was done in the A. Socol and I. C. Iuga (2024) research study. These factors are presented in the indicators contained in this report. A total of nine indicators were used to observe the SEE countries. The specificity of these countries lies in their varying levels of development, with some countries (such as Albania, Serbia, Bosnia and Herzegovina, North Macedonia, and Montenegro) belonging to developing countries. These countries are also EU accession candidate

countries (Ramasauskaite, 2024). However, Bulgaria and Romania are also developing countries, even though they are EU members (Gajović, 2024). These countries should use AI to improve environmental efficiency, better manage economic processes, and ensure better social inclusion (Talapbayeva, Yerniyazova, Kultanova & Akbayev, 2024).

This research study focuses on the SEE countries in order to assess their readiness to implement AI technology, particularly in achieving sustainable growth and development. Two MCDM methods are used for this purpose, namely MEREC and CORASO. The purpose of these methods, along with other MCDM methods, is to rank alternatives based on selected indicators (Đukić, Novićević Čečević & Jevtić Tomić, 2025). The MEREC method was utilized in this study to determine the significance of the indicators used. This method is one of the objective methods for determining indicator weights. It determines the indicator weight based on data dispersion in that particular indicator in relation to other indicators. The more dispersed data, the higher the indicator weight, and vice versa. In this way, the maturity indicator received the highest weight because the normalized data value ranged from 0.374 to 1.000. This indicator is followed by the adaptability indicator, where the normalized data values ranged from 0.459 to 1.000. This should be kept in mind when using this method in future research. The advantage of determining the indicators in this way is reflected in the avoidance of subjectivity in decision-making; the disadvantage, however, implies that some indicators may not be particularly important and receive a greater weight than others. Therefore, it is important to determine when to use the method for subjective or objective weight determinations.

After the weights had been determined, the CORASO method was used. The results of this method showed that Greece had the best indicators compared to the other SEE countries, which was because it had the best values in four indicators: C4 - Human Capital, C5 - Innovation Capacity, C6 - Maturity, and C9 - Governance and Ethics. On the other hand, Albania and Bulgaria had the best results in two indicators. Bulgaria, therefore, ranked second, whereas Albania ranked only seventh among the included countries, the reason for which should be sought in the values of the other indicators with the lowest value even in the indicator C6 - Maturity. This indicator was also the most important in determining the ranking; although Albania had the best values in two indicators, it ranked only seventh.

To improve these countries' potential for applying AI in sustainable development, a sensitivity analysis was conducted. This analysis highlighted both the strengths and weaknesses of each observed country. However, Greece was the best in all nine scenarios, whereas Bosnia and Herzegovina was the worst, indicating that Greece was ahead of the SEE countries, whereas Bosnia and Herzegovina needed to improve several indicators so as to realize its full potential. This analysis revealed that Croatia needed to enhance the data availability indicator, whereas Albania required improvement in the maturity indicator. After determining their potential, these countries must use AI more effectively in sustainable development. They must improve their practice of applying AI and invest more in developing AI solutions. First, of course, it is necessary to improve public administration in order to enhance the services it provides to businesses and the population. This research was therefore conducted so as to determine the potential of the SEE countries in terms of changing AI.

CONCLUSION

The research aimed to examine the potential for applying AI as a factor in achieving sustainable development in the SEE countries. The Government AI Readiness Index was used to assess each SEE country's ability to implement AI. To identify which countries have the best potential for AI implementation, the MEREC and CORASO MCDM methods, which ranked the SEE countries based on the Government AI Readiness Index indicators, were utilized. The results of the CORASO method showed that Greece had demonstrated the strongest indicators, whereas Bosnia and Herzegovina had showed the lowest potential for developing AI

solutions. The results obtained from the MEREC method indicated that the maturity and adaptability indicators had received the highest weight values and had the greatest influence on the ranking. In contrast, the data representativeness indicator had the least influence.

Policymakers can use the findings of this research to improve the conditions in individual SEE countries, thus encouraging a broader adoption of AI in practice. The results of the sensitivity analysis can play a key role in this effort. The analysis showed that Greece had achieved the best results across all the scenarios, whereas Bosnia and Herzegovina had shown the worst. These findings indicate that Greece does not have weak indicators regarding AI implementation and should continue to build on its strengths to make further improvements. In contrast, Bosnia and Herzegovina needs a complete overhaul to enhance its AI potential. Without such changes, Bosnia and Herzegovina risks falling behind the other countries in AI application, which may make it less competitive as AI is becoming increasingly integrated into practice.

Additionally, this research study shows that the EU member states have a greater potential than the EU candidate countries, which suggests that the candidate countries should put more effort into building their potential, particularly regarding the application of AI solutions for enhanced sustainable development. Specifically, these countries must improve their digital infrastructure, strengthen institutional support, and increase investment in AI technologies. These actions are essential for the implementation of AI solutions. To do this, it is important to develop the strategies that guide these countries to invest more in the AI solutions that boost environmental efficiency, improve economic processes, and foster social inclusion. By doing so, these countries can improve their competitiveness in the global digital landscape, which is vital for their growth.

ACKNOWLEDGEMENT

This research was supported by the Ministry of Scientific and Technological Development and Higher Education of the Republic of Srpska under the Agreement on the Co-financing of the Scientific and Research Project No. 19.032/961-46/24 dated 30th Dec. 2024.

REFERENCES

Adeyinka, M. F. (2023). Digital transformation and firm efficiency in the Nigerian manufacturing sector. *Economic Horizons, 25*(3), 215-230. https://doi.org/10.5937/ekonhor2302215a

Afolabi, J. A. (2023). Employment effects of technological innovation: Evidence from Nigeria's economic sectors. *Economic Horizons, 25*(1), 3-17. https://doi.org/10.5937/ekonhor2301003a

Ahangama, S., & Krishnan, S. (2023). Impact of AI readiness and e-participation implementation of a government on the well-being of its citizens. *e-Service Journal 15*(1), 29-59. https://doi.org/10.2979/esj.00002

Alfadhli, M., Onat, N. C., Kucukvar, M., & Al-Maadeed, S. (2025). Analyzing AI readiness through digital transformation and data management: A case study of Qatar's government sector. *Applied Mathematics & Information Sciences, 19*(3), 497-507. https://doi.org/10.18576/amis/190302

Amin Mohamed, H. (2024). Evaluating the role of artificial intelligence government readiness in economic growth: An empirical Cobb-Douglas analysis for developing countries. *Scientific Journal of Business and Environmental Studies, 15*(4), 734-762. https://doi.org/10.21608/jces.2024.412983

Aminizadeh, S., Heidari, A., Dehghan, M., Toumaj, S., Rezaei, M., Navimipour, N. J., Stroppa, F., & Unal, M. (2024). Opportunities and challenges of artificial intelligence and distributed systems to improve the quality of healthcare service. *Artificial Intelligence in Medicine, 149*, 102779. https://doi.org/10.1016/j.artmed.2024.102779

Bazhal, I. (2022). Innovation policy to solve convergence challenge for the Eastern European and Balkan countries. In P. Sklias, P. Polychronidou, A. Karasavvoglou, V. Pistikou, & N. Apostolopoulos (Eds.), *Business Development and Economic Governance in Southeastern Europe* (pp. 195-209). Springer Cham. https://doi.org/10.1007/978-3-031-05351-1_11

Borissov, B., & Hristozov, Y. (2024). Potential for using artificial intelligence in public administration. *Economics - Innovative and Economics Research Journal, 12*(3), 409-423. https://doi.org/10.2478/eoik-2024-0034

Dabic-Miletic, S. (2024). Benefits and challenges of implementing autonomous technology for sustainable material handling in industrial processes. *Journal of Industrial Intelligence, 2*(1), 1-13. https://doi.org/10.56578/jii020101

Driss, I., Dafri, I., & Zouaoui, S. I. (2024). Fuzzy logic-based fault detection in industrial production systems: A case study. *Journal of Industrial Intelligence, 2*(2), 63-72. https://doi.org/10.56578/jii020201

Đukić, T., Novićević Čečević, B., & Jevtić Tomić, A. (2025). Investment opportunities evaluation: A comparative analysis and the multi-criteria ranking of top-listed companies. *Economic Horizons, 27*(1), 65-78. https://doi.org/10.5937/ekonhor2501065d

Fan, Z., Yan, Z., & Wen, S. (2023). Deep learning and artificial intelligence in sustainability: A review of SDGs, renewable energy, and environmental health. *Sustainability, 15*(18), 13493. https://doi.org/10.3390/su151813493

Gajović, A. (2024). Digitalization of the European Green Deal (EGD) and Sustainable Development Goals (SDG) - A factor in empowering sustainable local projects: A review of literature and potential achievements. *Collection of papers New Economy, 2*(1) 129-146. https://doi.org/10.61432/CPNE0201129g

Goralski, M. A., & Tan, T. K. (2020). Artificial intelligence and sustainable development. *The International Journal of Management Education, 18*(1), 100330. https://doi.org/10.1016/j.ijme.2019.100330

Government AI Readiness Index. (2024, November 19). Oxford Insights. https://oxfordinsights.com/ai-readiness/ai-readiness-index/

Hristozov, Y., & Nozharov, S. (2024). Prerequisites for business development in South-Eastern Europe in the conditions of polycrisis and digital transformation. *Economics - Innovative and Economics Research Journal, 12*(2), 163-175. https://doi.org/10.2478/eoik-2024-0023

Kar, A. K., Choudhary, S. K., & Singh, V. K. (2022). How can artificial intelligence impact sustainability: A systematic literature review. *Journal of Cleaner Production, 376*, 134120. https://doi.org/10.1016/j.jclepro.2022.134120

Kaur, S., Kumar, R., Singh, K., & Huang, Y. L. (2024). Leveraging artificial intelligence for enhanced sustainable energy management. *Journal of Sustainability for Energy, 3*(1), 1-20. https://doi.org/10.56578/jse030101

Keshavarz-Ghorabaee, M., Amiri, M., Zavadskas, E. K., Turskis, Z., & Antucheviciene, J. (2021). Determination of objective weights using a new method based on the removal effects of criteria (MEREC). *Symmetry, 13*(4), 525. https://doi.org/10.3390/sym13040525

Kulkov, I., Kulkova, J., Rohrbeck, R., Menvielle, L., Kaartemo, V., & Makkonen, H. (2023). Artificial intelligence - driven sustainable development: Examining organizational, technical, and processing approaches to achieving global goals. *Sustainable Development, 32*(3), 2253-2267. https://doi.org/10.1002/sd.2773

Kuyoro, A. O., Fatade, O. B., & Onuiri, E. E. (2025). Enhancing non-invasive diagnosis of endometriosis through explainable artificial intelligence: A Grad-CAM approach. *Acadlore Transactions on AI and Machine Learning, 4*(2), 97-108. https://doi.org/10.56578/ataiml040203

Liengpunsakul, S. (2021). Artificial intelligence and sustainable development in China. *The Chinese Economy, 54*(4), 235-248. https://doi.org/10.1080/10971475.2020.1857062

Lipianina-Honcharenko, K., Komar, M., Melnyk, N., & Komarnytsky, R. (2024). Sustainable information system for enhancing virtual company resilience through machine learning in smart city socio-economic scenarios. *Economics - Innovative and Economics Research Journal, 12*(2), 69-96. https://doi.org/10.2478/eoik-2024-0022

Lukić, R. (2024). Evaluation of trade performance dynamics in Serbia using ARAT and Rough MABAC methods. *Oeconomica Jadertina, 14* (2), 34-44. https://doi.org/10.15291/oec.4559

Mariani, M. M., Machado, I., Magrelli, V., & Dwivedi, Y. K. (2023). Artificial intelligence in innovation research: A systematic review, conceptual framework, and future research directions. *Technovation, 122*, 102623. https://doi.org/10.1016/j.technovation.2022.102623

Mathew, D., Brintha, N. C., & Jappes, J. T. W. (2023). Artificial intelligence powered automation for industry 4.0. In A. Nayyar, M. Naved, & R. Rameshwar (Eds.), *New Horizons for Industry 4.0 in Modern Business* (pp. 1-28). Springer Cham. https://doi.org/10.1007/978-3-031-20443-2_1

Myllyaho, L., Raatikainen, M., Männistö, T., Mikkonen, T., & Nurminen, J. K. (2021). Systematic literature review of validation methods for AI systems. *Journal of Systems and Software, 181*, 111050. https://doi.org/10.1016/j.jss.2021.111050

Nasution, M. K. M., Elveny, M., Pamucar, D., Popovic, M., & Andrić Gušavac, B. (2024). Uncovering the hidden insights of the government AI readiness index: Application of Fuzzy LMAW and Schweizer-Sklar weighted framework. *Decision Making: Applications in Management and Engineering, 7*(2), 443-468. https://doi.org/10.31181/dmame7220241221

Nzobonimpa, S., & Savard, J. (2023). Ready but irresponsible? Analysis of the Government Artificial Intelligence Readiness Index. *Policy & Internet, 15*(3), 397-414. https://doi.org/10.1002/poi3.351

Olawade, D. B., David-Olawade, A. C., Wada, O. Z., Asaolu, A. J., Adereni, T., & Ling, J. (2024). Artificial intelligence in healthcare delivery: Prospects and pitfalls. *Journal of Medicine, Surgery, and Public Health, 3*, 100108. https://doi.org/10.1016/j.glmedi.2024.100108

Onyeaka, H., Tamasiga, P., Nwauzoma, U. M., Miri, T., Juliet, U. C., Nwaiwu, O., & Akinsemolu, A. A. (2023). Using artificial intelligence to tackle food waste and enhance the circular economy: Maximising resource efficiency and minimising environmental impact: A review. *Sustainability, 15*(13), 10482. https://doi.org/10.3390/su151310482

Peterka, P., & Stroukal, D. (2024). Evidence against the undertaxation of digital companies from the weighted effective tax rate method analysis. *International Journal of Economic Sciences, 13*(1), 58-80. https://doi.org/10.52950/ES.2024.13.1.004

Popescu, A. I. (2024). The Evolution of on-demand platforms: Conceptual framework, regulatory challenges, and policy implications in the digital economy. *International Journal of Economic Sciences, 13*(2), 55-86. https://doi.org/10.52950/ES.2024.13.2.004

Purwanto, E. (2024). A bibliometric analysis of trends and collaborations in autonomous driving research (2002-2024). *Mechatronics and Intelligent Transportation Systems, 3*(2), 85-112. https://doi.org/10.56578/mits030202

Puška, A., Nedeljković, M., Božanić, D., Štilić, A., & Muhsen, Y. R. (2024). Evaluation of agricultural drones based on the COmpromise Ranking from Alternative SOlutions (CORASO) methodology. *Engineering Review, 44*(4), 77-90. https://doi.org/10.30765/er.2653

Rajagopal, N. K., Qureshi, N. I., Durga, S., Ramirez Asis, E. H., Huerta Soto, R. M., Gupta, S. K., & Deepak, S. (2022). Future of Business Culture: An Artificial Intelligence-Driven Digital Framework for organization Decision-Making Process. *Complexity, 2022*(1). https://doi.org/10.1155/2022/7796507

Ramasauskaite, O. (2024). Modeling investment strategies in contemporary art in the context of the Yugoslav wars. *Oeconomica Jadertina, 14*(2), 45-66. https://doi.org/10.15291/oec.4535

Sarfraz, M. (2024). A Few Maclaurin Symmetric Mean Aggregation Operators for Spherical Fuzzy Numbers Based on Schweizer-Sklar Operations and their use in artificial intelligence. *Journal of Intelligent Systems and Control*, *3*(1), 1-20. https://doi.org/10.56578/jisc030101

Shonhe, L., & Kolobe, M. (2023). A Glimpse into Botswana's AI Readiness Landscape. *EJournal of EDemocracy and Open Government, 15*(2), 37-67. https://doi.org/10.29379/jedem.v15i2.812

Shostak, L., Lipych, L., Anatolii, F., Volynets, I., Andrew, U., & Morokhova, V. (2024). Business models of enterprises in the conditions of digital transformation: Global and domestic experience. *Economics - Innovative and Economics Research Journal, 12*(2), 243-261. https://doi.org/10.2478/eoik-2024-0027

Socol, A., & Iuga, I. C. (2024). Addressing brain drain and strengthening governance for advancing government readiness in artificial intelligence (AI). *Kybernetes*, *53*(13), 47-71. https://doi.org/10.1108/k-03-2024-0629

Srinivasa, K. G., Kurni, M., & Saritha, K. (2022). Harnessing the power of AI to education. In K. G., Srinivasa, M., Kurni, & K. Saritha (Eds.), *Learning, Teaching, and Assessment Methods for Contemporary Learners* (pp. 311-342). Springer Nature Singapore. https://doi.org/10.1007/978-981-19-6734-4_13

Talapbayeva, G., Yerniyazova, Z., Kultanova, N., Akbayev, Y. (2024). Economic Opportunities and risks of introducing artificial intelligence. *Collection of papers New economy, 2*(1), 117-128. https://doi.org/10.61432/CPNE0201117t

Trung, D. D., Dudić, B., Dung, H. T., & Truong, N. X. (2024). Innovation in financial health assessment: Applying MCDM techniques to banks in Vietnam. *Economics - Innovative and Economics Research Journal, 12*(2), 21-33. https://doi.org/10.2478/eoik-2024-0011

Tun, H. M., Naing, L., Malik, O. A., & Rahman, H. A. (2025). Navigating ASEAN region Artificial Intelligence (AI) governance readiness in healthcare. *Health Policy and Technology, 14*(2), 100981. https://doi.org/10.1016/j.hlpt.2025.100981

Verdecchia, R., Sallou, J., & Cruz, L. (2023). A systematic review of Green AI. *Wiley Interdisciplinary Reviews Data Mining and Knowledge Discovery, 13*(4). https://doi.org/10.1002/widm.1507

Wang, Z., Deng, Y., Zhou, S., & Wu, Z. (2023). Achieving sustainable development goal 9: A study of enterprise resource optimization based on artificial intelligence algorithms. *Resources Policy, 80,* 103212. https://doi.org/10.1016/j.resourpol.2022.103212

Received on 10th March 2025,
after revision,
accepted for publication on 19th September 2025.
Published online on 24th April 2026.

Zoran Mastilo is a full professor of Theoretical Economics at the Faculty of Business Economics, University of East Sarajevo, with research expertise in theoretical economics, pension and health insurance, and the new economy.

Adis Puška is an accomplished economist specializing in quantitative economics. He earned his doctorate at the Faculty of Economics, University of Tuzla, with a focus on advanced methods of quantitative economic analysis.

Anđelka Štilić is a Senior Lecturer in Informatics and Computer Science at the College of Tourism, Academy of Applied Studies Belgrade, and a Research Associate at the Mathematical Institute of the Serbian Academy of Sciences and Arts (SANU). Her expertise spans multi-criteria decision-making, digital business, e-marketing, and reservation systems, with a strong focus on applied research.

PROCENA POTENCIJALA PRIMENE VEŠTAČKE INTELIGENCIJE ZA ODRŽIVI RAZVOJ U ZEMLJAMA JUGOISTOČNE EVROPE

Zoran Mastilo[1], Adis Puška[2] and Anđelka Štilić[3]

[1]*University of East Sarajevo, Faculty of Business Economics, Bijeljina, Bosnia and Herzegovina*
[2]*Government of the Brčko District of BiH, Brčko, Bosnia and Herzegovina*
[3]*Academy of Applied Studies, Belgrade, Republic of Serbia*

Veštačka inteligencija (AI) postala je ključni faktor u razvoju zemalja. Države su prepoznale potencijal primene veštačke inteligencije u ostvarivanju ciljeva održivog razvoja. Ovo istraživanje ispituje potencijal zemalja Jugoistočne Evrope (SEE) u oblasti primene veštačke inteligencije. Za procenu spremnosti za primenu AI koristi se Indeks spremnosti vlade za veštačku inteligenciju (Government AI Readiness Index), koji obuhvata devet indikatora. Poređenje zemalja Jugoistočne Evrope u pogledu primene veštačke inteligencije sprovedeno je primenom metoda višekriterijumskog odlučivanja (MCDM). U istraživanju su korišćene metode MEREC (Method based on the Removal Effects of Criteria) i CORASO (COmpromise Ranking from Alternative SOlutions). Rezultati metode MEREC pokazuju da indikatori zrelosti i prilagodljivosti imaju veće vrednosti težina u odnosu na ostale indikatore. Rezultati metode CORASO ukazuju na to da Grčka i Bugarska imaju najpovoljnije vrednosti indikatora, pri čemu analiza osetljivosti potvrđuje ove nalaze.

Ključne reči: veštačka inteligencija, održivi razvoj, Government AI Readiness Index, MCDM, MEREC, CORASO

JEL Classification: F01, Q01, C02, O33

Ekonomski horizonti, Januar - April 2026, Volumen 28, Sveska 1, 19 - 30
UDC: 33 ISSN: 1450-863 X
© Ekonomski fakultet Univerziteta u Kragujevcu
www. ekfak.kg.ac.rs

Original scientific paper
UDC: 339.5:164
doi:10.5937/ekonhor2601019B

LOGISTICS AS A DRIVER OF INTERNATIONAL TRADE: AN INDUSTRY-LEVEL ANALYSIS

Filip Ž. Bugarčić[1]* and Viktorija Skvarciany[2]

[1]*University of Kragujevac, Faculty of Economics, Republic of Serbia*
[2]*EKA University of Applied Sciences, Republic of Latvia*

The growth of global trade in the last few decades and a more active involvement of countries in trade flows and supply chains have highlighted logistics as one of the most important trade facilitation factors. However, the question is who benefits the most from logistics. The paper aims to examine the contribution logistics make to the promotion of exports and imports in the selected industries in the OECD countries, the evaluation and comparison of the importance of logistics performance depending on the specific sector and product characteristics. Panel regression modelling was employed to evaluate the impact of logistics on international trade. The findings reveal its importance in international trade at the industry level. The results indicate a special contribution of logistics to the stimulation of the trade of industrial products and time-sensitive goods, with a greater contribution to imports. These findings emphasize the special importance of a logistics system and related operations in the identified sectors.

Keywords: logistics performance, industry-level trade, product group, export, import

JEL Classification: F13, F14, L52, L9

INTRODUCTION

The structure of world trade reveals a dominant role of the different types of the commodities that heavily rely on infrastructure, transport, and related logistics services in cross-border operations. Small open economies and developing countries need to find a way for more efficient movement across borders. While trade is increasingly organized through value chains, logistics is becoming the "glue" on the global and regional levels that holds value chains together (World Trade Organization, 2021). However, the starting point is the assumption that its importance can differ significantly, depending on the economic structure, the dominant participation of individual sectors, and the importance of logistics operations in international trade, by specific industries and product groups.

The quality of logistics operations and related infrastructure is an important factor for the companies operating in various industries that strive to engage themselves in cross-border trade. Logistics

* *Correspondence to*: F. Ž. Bugarčić, University of Kragujevac, Faculty of Economics, Liceja Kneževine Srbije 3, 34000 Kragujevac, Republic of Serbia; e-mail: f.bugarcic@kg.ac.rs

performance includes requirements regarding the quality of physical, "hard" infrastructure, as well as the "soft" logistics components related to the efficiency of customs procedures and the quality of logistics service (Ojala, Arvis, Shepherd, Wiederer, Raj, Dairabayeva & Kiiski, 2018). According to Ü. Töngür, K. Türkcan and S. Ekmen-Özçelik (2020), exports strongly depend on infrastructure and are more sensitive to national logistics performance. Regarding the "soft" component, certain studies see the efficiency of customs as an important, even decisive factor within the framework of logistics performance for competitiveness (Ekici, Kabak & Ülengin, 2016). The contribution of logistics services can be seen through the costs and time components in certain product groups. J. Blyde and D. Molina (2015) determined that the transport of time-sensitive and perishable products has the greatest dependence on transport time. Also, semi-finished products, parts and components, which are mainly used in further production processes, significantly depend on transport and logistics efficiency (Hummels & Schaur, 2013; Saslavsky & Shepherd, 2014).

The importance of logistics has already been recognized in incentivizing the total volume of international trade (Martí, Puertas & García, 2014; Gani, 2017; Çelebi, 2019; Zaninović, Zaninović & Pavlić Skender, 2021), and in promoting competitiveness and economic growth as well (Bugarčić, Mićić & Stanišić, 2023). However, no empirical evidence has been found at the industry or product level. This gap raises doubts about the specific contribution of logistics to trade promotion by product groups. Based on the existing knowledge, there is still no evidence showing in which sector efficient logistics yields the most significant results. The main goal of this study is to investigate the impact of logistics performance across individual product groups and identify and explain the differences between the selected sectors. Such evidence could clarify the significance of logistics performance for particular industries. Additionally, the scope of the analysis is expanded by using industry-level data for exports and imports separately in the OECD countries. This approach reduces the influence of external factors on the total volume of countries' exports and imports. Using panel data and a linear regression approach, the article aims to identify and compare the impact of logistics, measured by applying the Logistics Performance Index (LPI) on the selected industries, and identify the specific sectors that are more reliant on logistics performance. This concept could provide an answer to the research question posed in this study: Which industry is most dependent on logistics performance in terms of exports and imports?

The article is structured into several sections. After the introduction, the literature review pertaining to international trade at the product/industry level is presented. In the third section, the methodology and the data are explained, and in the fourth section, the results of the empirical analysis and discussion are given. The final section presents the concluding remarks.

LITERATURE REVIEW

Previous studies have considered the factors contributing to export promotion at the level of product groups and sectors from different perspectives. T. Beck (2002) showed that economies with higher levels of financial development tended to specialize in the industries that were more dependent on external finance. B. Abu Al-Foul and M. Soliman (2008) found that FDI inflow had a positive effect on both merchandise and manufacturing exports. N. Gur (2013) examined whether financially integrated countries exported more in the industries that depended heavily on external finance or not. The findings showed that international portfolio equity investments increased exports more in the industries that depended heavily on external sources of finance. Institutional quality is also an important factor. S. Nazlioglu (2013) investigated the impact of the exchange rate volatility on exports and found that it differed across the industries and that foreign income played the key role in determining industry-level exports.

G. Bayar, M. Ünal and S. Tokpunar (2015) studied the structure of Turkish exports to the EU countries and found that the statistically significant variables were

the industrial production index, the sectoral export unit price index, the partner country's sectoral imports from the World, and the partner country's import prices. Differences in the level of the impact and significance were identified, depending on specific export markets and industries. H. Yilmazkuday (2021) also investigated the drivers of global trade at the product level. The findings indicated that the supply-side effects, including production or exporting costs in source countries, made the most important contribution to changes in global trade. In this respect, export-related costs, such as operational costs of exporting, could be crucial. Based on product-level trade decomposition, chemicals and allied industries made the greatest contribution to the supply-side effects.

Logistics quality is one of the key segments within the framework of the supply-side and operating costs of exports. Bearing in mind its contribution at the aggregate level, several studies have tried to determine the time and logistics sensitivity, depending on the product type. Using a relative gravity model of trade, S. Djankov, C. Freund and C. S. Pham (2010) examined how time lags affected trade. Their results indicated that each additional day of product delay reduced trade by more than 1%. The authors compared these data with the fact that one day of delay in the international delivery of a product was equivalent to an additional distance of 70 kilometers between trading countries. Delivery time is especially important for delay-sensitive products, such as perishables, food, and agricultural products and goods with limited shelf life and delivery. The conclusion based on this study imposes the necessity of creating more efficient distribution systems as a trade facilitation tool. Analogously, D. L. Hummels and G. Schaur (2013) estimated that each day in transit of goods was equivalent to an additional duty of 0.6 to 2.1%. They concluded that the most time-sensitive trade flows included trade in parts, semi-products, and production components, the delay of which would further delay production processes in the importing country. The COVID-19 crisis reminded us that sensitive and perishable products required special engagement and the timely management of logistics activities to ensure safe placement according to required quality standards (Illahi & Mir, 2021). P. A. Zaninović *et al* (2021) found intermediate goods to be more sensitive to trade than capital or consumption goods, indicating the need for further research into the contribution of logistics through research in different product groups within different classes of goods.

Within the framework of modern global supply chains (GSC), value-added export is more important than the total volume. For this reason, it is particularly important to determine the factors that contribute to the promotion of the export of goods with higher value-added, where the role of logistics performance has been identified when speaking about the aggregate level of countries' exports (Zaninović & Bugarčić, 2023). Here arises the question of the contribution of logistics in certain sectors. For several industries participating in global value chains (GVC), the countries identified as the most competitive based on the total exports are often found to be less competitive when evaluated in terms of domestic value-added (Ceglowski, 2017) and the main drivers for export value-added is an increase in the export scale and the multiplier effect (Wang, Zhang, Xie & Su, 2020). The importance of logistics is especially emphasized in the time of the expansion of e-commerce (Kiba-Janiak, Cheba, Mucowska & de Oliveira, 2022), where certain industries are faced with changes of earlier business patterns and special requirements in terms of delivery.

Looking at the importance of logistics by the observed sectors, a lack of the timely delivery of machines to customers and the unregulated purchase of goods associated with the delivery of the machines are among the many problems manufacturers are faced with (Sarabi & Darestani, 2021), which leads to further problems in the production and distribution processes if there is no adequate logistical support, in which sense, the production of the largest number of industrial products significantly depends on the development of the logistics sector, as well as continuous technical improvements and new solutions within these activities (Angreani, Vijaya & Wicaksono, 2020). The special importance and specificity of logistics operations are also recognized

in the oil industry, which carries special requirements in terms of distribution and delivery (Dempster, Pedron, Medova, Scott & Sembos, 2022). One of the most represented sectors is certainly the food industry and related product groups. In this sector, logistics is still a challenging issue affecting companies' performance and customer decisions, with a great potential to improve effectiveness and sustainability (Paciarotti & Torregiani, 2021). What is common to most industries is that the quality of logistics services impacts consumer loyalty to a great extent (Huma, Ahmed, Ikram & Khawaja, 2020).

For more precise conclusions, the role of logistics must be viewed individually by industry. Based on the current knowledge, this question needs to be further investigated.

RESEARCH METHODS

In order to investigate the impact of logistics on international trade at the industry level, the Logistics Performance Index (LPI) was selected as the main independent variable. The LPI was developed by the World Bank (Ojala *et al*, 2018; Arvis, Ojala, Shepherd, Ulybina & Wiederer, 2023) and represents the quality of national logistics systems, starting from 2007. It is one of the most comprehensive comparable measures of national logistics systems available for 166 countries. It includes all the regions of the world and countries at all stages of development. The LPI reflects a total of six aspects of logistics performance related to (i) infrastructure, (ii) customs efficiency, (iii) logistics services quality, (iv) timeliness, (v) the ability to track and trace, and (vi) the availability of competitively priced international shipments, separately in six subindices. Scores are evaluated for the overall LPI and individual elements, and range from 1 (the worst performance) to 5 (the best score). Moreover, another independent variable used in the current research is FDI (Foreign Direct Investment, measured by FDI net inflows as a percentage of GDP). FDI is important in the context of investigating the impact of logistics. The connection is proven in previous studies (Luttermann, Kotzab & Halaszovich, 2020; Bugarčić & Skvarciany, 2024), while the importance for international trade reflects in the influence of developing logistics infrastructure projects, which enhance the efficiency of supply chains, foster economic integration, and stimulate economic growth. Those determinants are critical factors in facilitating and expanding international trade. Another independent variable is IVA (Industry Value Added, measured in millions of dollars). It measures the productivity, efficiency, and economic contribution of industries, and helps identify the relationship between logistics performance and industry competitiveness, guides investment priorities, and allows for a detailed analysis of the impacts of logistics on specific sectors. This variable was chosen in this study to control for the results and reduce a potential bias, given that industry-level data were used. Exports and Imports were employed as the dependent variables. The sample includes the OECD countries, and the analysis covers the selected industries and the period from 2007 to 2018, chosen according to data availability.

Several industries were analyzed in the current research, namely food products, beverages and tobacco (Model 1), animal and vegetable oils (Model 2), machinery and equipment (Model 3), and manufactured articles (Model 4). A total of two equations were specified for each sector, the first treating Imports as the dependent variable, and the second treating Exports as the dependent variable.

In order to proceed with the linear panel regression analysis, it was essential to find out if the series were stationary or not. For this purpose, unit-root tests were done. All the variables, except the LPI, were balanced. Hence, the Levin-Lin-Chu test was applied to them. For the LPI as the unbalanced variable, a Fisher-type test was performed (see Tables 1 and 2).

In order to investigate which regression model was the most appropriate, the Hausman test was employed. According to the results, Model 1 (with both Imports and Exports) was a random-effect model (the p-value of the Hausman test was greater than 0.05). In Model 2, with Imports as the dependent

Table 1 The Levin-Lin-Chu test for the balanced data

Levin-Lin-Chu	Statistic	p-value
Imports (Model 1a)		
Unadjusted t	-4.7e+02	
Adjusted t*	-5.1e+02	0.0000
Experts (Model 1b)		
Unadjusted t	-11.9537	
Adjusted t*	-12.6719	0.0000
Imports (Model 2a)		
Unadjusted t	-55.3840	
Adjusted t*	-59.0548	0.0000
Exports (Model 2a)		
Unadjusted t	-71.3149	
Adjusted t*	-76.8496	0.0000
Imports (Model 3a)		
Unadjusted t	-11.1458	
Adjusted t*	-9.3150	0.0000
Exports (Model 3b)		
Unadjusted t	-21.1893	
Adjusted t*	-19.1276	0.0000
Imports (Model 4a)		
Unadjusted t	-7.0556	
Adjusted t*	-6.8331	0.0000
Exports (Model 4b)		
Unadjusted t	-10.9853	
Adjusted t*	-10.4654	0.0000
FDI		
Unadjusted t	-53.1264	
Adjusted t*	-56.4578	0.0000
IVA		
Unadjusted t	-14.9617	
Adjusted t*	-14.0692	0.0000

Source: Authors

Table 2 The Fisher-type test for the unbalanced data

Fisher-type test	Statistic	p-value
LPI		
Inverse chi-squared(76) P	191.7282	0.0000
Inverse normal	-6.1776	0.0000
Inverse logit t(194) L*	-7.200	0.0000
Modified inv. Chi-squared Pm	9.3868	0.0000

Notes: As all the p-values equal 0, the series are stationary, which means that panel regression (fixed-effect or random-effect) could be conducted.

Source: Authors

variable, the model is fixed-effect (p-value < 0.05); with Exports as the dependent variable, the model is random-effect (p-value > 0.05). In the case of Model 3, with Imports as the dependent variable, the model is random-effect (p-value > 0.05), whereas with Exports as the dependent variable, the model is fixed-effect (p-value < 0.05). The last Model 4, with Imports as the dependent variable, the model is random-effect (p-value > 0.05), whereas with Exports as the dependent variable, the model is fixed-effect (p-value < 0.05). The theoretical models are presented in Table 3.

RESULTS AND DISCUSSION

Based on the selected methodology, it was possible to identify the influence of the degree of logistics performance on the four specific sectors. First, the export results are presented, according to the previously defined models. Table 2 shows the statistical significance of the LPI in all the selected industries, whereas in Models 1 and 2, the LPI is significant at the 0.05 level. Regarding the magnitude of the coefficient, it was found that logistics performance made the greatest contribution to stimulating exports in Model 1 and Model 4 (see Table 4).

The results show that logistics is an essential factor for export promotion. However, some R^2 are relatively low; still, a decision was made to interpret these models as, according to W. Jianlong, S. H. Jaaman and H. B. Samsudin (2015), the ability of R^2 to interpret information was not supported by the empirical research. Logistics performance is of the utmost importance in food and beverage exports. This evidence is consistent with the previous research in the importance of transport efficiency and logistics activities for perishable goods with a limited shelf life and sensitive transport times and conditions (Djankov *et al*, 2010; Hummels & Schaur, 2013; Illahi & Mir, 2021), including demand for a short supply chain in the food industry (Paciarotti & Torregiani, 2021). These products, especially the export of foods, require high-quality logistics support and timely delivery. The efficiency of administrative and customs authorities, an appropriate infrastructure for efficient

Table 3 The research models

Industry	Definition
Food products, beverages and tobacco	Model 1a: $Import_{it} = \alpha + \beta_1 LPI1_{it} + \beta_2 FDI_{2it} + \beta_3 IVA_{3it} + u_{it} + \epsilon_i$, Model 1b: $Export_{it} = \alpha + \beta_4 LPI4_{it} + \beta_5 FDI_{5it} + \beta_6 IVA_{6it} + u_{it} + \epsilon_i$, where: α- the intercept $\beta_1, \beta_2, \ldots, \beta_6$ - the coefficients to be estimated for the independent variables u_{it} - the idiosyncratic error term for the entity *i* at the time *t* ϵ_i - the random error term
Animal and vegetable oils	Model 2a: $Import_{it} = \alpha + \beta_7 LPI_{7it} + \beta_8 FDI_{8it} + \beta_9 IVA_{9it} + u_{it}$, where: α - the intercept for the entity *i* $\beta_7, \beta_8, \beta_9$ - the coefficients to be estimated for the independent variables u_{it} - the idiosyncratic error term for the entity *i* at the time *t* Model 2b: $Export_{it} = \alpha + \beta_{10} LPI_{10it} + \beta_{11} FDI_{11it} + \beta_{12} IVA_{12it} + u_{it} + \epsilon_i$, where: α - the intercept $\beta_{10}, \beta_{11}, \beta_{12}$ - the coefficients to be estimated for the independent variables u_{it} - the idiosyncratic error term for the entity *i* at the time *t* ϵ_i - the random error term
Machinery and equipment	Model 3a: $Import_{it} = \alpha + \beta_{13} LPI_{13it} + \beta_{14} FDI_{14it} + \beta_{15} IVA_{15it} + u_{it} + \epsilon_i$, where: α - the intercept $\beta_{13}, \beta_{14}, \beta_{15}$ - the coefficients to be estimated for the independent variables u_{it} - the idiosyncratic error term for the entity *i* at the time *t* ϵ_i - the random error term Model 3b: $Export_{it} = \alpha + \beta_{16} LPI_{16it} + \beta_{17} FDI_{17it} + \beta_{18} IVA_{18it} + u_{it}$, where: α - the intercept for the entity *i* $\beta_{16}, \beta_{17}, \beta_{18}$ - the coefficients to be estimated for the independent variables u_{it} - the idiosyncratic error term for the entity *i* at the time *t*
Manufactured articles	Model 4a: $Import_{it} = \alpha + \beta_{19} LPI_{19it} + \beta_{20} FDI_{20it} + \beta_{21} IVA_{21it} + u_{it} + \epsilon_i$, where: α - the intercept $\beta_{19}, \beta_{20}, \beta_{21}$ - the coefficients to be estimated for the independent variables u_{it} - the idiosyncratic error term for the entity i at the time *t* ϵ_i - the random error term Model 4b: $Export_{it} = \alpha + \beta_{22} LPI_{22it} + \beta_{23} FDI_{23it} + \beta_{24} IVA_{24it} + u_{it}$, where: α- the intercept for the entity *i* $\beta_{22}, \beta_{23}, \beta_{24}$ - the coefficients to be estimated for the independent variables u_{it} - the idiosyncratic error term for the entity *i* at the time *t*

Source: Authors

transport, and a high-quality and competent logistics providers are indispensable.

Also, industrial products record the highest value of the coefficient. The complexity of modern industrial production, trade within the GVC, and increased requirements in the field of delivery impose a special requirement on logistics when the promotion of the processing industry exports are concerned. The results are built on earlier evidence on the impact of logistics on the product processing stage (Zaninović *et al*, 2021), which favors a higher logistics

requirement for intermediate goods. They are more sensitive to trade than capital or consumption goods. The complexity of production requires constant connections between different phases in different locations, which places logistics at the center of these activities. In this sense, logistics can be considered a production factor, especially within Industry 4.0 requirements (Angreani *et al*, 2020).

Model 2 and Model 3, which include the products classified as animal and vegetable oils and machinery and equipment also show dependence on logistics performance. These products often have special requirements in terms of logistics activities, where meeting specific conditions in this field enables trade of any kind (Sarabi & Darestani, 2021; Dempster *et al*, 2022). The smaller volume and frequency of the export of these products in the observed countries can justify the lower coefficients. In this way, in addition to delivery time, the frequency of trade can be highlighted as an important determinant in terms of the logistics intensity of certain industries and product groups. If exports are more frequent and complex, and with higher delivery requirements, logistics will make a stronger contribution.

Table 2 shows the effects logistics has on imports for the selected industries. At first, it can be seen that, in all the observed models, the LPI coefficient shows higher values for imports than for exports, which is indicative of a more significant contribution of logistics to imports than to exports (see Table 5).

The greater impact of logistics on the imports side is opposite to the previous evidence, which highlights that logistics performance is more important for exporting than for importing countries (Martí, Puertas & García, 2014; Gani, 2017; Töngür *et al*, 2020). On the other hand, P. A. Zaninović and F. Ž. Bugarčić (2023) conclude that the logistics performance of the partner country plays a more critical role than the logistics performance of the reporting country. This

Table 4 The Impact of the LPI on the industry-level exports

Variables	Food products, beverages and tobacco (Model 1a)	Animal and vegetable oils (Model 2a)	Machinery and equipment (Model 3a)	Manufactured articles (Model 4a)
LPI	5.13**	3.47**	1.59*	5.57*
FDI	-5.22**	-3221486**	-7.01	-6.17**
IVA	200141.1***		4844.129	
R^2	48.88	13.5	18.62	21.15
Number of obs.	225	225	193	225

Source: Authors

Table 5 The impact of the LPI on the industry-level imports

Variables	Food products, beverages and tobacco (Model 1b)	Animal and vegetable oils (Model 2b)	Machinery and equipment (Model 3b)	Manufactured articles (Model 4b)
LPI	9.23**	3.59*	1.26*	8.10*
FDI	-3.09	-5933987***	-7.44	-7.04
IVA	253597.6***		-31463.21	
R^2	62.25	15.89	27.09	16.46
Number of obs.	225	225	193	225

Source: Authors

circumstance can be attributed to the perspective of the investigation, since previous studies have focused on the total volume of countries' exports and imports. At the same time, the results are presented for separate industries. Another problem is the selection of the countries to which the OECD countries import to a great extent, especially production components and industrial products of lower processing stages. The presented results, again with the most substantial impact of the LPI in Model 1 and Model 4, reveal the high importance of logistics in efficient imports, in which regard it can be stated that a national logistics system is necessary for imports, as well as for the domestic industry and the national economy to function efficiently, particularly in the context of modern global supply chains (GSC).

CONCLUSION

The growing importance of logistics and its impact on global trade flows has created an imperative for further research in this area. The previous research presented in the Literature Review emphasizes the role of logistics performance as a significant factor in trade facilitation, especially in modern GSCs. This evidence imposes the need for acquiring further knowledge of its contribution to specific industries. Assuming the different needs of individual industries and product groups depending on their specific requirements for logistics operations and preconditions within the logistics system, the paper fills the gap in the literature pertaining to a lack of evidence on the impact of these activities on exports and imports at this level. The effects of these operations have not been observed at the individual industry level yet.

Based on the presented results, obtained through the panel analysis with secondary data, it is possible to draw lessons regarding the importance of logistics performance in individual industries for the first time. The evidence presented in this paper indicates the vital role of logistics across all the observed product groups, especially in the processing industry, manufactured goods, and the food and beverage sector. This underscores the importance of timeliness and efficiency of delivery, which are critical in the modern business environment, particularly in international trade. Additionally, a greater significance of logistics performance for imports was identified, highlighting the need for more efficient procurement due to the increased fragmentation of production activities at the international level, which provides an answer to the research question.

This paper highlights several implications. Theoretically, the importance of logistics advantages in the industries with a strong impact of the LPI on exports and imports is confirmed. Thus, the improvement of the logistics system and related activities contributes to the promotion of international trade, particularly in the industries with special requirements related to delivery, either due to the limited shelf life of products or due to requirements for the inputs needed for further manufacturing processes. Such a concept in the field of theory emphasizes the importance of the activities of international logistics when trade promotion, both exports and imports, is concerned.

With regard to practical implications, they can be grouped in two ways: those intended for the creators of the economic or trade policy, and for those directly concerning the operations of companies in certain industries. The knowledge of the impact of logistics performance in the observed industries and their differences provides policymakers with a basis for formulating a strategy within the logistics system to facilitate trade in those industries in which the economy has a strategic interest. In this way, the direct targeting of the strategy for improving logistics performance will contribute most to the economies relying on the exports or imports of products from the processing industry, including food, beverages, and tobacco. As for individual companies, the assessment of their success in a specific sector must depend on the logistics environment, due to the particular requirements of specific industries in the logistics field. The companies that operate in the identified logistics-intensive industries will undoubtedly tend to improve those operations and base their business on more robust support from the components of this system.

The limitations of this research study reflect in data availability, given that the LPI limits the number of the years of observation. On the other hand, due to the availability of the data on exports and imports at the industry level, it was impossible to use the latest data for 2023. Also, due to the limited data at the country level, the study had to opt for a sample including the OECD countries. Future research can undoubtedly overcome these shortcomings through a more extended period of observation and a larger number of countries, simultaneously identifying differences arising from the development level. Using FDI as the control variable in the analysis can lead to endogeneity issues, since it can indirectly affect trade through investments in infrastructure and integration into global supply chains. Therefore, there is a risk of reverse causality and omitted variables. However, considering that this is the first paper to analyze the impact of logistics performance at the industry level, future research could include more variables, use different methods, including more industries at the 2-digit level, and use different classifications and product groups for analysis.

REFERENCES

Abu Al-Foul, B., & Soliman, M. (2008). Foreign direct investment and LDC exports: Evidence from the MENA region. *Emerging Markets Finance & Trade*, *44*(2), 4-14. https://doi.org/10.2753/REE1540-496X440201

Angreani, L. S., Vijaya, A., & Wicaksono, H. (2020). Systematic literature review of industry 4.0 maturity model for manufacturing and logistics sectors. *Procedia Manufacturing*, *52*, 337-343. https://doi.org/10.1016/j.promfg.2020.11.056

Arvis, J. F., Ojala, L., Shepherd, B., Ulybina, D., & Wiederer, C. (2023). *Connecting to compete 2023: Trade logistics in an uncertain global economy-The logistics performance index and its indicators*. Washington, DC: World Bank Group. https://dx.doi.org/10.1596/39760

Bayar, G., Ünal, M., & Tokpunar, S. (2015). Determinants of Turkish exports to European Union countries: A sectoral panel data analysis. *Emerging Markets Finance and Trade*, *51*(6), 1307-1325. https://doi.org/10.1080/1540496X.2015.1011506

Beck, T. (2002). Financial development and international trade: Is there a link? *Journal of International Economics*, *57*(1), 107-131. https://doi.org/10.1016/S0022-1996(01)00131-3

Blyde, J., & Molina, D. (2015). Logistic infrastructure and the international location of fragmented production. *Journal of International Economics*, *95*(2), 319-332. https://doi.org/10.1016/j.jinteco.2014.11.010

Bugarčić, F. Ž., Mićić, V., & Stanišić, N. (2023). The role of logistics in economic growth and global competitiveness. *Zbornik Radova Ekonomski Fakultet u Rijeci*, *41*(2), 499-520. https://doi.org/10.18045/zbefri.2023.2.499

Bugarčić, F. Ž., & Skvarciany, V. (2024). Logistics influence on FDI: 'Hard' versus 'soft' infrastructure components. *European Journal of International Management*, *24*(3-4), 590-608. https://doi.org/10.1504/EJIM.2024.141645

Ceglowski, J. (2017). Assessing export competitiveness through the lens of value added. *The World Economy*, *40*(2), 275-296. https://doi.org/10.1111/twec.12362

Çelebi, D. (2019). The role of logistics performance in promoting trade. *Maritime Economics & Logistics*, *21*, 307-323. https://doi.org/10.1057/s41278-017-0094-4

Dempster, M. A., Pedron, N. H., Medova, E. A., Scott, J. E., & Sembos, A. (2022). Planning logistics operations in the oil industry. In M. A. H. Dempster & K. Tang (Eds.), *Commodities: Fundamental theory of futures, forwards, and derivatives pricing* (pp. 73-100). Abingdon, UK: Taylor & Francis. https://doi.org/10.1201/9781003265399

Djankov, S., Freund, C., & Pham, C. S. (2010). Trading on time. *The Review of Economics and Statistics*, *92*(1), 166-173. https://doi.org/10.1162/rest.2009.11498

Ekici, Ş. Ö., Kabak, Ö., & Ülengin, F. (2016). Linking to compete: Logistics and global competitiveness interaction. *Transport Policy*, *48*, 117-128. https://doi.org/10.1016/j.tranpol.2016.01.015

Gani, A. (2017). The logistics performance effect in international trade. *The Asian Journal of Shipping and Logistics*, *33*(4), 279-288. https://doi.org/10.1016/j.ajsl.2017.12.012

Gur, N. (2013). Does financial integration increase exports? Evidence from international industry-level data. *Emerging Markets Finance and Trade*, *49*(sup5), 112-129. https://doi.org/10.2753/REE1540-496X4905S507

Huma, S., Ahmed, W., Ikram, M., & Khawaja, M. I. (2020). The effect of logistics service quality on customer loyalty: case of logistics service industry. *South Asian Journal of Business Studies*, *9*(1), 43-61. https://doi.org/10.1108/SAJBS-10-2018-0114

Hummels, D. L., & Schaur, G. (2013). Time as a trade barrier. *American Economic Review*, *103*(7), 2935-2959. https://doi.org/10.1257/aer.103.7.2935

Illahi, U., & Mir, M. S. (2021). Maintaining efficient logistics and supply chain management operations during and after coronavirus (COVID-19) pandemic: Learning from the past experiences. *Environment, Development and Sustainability*, *23*, 11157-11178. https://doi.org/10.1007/s10668-020-01115-z

Jianlong, W., Jaaman, S. H., & Samsudin, H. B. (2015). R-squared measurement in multifactor pricing model. In A. A. Razak, N. A. R. Nik Mohd, & S. M. Tahir (Eds.), *AIP Conference Proceedings: Vol. 1678. International Conference on Mathematical Sciences and Statistics 2014 (ICMSS 2014)* (Article 050020). New York, USA: AIP Publishing. https://doi.org/10.1063/1.4931328

Kiba-Janiak, M., Cheba, K., Mucowska, M., & de Oliveira, L. K. (2022). Segmentation of e-customers in terms of sustainable last-mile delivery. *Oeconomia Copernicana*, *13*(4), 1117-1142. https://doi.org/10.24136/oc.2022.032

Luttermann, S., Kotzab, H., & Halaszovich, T. (2020) The impact of logistics performance on exports, imports and foreign direct investment. *World Review of Intermodal Transportation Research*, 9(1), 47-62. https://doi.org/10.1504/WRITR.2020.106444

Martí, L., Puertas, R., & García, L. (2014). The importance of the logistics performance index in international trade. *Applied Economics*, *46*(24), 2982-2992. https://doi.org/10.1080/00036846.2014.916394

Nazlioglu, S. (2013). Exchange rate volatility and Turkish industry-level export: Panel cointegration analysis. *The Journal of International Trade & Economic Development*, *22*(7), 1088-1107. https://doi.org/10.1080/09638199.2012.660978

Ojala, L., Arvis, J. F., Shepherd, B., Wiederer, C., Raj, A., Dairabayeva, K., & Kiiski, T. (2018). *Connecting to compete 2018: Trade logistics in the global economy*. Washington, DC: World Bank Group. https://doi.org/10.1596/29971

Paciarotti, C., & Torregiani, F. (2021). The logistics of the short food supply chain: A literature review. *Sustainable Production and Consumption*, *26*, 428-442. https://doi.org/10.1016/j.spc.2020.10.002

Sarabi, E. P., & Darestani, S. A. (2021). Developing a decision support system for logistics service provider selection employing fuzzy MULTIMOORA & BWM in mining equipment manufacturing. *Applied Soft Computing*, *98*, 106849. https://doi.org/10.1016/j.asoc.2020.106849

Saslavsky, D., & Shepherd, B. (2014). Facilitating international production networks: The role of trade logistics. *The Journal of International Trade & Economic Development*, *23*(7), 979-999. https://doi.org/10.1080/09638199.2013.811534

Töngür, Ü., Türkcan, K., & Ekmen-Özçelik, S. (2020). Logistics performance and export variety: Evidence from Turkey. *Central Bank Review*, *20*(3), 143-154. https://doi.org/10.1016/j.cbrev.2020.04.002

Wang, L., Zhang, B., Xie, R., & Su, B. (2020). The drivers of export value-added in China's provinces: A multi-regional input-output model. *Applied Economics*, *52*(57), 6199-6214. https://doi.org/10.1080/00036846.2020.1787322

World Trade Organization (WTO). (2021). Logistics services critical for trade and economic development. Retrieved from: https://www.wto.org/english/news_e/news21_e/ddgag_18oct21_e.htm

Yilmazkuday, H. (2021). Drivers of global trade: A product-level investigation. *International Economic Journal*, *35*(4), 469-485. https://doi.org/10.1080/10168737.2021.1983631

Zaninović, P. A., & Bugarčić, F. Ž. (2023). The effects of international logistics in global value chain trade. *Journal of Business Economics and Management*, *24*(5), 841-856. https://doi.org/10.3846/jbem.2023.20443

Zaninović, P. A., Zaninović, V., & Pavlić Skender, H. (2021). The effects of logistics performance on international trade: EU15 vs CEMS. *Economic Research-Ekonomska Istraživanja*, *34*(1), 1566-1582. https://doi.org/10.1080/1331677X.2020.1844582

Received on 3rd February 2025,
after revision,
accepted for publication on 25th September 2025.
Published online on 24th April 2026.

Filip Ž. Bugarčić holds a PhD in Economics and works as a research associate at the Faculty of Economics, University of Kragujevac. He completed a postdoctoral fellowship at the University of Graz, and his research interests include international trade, logistics, and industrial development.

Viktorija Skvarciany holds a PhD in Economics and works as a senior researcher at EKA University of Applied Sciences (Republic of Latvia). Her research interests include circular economy, digital economy, and efficiency research.

LOGISTIKA KAO POKRETAČ MEĐUNARODNE TRGOVINE: ANALIZA NA NIVOU INDUSTRIJE

Filip Ž. Bugarčić[1] and Viktorija Skvarciany[2]

[1] *University of Kragujevac, Faculty of Economics, Republic of Serbia*
[2] *EKA University of Applied Sciences, Republic of Latvia*

Rast globalne trgovine tokom poslednjih nekoliko decenija, kao i sve aktivnije uključivanje zemalja u trgovinske tokove i lance snabdevanja, istakli su logistiku kao jedan od najvažnijih faktora koji olakšavaju međunarodnu trgovinu. Međutim, postavlja se pitanje ko ima najviše koristi od logistike. Cilj rada je da ispita doprinos logistike unapređenju izvoza i uvoza u odabranim industrijama u OECD zemljama, kao i da proceni i uporedi značaj logističkih performansi u zavisnosti od specifičnosti sektora i karakteristika proizvoda. Za procenu uticaja logistike na međunarodnu trgovinu korišćeno je panel regresiono modeliranje. Rezultati ukazuju na značajan uticaj logistike na međunarodnu trgovinu na nivou industrije. Takođe, nalazi pokazuju poseban doprinos logistike podsticanju trgovine industrijskim proizvodima i robom osetljivom na vreme isporuke, pri čemu je njen uticaj izraženiji na uvoz. Ovi rezultati naglašavaju poseban značaj logističkog sistema i povezanih operacija u identifikovanim sektorima.

Ključne reči: logističke performanse, trgovina na nivou industrije, grupa proizvoda, izvoz, uvoz

JEL Classification: F13, F14, L52, L9

Ekonomski horizonti, Januar - April 2026, Volumen 28, Sveska 1, 31 - 46
UDC: 33 ISSN: 1450-863 X
© Ekonomski fakultet Univerziteta u Kragujevcu
www. ekfak.kg.ac.rs

Izvorni naučni članak
UDK: 005.96-057.16
doi:10.5937/ekonhor2601031B

ODNOS BRENDA POSLODAVCA I NAMERE ZAPOSLENIH DA OSTANU U ORGANIZACIJAMA

Nemanja Berber*, Agneš Slavić i Dimitrije Gašić

Univerzitet u Novom Sadu, Ekonomski fakultet u Subotici, Republika Srbija

Kompanije koje karakteriše nedostatak radne snage bore se da privuku, motivišu i zadrže talente. Brend poslodavca jedan je od pristupa koji kompanije razvijaju kako bi kreirale vrednosnu ponudu za zaposlene i održale svoju radnu snagu. Mnogi zaposleni donose odluku da ostanu ili napuste kompaniju na osnovu celokupnog sistema upravljanja ljudskim resursima koji kompanija nudi. Glavni cilj ovog rada bio je da ispita odnos percipiranog brenda poslodavca i namere zaposlenih da ostanu u organizaciji. Istraživanje je sprovedeno na uzorku od 209 zaposlenih u Republici Srbiji. Metodologija istraživanja obuhvatala je teorijsko i empirijsko kvantitativno istraživanje predložene veze. Analitički postupak korišćen u radu bio je PLS-SEM. Rezultati su pokazali pozitivnu vezu između posmatranih varijabli i ukazali na zaključak da pozitivna percepcija brenda poslodavca vodi ka većoj nameri zaposlenih da ostanu u organizaciji. Najjači efekat na nameru ostanka imao je zdrav radni ambijent, zatim obuka i razvoj, ravnoteža posla i privatnog života, etika i društvena odgovornost, i na kraju, kompenzacije i beneficije.

Ključne reči: brend poslodavca, namera ostanka, upravljanje ljudskim resursima, PLS-SEM

JEL Classification: J24, M12, M54

UVOD

U savremenom visokokonkurentnom poslovnom okruženju, kompanije koje karakteriše nedostatak radne snage bore se da privuku, motivišu i zadrže talente (Poór, Slavić, Nikolić & Berber, 2021). Brend poslodavca, kao kombinacija funkcionalnih, ekonomskih i psiholoških benefita koje pruža zaposlenje (Ambler & Barrow, 1996), predstavlja jedan od pristupa koji kompanije razvijaju kako bi kreirale vrednosnu ponudu za zaposlene i održale svoju radnu snagu. Mnogi zaposleni odlučuju da ostanu ili napuste kompaniju na osnovu celokupnog sistema upravljanja ljudskim resursima koji organizacija nudi.

Brend predstavlja „vredne nematerijalne resurse i jedan od najvažnijih resursa koji pruža niz benefita i stoga ga je potrebno konstantno graditi i pažljivo upravljati njime" (Brzaković, Brzaković & Brzaković, 2019, 17). Implementacija različitih tehnika brendiranja u upravljanju ljudskim resursima (HRM) relativno je nov fenomen (Slavković & Mirić, 2024a). Brend poslodavca se shvata kao efikasna strategija za „privlačenje i zadržavanje kvalifikovanih pojedinaca

* *Korespondencija:* N. Berber, Univerzitet u Novom Sadu, Ekonomski fakultet u Subotici, Srbija, Segedinski put 9-11, 24000 Subotica, Serbia; e-mail: nemanja.berber@ef.uns.ac.rs

i diferencijaciju kompanije od konkurenata na tržištu rada. Razvoj brenda poslodavca ima za cilj izgradnju dugoročnih i održivih odnosa sa zaposlenima" (Slavković & Ognjanović, 2024, 25-26).

Iz gore navedene definicije jasno je da brend poslodavca privlači sve više pažnje, kako akademske zajednice, tako i poslovnog sektora. Istraživači nastoje da ispitaju efekte brendiranja poslodavca na više ishoda i stavova zaposlenih, uključujući produktivnost, profitabilnost i slične faktore. S druge strane, poslovni sektor teži razvoju specifičnog brenda koji će privući, motivisati i zadržati radnu snagu. Zbog toga je važno istražiti brend poslodavca, posebno u kontekstu poslovnog okruženja Republike Srbije (RS), gde je primetan nedavni razvoj akademskih empirijskih istraživanja u ovoj oblasti. Takođe, postoji ograničen broj istraživanja o tome kako zaposleni percipiraju brend poslodavca u svojim organizacijama (Kanwal & Van Hoye, 2024).

Istraživački rezultati mogu poslužiti kao preporuka kompanijama o tome kako kreirati brend poslodavca i koje HRM prakse su potrebne za uspešno brendiranje poslodavca. Budući da se tvrdi da brend poslodavca može povećati privlačnost i zadržavanje zaposlenih, a da postoji ograničen broj istraživanja o percepciji zaposlenih prema brendu poslodavca, glavni cilj ovog rada bio je da ispita odnos percipiranog brenda poslodavca i namere zaposlenih da ostanu u organizaciji. Istraživanje je sprovedeno na uzorku od 209 zaposlenih u RS. Metodologija istraživanja sastojala se iz teorijskog i empirijskog kvantitativno istraživanja predložene veze. Analitički postupak korišćen u radu bio je PLS-SEM. Iako su do sada sprovedena razna istraživanja o odnosu brenda poslodavca i namere da se ostane (ili namera da se ode) u Srbiji, većina njih je koristila brend poslodavca kao jedinstveni konstrukt (Pavlović & Slavković, 2024), ili više pojedinačnih konstrukata (organizaciona kultura, obuka i sl.) (Slavković & Mirić, 2024b), a ne kao formativni konstrukt drugog reda. Primenom ovog pristupa, ova studija nastoji da popuni ovu prazninu u postojećoj literaturi u Srbiji.

Struktura rada obuhvata četiri sekcije. Prvi deo predstavlja glavni teorijski okvir o brendiranju poslodavca i odnosima sa namerama zaposlenih da ostanu u organizaciji. Drugi deo posvećen je objašnjenju metodologije istraživanja. Treći deo sadrži analizu podataka i diskusiju, dok četvrti deo predstavlja zaključak sa empirijskim implikacijama, predlozima za buduća istraživanja i ograničenjima istraživanja.

PREGLED LITERATURE I RAZVOJ HIPOTEZA

Brend poslodavca

Pojam brenda poslodavca nije nov, jer su prve definicije nastale još devedesetih godina prošlog veka. Danas postaje sve značajniji način na koji kompanije mogu ojačati odnose i lojalnost zaposlenih prema poslodavcu. „Brendiranje poslodavca se definiše kao proces sagledavanja slike organizacije kao pogodnog mesta za rad. Ova slika se prenosi potencijalnim (spoljnim) i postojećim (unutrašnjim) zaposlenima kako bi privukla, angažovala i zadržala najtalentovanije zaposlene u organizaciji" (Poonam, 2019, 669). Takođe, „predstavlja skup napora kompanije da sadašnjim i budućim zaposlenima predstavi da je atraktivno mesto za rad" (Lloyd, 2002). Prema istraživanju T. Ambler i S. Barrow (1996) moguće je posmatrati zaposlene kao potrošače, što sugeriše da kompanije, baš kao što grade brendove kako bi privukle kupce, treba da kreiraju atraktivne brendove poslodavca radi privlačenja i zadržavanja talenata. Ova početna definicija postavila je osnovu za rastući značaj brendiranja poslodavca kao strateškog dela upravljanja ljudskim resursima i ukupnog upravljanja talentima. Pojam brenda poslodavca ukazuje na „diferencijaciju karakteristika kompanije kao poslodavca u odnosu na konkurente" (Backhaus & Tikko, 2004, 502). Danas brendiranje poslodavca kombinuje više oblasti, pre svega marketing i upravljanje ljudskim resursima (Cvjetković & Babić, 2023).

Brendiranje poslodavca može se objasniti u kontekstu teorije socijalne razmene (SET). Prema SET-u, zaposleni svojim ponašanjem i stavovima uzvraćaju na organizacione politike i prakse. Ova

teorija sugeriše da interakcija između dve strane podrazumeva uzajamnu zavisnost (Blau, 1964). „Organizacije pokreću proces socijalne razmene vrednujući doprinos zaposlenih i brinući o njihovoj dobrobiti. Na taj način, zaposleni odgovaraju odgovarajućim ponašanjima" (Meira & Hancer, 2021, 670). Osnovna pretpostavka SET-a je da „pozitivne i korisne akcije organizacije prema zaposlenima doprinose uspostavljanju visokokvalitetnih odnosa razmene, koji stvaraju obavezu zaposlenih da uzvrate na pozitivan i koristan način. Prema teoriji, zaposleni će uzvratiti tako što će razviti pozitivniji stav (posvećenost, angažovanost, nameru da ostanu) prema radnom mestu kada su izloženi poželjnim HR praksama i povoljnom radnom okruženju" (Berber & Gašić, 2024, 723-724).

Mnogi autori su istraživali koje su prednosti dobrog brenda poslodavca. Najznačajnije koristi koje donosi brendiranje poslodavca su (Virijević Jovanović & Zdravković, 2014):

- povećanje produktivnosti i profitabilnosti,
- veća lojalnost zaposlenih,
- povećana stopa zadržavanja zaposlenih,
- zaposlenima posvećenim organizacionim ciljevima,
- nizak rizik od odlaska talentovanih zaposlenih,
- pozicioniranje kompanije kao atraktivnog poslodavca,
- niži troškovi zapošljavanja,
- zaposlenima koji preporučuju kompaniju kao poželjnog poslodavca,
- jačanje ključnih kompetencija,
- obezbeđena dugoročna konkurentnost,
- dobri međuljudski odnosi u kompaniji.

Interni faktori atraktivnosti poslodavca uključuju (Slavić & Berber, 2022):

- aktivnosti regrutacije,
- stabilnost kompanije,
- ravnotežu između poslovnog i privatnog života i sigurnost posla,
- sistem nagrađivanja,
- inovativnost kompanije i kompetencije zaposlenih,
- obuke i razvoj,
- zdravo radno okruženje,
- adekvatnu zaradu,
- sadržajne poslove,
- dobar odnos sa nadređenima,
- dobru saradnju sa kolegama,
- prakse upravljanja talentima.

Tri različite perspektive dominiraju u literaturi o brendiranju poslodavca: „spoljna perspektiva (percepcije eksternih lica), unutrašnja perspektiva (percepcije zaposlenih) i konstruisana imidž perspektiva (percepcija internih aktera o stavovima eksternih lica)" (De Stobbeleir, De Clippeleer, Caniëls, Goedertier, Deprez, De Vos & Buyens, 2018, 4). Dve osnovne perspektive su interna (usmerena ka zaposlenima) i eksterna (usmerena ka kandidatima) (Charbonnier-Voirin & Vignolles, 2015). Interno brendiranje uključuje preporuke trenutnih zaposlenih kao način privlačenja novih kandidata. Pored navedenih internih faktora, važno je naglasiti i značaj samog posla i karakteristika dizajna posla (Kerekes *et al*, 2023). Spoljno brendiranje podrazumeva širenje informacija o kompaniji na tržištu talenata, putem interneta i drugih medija. Bez internog brendiranja zasnovanog na pozitivnim iskustvima zaposlenih, spoljno brendiranje brzo gubi na značaju i investicije neće doneti očekivane rezultate. Izgradnja brenda je dvosmeran proces koji uključuje i sadašnje i buduće zaposlene. Brend poslodavca se „komunicira interno trenutnim zaposlenima i eksterno potencijalnim kandidatima" (Kuráth, Szabó-Bálint & Jarjabka, 2021, 12). Dok kompanija nastoji da kreira reputaciju koja će privući talentovane pojedince, mora da ispuni poslovne standarde, stvori povoljnu klimu i izgradi poštovanje i poverenje među zaposlenima kako bi osigurala interno brendiranje. Proces brendiranja poslodavca treba da omogući zaposlenima da postanu ambasadori korporativnog brenda koji privlače nove talente i uspostavljaju dugoročne odnose sa potrošačima (Slavić & Berber, 2022).

Brend poslodavca i namera ostanka zaposlenih u organizaciji

Savremena istraživanja sve više ispituju odnos između brendiranja poslodavca i zadržavanja zaposlenih, ističući različite medijatorske i moderatorske faktore koji utiču na nameru zaposlenih da ostanu u organizaciji. Značajan deo literature sugeriše da jak brend poslodavca pozitivno korelira sa zadržavanjem zaposlenih kroz povećanje zadovoljstva poslom, organizacione posvećenosti i percipirane organizacione podrške.

Nekoliko prethodnih istraživanja analiziralo je odnose brendiranja poslodavaca i namere zaposlenih da ostanu ili napuste kompanije u uslužnim sektorima. D. Alzaid i S. Dukhaykh (2023) ističu da snažan brend poslodavca može poboljšati zadržavanje zaposlenih u bankarskom sektoru Saudijske Arabije kroz jačanje relacijskih psiholoških ugovora. Nalazi istraživanja pokazuju da je brend poslodavca pozitivno i značajno povezan sa relacijskim psihološkim ugovorima i zadržavanjem zaposlenih. Ovu tvrdnju potvrđuju i A. Rai i B. Nandy (2021), koji su utvrdili da organizaciona identifikacija i usklađenost zaposlenog sa organizacijom posreduju u odnosu brenda poslodavca i namere zaposlenih da ostanu u indijskom energetskom sektoru. Pored toga, S. Bharadwaj i M. Yameen (2020) i N. Khan, S. Bharadwaj, A. Khatoon i M. Jamal (2021) naglašavaju ulogu korporativne društvene odgovornosti (CSR) kao dimenzije brenda poslodavca koja značajno povećava stope zadržavanja. Kada organizacija kontinuirano ispunjava očekivane benefite svojih postojećih zaposlenih kroz svoj brend poslodavca, zaposleni obično pokazuju veću lojalnost, što na kraju dovodi do zadržavanja i namere da ostanu u kompaniji (Alshathry, Clarke & Goodman, 2017; Chopra, Sahoo & Patel, 2024).

A. Ahmad, M. N. Khan i M. A. Haque (2020) istraživali su ulogu brenda poslodavca u povećanju privlačnosti i zadržavanja zaposlenih u indijskom bankarskom sektoru. Istraživanje je obuhvatilo zaposlene iz privatnih i državnih banaka, a konačni uzorak činilo je 75 validnih odgovora. Nalazi ističu da atributi brenda poslodavca, kao što su etičko ponašanje, doprinos zajednici i mogućnosti za razvoj karijere snažno utiču i na privlačenje i na zadržavanje zaposlenih. Suprotno tome, istraživanje S. Sahu, A. Pathardikar i A. Kumar (2018) ispitivalo je posredničke efekte angažovanosti zaposlenih, brenda poslodavca i psihološke povezanosti na odnos između transformacionog liderstva i namere da se napusti organizacija kod indijskih IT profesionalaca. Rezultati su pokazali da transformaciono liderstvo značajno predviđa angažovanost zaposlenih i, zajedno sa njom, objašnjava značajan deo varijanse brenda poslodavca. Brend poslodavca snažno je uticao na psihološku povezanost, ali ni angažovanost ni brend nisu imali značajan direktan efekat na nameru da se napusti organizacija. Analiza posredovanja pokazala je da nijedna od pretpostavljenih medijacija ka nameri za napuštanje posla nije bila podržana.

A. Kar i T. Nguyen Thi Phuong (2022) sproveli su empirijsko istraživanje kako bi ispitali kako različite dimenzije brenda poslodavca utiču na namere za napuštanje posla kod zaposlenih u hotelijerstvu u Vijetnamu tokom pandemije COVID-19. Koristeći strukturisani upitnik, anketirali su 200 zaposlenih i podatke analizirali pomoću modelovanja strukturnih jednačina (SEM). Istraživanje je merilo šest vrednosti brenda poslodavca - ekonomske, socijalne, razvojne, sigurnosne, vrednosti primene i interesovanja - preuzetih iz postojećih okvira atraktivnosti poslodavaca. Rezultati su pokazali da ekonomske, socijalne, razvojne i sigurnosne vrednosti imaju značajan negativan efekat na nameru napuštanja posla, dok vrednosti koje se odnose na primenu veština i interesatno radno mesto nisu bile značajni prediktori. Rezultati ukazuju da u kriznim uslovima zaposleni više cene materijalne nagrade, razvoj karijere, odnose na radnom mestu i stabilnost posla nego prilike da primenjuju veštine ili rade zanimljiv posao.

H. M. Nguyen i L. V. Nguyen (2023) ispitivali su međusobne odnose između atraktivnosti poslodavca, angažovanosti zaposlenih i radnog učinka u proizvodnim i uslužnim organizacijama u Vijetnamu. Kvantitativnim istraživanjem obuhvaćeno je 937 zaposlenih iz 37 kompanija. Rezultati su pokazali da atraktivnost poslodavca, merena sličnim konstruktima kao kod A. Kar i T. Nguyen Thi Phuong

(2022), značajno i pozitivno utiče na angažovanost zaposlenih, koja zatim ima snažan pozitivan efekat na radni učinak.

Pored toga, generacijski kontekst igra ključnu ulogu u oblikovanju dinamike brenda poslodavca i zadržavanja. E. Hendriana, A. Christoper, H. Zain i N. Pricilia (2023) posebno su ispitivali generaciju Z i utvrdili da ravnoteža između posla i privatnog života i brend poslodavca imaju presudnu ulogu u oblikovanju njihove namere da ostanu u organizaciji. Ovo je u skladu sa nalazima I. Gracita i R. Anindita (2023), koji pokazuje da organizaciona posvećenost posreduje odnos između brenda poslodavca i namere za napuštanje posla, sugerišući da prilagođene strategije brenda poslodavca mogu efikasno odgovoriti na specifične potrebe različitih generacijskih grupa. H. Kanwal i G. Van Hoye (2024) pokazali su da je brend poslodavca vredan resurs za podsticanje organizacione identifikacije zaposlenih, dok veća organizaciona identifikacija smanjuje fluktuaciju zaposlenih (Bharadwaj, Khan & Yameen, 2022).

Pored ovih faktora, uloga interne komunikacije i angažovanosti zaposlenih istaknuta je kao ključna komponenta brenda poslodavca. A. Špoljarić i A. Tkalac Verčić (2021) tvrde da zadovoljstvo internom komunikacijom značajno utiče na angažovanost zaposlenih i percepciju brenda poslodavca, što je od suštinske važnosti za zadržavanje zaposlenih. Ovo mišljenje podržavaju M. Bussin i H. Mouton (2019), koji su utvrdili da efikasan brend poslodavca ne samo da poboljšava zadržavanje, već i utiče na očekivanja u vezi sa kompenzacijom, sugerišući da su zaposleni skloniji da ostanu u organizacijama koje doživljavaju kao one koje cene njihov doprinos. A. Tkalac Verčič (2021) je istraživala kako angažovanost zaposlenih, percipirana organizaciona podrška i brend poslodavca utiču na zadovoljstvo internom komunikacijom u organizacijama. Korišćen je kvantitativni, transverzalni dizajn istraživanja, a podaci su prikupljeni od 2024 zaposlena u Sloveniji, u različitim industrijama, što čini jedan od najvećih nacionalnih uzoraka u ovoj oblasti. Rezultati su pokazali da angažovanost zaposlenih ima najjači pozitivan efekat na zadovoljstvo internom komunikacijom, zatim percipirana organizaciona podrška, a potom brend poslodavca. Brend poslodavca ne samo da direktno poboljšava zadovoljstvo komunikacijom, već i indirektno, kroz svoj uticaj na angažovanost. Ovo istraživanje obogaćuje literaturu o brendu poslodavca time što ga pozicionira kao ključni faktor zadovoljstva internom komunikacijom, uz angažovanost i organizacionu podršku, u kontekstu Centralne Evrope. Slično tome, N. Pološki Vokić, A. Tkalac Verčić i D. Sinčić Ćorić (2023) sproveli su istraživanje na uzorku od 3457 zaposlenih u Hrvatskoj. Ispitivali su odnos zadovoljstva internom komunikacijom i atraktivnosti poslodavca. Rezultati su pokazali da postoji pozitivna veza između navedenih konstrukata, te da dobra interna komunikacija doprinosi atraktivnosti poslodavca.

Brend poslodavca i zadržavanje zaposlenih u Srbiji

Ekonomski pejzaž Srbije, koji se razvija i karakteriše tranzicijom ka konkurentnijem tržištu rada, podigao je strateški značaj brenda poslodavca kao alata za privlačenje i zadržavanje talenata. Gallup (2025) je utvrdio da u Srbiji 33% zaposlenih aktivno traži nove poslovne angažmane, iako su već zaposleni. Ovaj pokazatelj je definisan kao namera napuštanja organizacije („U kojoj meri trenutno tražite drugi posao od onog koji sada imate? Da li aktivno tražite drugi posao, pratite prilike ali ne tražite aktivno, ili ne tražite posao?“). Lokalna istraživanja naglašavaju da izgradnja snažnog brenda poslodavca podrazumeva ne samo upravljanje eksternom reputacijom, već i interne dimenzije poput organizacione kulture, obuka i razvoja, te zadovoljstva zaposlenih, pri čemu svi ovi faktori utiču na odluku zaposlenih da ostanu ili napuste organizaciju.

Raniji rad M. Slavkovića, G. Pavlovića i M. Simić (2018) dodatno produbljuje ovo shvatanje, ispitujući kako se prakse zapošljavanja prepliću sa brendom poslodavca u oblikovanju zadovoljstva zaposlenih. Istraživanje je pokazalo da proces regrutacije pozitivno utiče na zadovoljstvo zaposlenih, dok brend poslodavca ima posredničku ulogu između procesa regrutacije i nivoa zadovoljstva, čime se potvrđuje da brend poslodavca ima i stratešku i proceduralnu dimenziju.

M. Slavković i M. Mirić (2024b) sproveli su istraživanje u 128 kompanija u Srbiji, primenjujući PLS-SEM metod za ispitivanje uticaja različitih elemenata brenda poslodavca na zadržavanje zaposlenih. Rezultati su pokazali da zadovoljstvo poslom delimično posreduje između organizacione kulture i zadržavanja zaposlenih, potpuno posreduje između obuke i razvoja i zadržavanja, te delimično posreduje između reputacije poslodavca i zadržavanja zaposlenih. Nalazi sugerišu da, iako su povoljne strategije brendiranja poslodavca ključne, stvarni ishodi u pogledu zadržavanja u velikoj meri zavise od percipiranog zadovoljstva zaposlenih. U sličnom istraživanju, usmerenom na afektivnu posvećenost, M. Slavković i M. Mirić (2024a) anketirali su 146 preduzeća u Srbiji. Rezultati su pokazali da afektivna posvećenost, shvaćena kao emocionalna vezanost zaposlenih za organizaciju, delimično posreduje u odnosu vrednosti brenda poslodavca (kao što su organizaciona kultura, obuka i razvoj, te reputacija) i zadovoljstva poslom. Ovo ukazuje na to da emocionalna dimenzija radnog iskustva značajno utiče na način na koji se brend poslodavca prevodi u ishode zadržavanja zaposlenih.

Drugi autori u Srbiji ukazuju na rastući značaj brenda poslodavca u „ratu za talente". T. Krušković, B. Ilić i S. Anđelić (2023) ističu brend poslodavca kao ključni motivacioni mehanizam za privlačenje i zadržavanje zaposlenih, naročito u konkurentnim sektorima. J. Lukić, M. Brkljač i K. Perčić (2019) utvrdili su da su međuljudski odnosi i radna atmosfera (75,5%), korektan tretman zaposlenih od strane menadžmenta (69,4%) i mogućnosti za profesionalni razvoj (68,7%) najznačajnije prakse za jačanje lojalnosti zaposlenih. Na četvrtom i petom mestu nalaze se sigurnost zaposlenja i visina plate i bonusa.

Može se zaključiti da empirijska istraživanja u Srbiji dosledno ukazuju na to da je brend poslodavca najučinkovitiji kada je duboko ugrađen u unutrašnju strukturu organizacije. Organizaciona kultura, mogućnosti za razvoj, reputacija, prakse zapošljavanja, zadovoljstvo poslom i afektivna posvećenost međusobno deluju na složen način u oblikovanju namere zaposlenih da ostanu u organizaciji.

Na osnovu pregleda literature i teorijskog okvira brenda poslodavca, zaključujemo da je brend poslodavca ključni strateški instrument za unapređenje zadržavanja zaposlenih. Međudejstvo faktora kao što su organizaciona identifikacija, zadovoljstvo poslom, generacijske karakteristike i interna komunikacija naglašava složenost ovog odnosa. Organizacije koje na delotvoran način koriste svoj brend poslodavca mogu podstaći veću posvećenost zaposlenih, što u krajnjem ishodu dovodi do boljih rezultata u pogledu zadržavanja. Brend poslodavca se sastoji od različitih konstitutivnih elemenata, koji se odnose na radno okruženje, ekonomsku vrednost (kompenzaciju), razvoj karijere, korporativnu društvenu odgovornost i dr. U skladu s tim, formulisali smo našu istraživačku hipotezu:

H1: Brend poslodavca pozitivno je povezan sa namerom zaposlenih da ostanu u kompaniji.

METODOLOGIJA

Ovo poglavlje predstavlja informacije o uzorku i varijablama korišćenim u analizi, kao i o obradi podataka.

Uzorak

Prikupljanje podataka obavljeno je elektronskim upitnikom u decembru 2023. godine, putem društvene mreže *LinkedIn*. Primenjen je prigodni uzorak, ciljajući najlakše dostupne pojedince za istraživanje. Poslato je 300 upitnika. Nakon završetka prikupljanja podataka, utvrđeno je da je prikupljeno 227 odgovora. Nakon procesa pročišćavanja podataka, konačan uzorak smanjen je na 209 validnih odgovora koji su korišćeni u analizi. Kako bi se smanjila pristrasnost neodgovaranja, autori su preduzeli mere za povećanje stope odgovora, ističući anonimnost i naglašavajući akademsko sponzorstvo i značaj istraživanja (Berber & Gašić, 2024). Stopu odgovora iznosila je 69,67%. Iako je uzorak relativno mali, primenom pravila „deset puta više" (Hair, Risher, Sarstedt & Ringle, 2019), prema kojem uzorak treba da bude najmanje deset puta veći od broja strukturnih putanja između

varijabli, utvrđeno je da je uzorak pogodan za dalju analizu.

U uzorku od 209 ispitanika koji rade u privatnom sektoru usluga u IT industriji, 36% su činili muškarci, dok je 64% bilo žena. Najveći udeo ispitanika imao je između 25 i 30 godina (19,2%), zatim između 31 i 35 godina (18,3%), 36-40 godina (18,3%), 41-45 godina (10,6%), dok je veoma mali procenat ispitanika imao 55 i više godina (9,6%), 51-55 godina (9,6%), 18-24 godine (8,2%) i između 46 i 50 godina (6,3%). Kada je reč o nivou obrazovanja, evidentno je da je većina ispitanika završila srednju školu (54,8%), dok je 23,1% završilo fakultet, 10,1% master studije, a 12% ispitanika imalo je višu školu. Većina ispitanika imala je između 5 i 10 godina radnog iskustva (74%), dok je samo 26% imalo manje od 5 godina iskustva. Takođe, većina ispitanika bila je na nemanažerskim pozicijama (74%), dok je 26% njih izjavilo da rade na određenim rukovodećim pozicijama.

Upitnik i varijable

Upitnik je razvijen na osnovu prethodnih istraživanja u ovoj oblasti. Upitnik je bio podeljen u tri dela. Prvi deo sadržao je pitanja o demografskom profilu ispitanika. Drugi deo upitnika uključivao je pitanja u vezi sa brendom poslodavca. Korišćen je upitnik prilagođen iz istraživanja K. Tanwar i A. Prasad (2017). Upitnik se sastojao od 23 pitanja koja se odnose na 5 dimenzija merenja brenda poslodavca. Šest pitanja odnosilo se na zdravu radnu atmosferu (HWA), poput: „moja organizacija pruža zaposlenima autonomiju u donošenju odluka“, „moja organizacija nudi radno okruženje sa relativno malo stresa“ ili „moja organizacija pruža mogućnosti da se uživa u timskoj atmosferi“. Šest pitanja odnosilo se na obuku i razvoj (TD), poput: „moja organizacija nam pruža onlajn kurseve obuke“, „moja organizacija nudi prilike za rad na stranim projektima“ ili „moja organizacija jasno komunicira put napredovanja za svoje zaposlene“. Tri pitanja odnosila su se na ravnotežu između poslovnog i privatnog života (WLB), poput: „moja organizacija pruža fleksibilno radno vreme“ ili „moja organizacija nudi mogućnost rada od kuće“. Četiri pitanja odnosila su se na etiku i korporativnu društvenu odgovornost (ETH), poput: „moja organizacija ima fer odnos prema zaposlenima“ ili „postoji poverljiva procedura za prijavu nepravilnosti na poslu“. Poslednja četiri pitanja odnosila su se na kompenzacije i beneficije (CB), poput: „moja organizacija pruža dobre zdravstvene beneficije“ ili „uopšteno, plata koju nudi moja organizacija je visoka“. Više aritmetičke sredine ukazuju na to da ispitanici imaju pozitivnije mišljenje o tim praksama. Treći deo upitnika sadržao je prilagođena pitanja o nameri ostanka (IS) u kompaniji (Daly & Dee, 2006), kako bi se utvrdila povezanost sa brendom poslodavca. To su pitanja poput „ni pod kojim okolnostima neću dobrovoljno napustiti ovu organiazaciju pre penzionisanja”, „ne bih voleo da napustim ovu organizaciju”, ili „planiram da ostanem u ovoj organizaciji što je duže moguće”. Ispitanici su odgovarali na pitanja koristeći Likertovu skalu od 1 do 5 (1 = u potpunosti se ne slažem, 5 = u potpunosti se slažem). Za analizu podataka korišćeni su softveri *SPSS* i *SmartPLS*, primenom deskriptivne statistike i PLS-SEM analize.

REZULTATI I DISKUSIJA

Autori su sproveli analizu putanja kako bi istražili reflektivne i formativne konstrukte i koristili *bootstrap* metodu za ispitivanje strukturnog modela. Analiza putanja korišćena je za testiranje mernog modela, kroz ispitivanje pouzdanosti indikatora i konstrukata, konvergentne i diskriminantne validnosti, dok je strukturni model testiran primenom *bootstrap* procedure na osnovu 5.000 poduzoraka (Berber & Gašić, 2024). Ovaj tip merenja predložen je za reflektivne konstrukte u modelu (Hair *et al*, 2019). Opterećenja indikatora između 0,4 i 0,7 trebalo bi zadržati samo ako njihovo uklanjanje ne utiče na prosečnu ekstraktovanu varijansu i kompozitnu pouzdanost (Hair, Sarstedt, Hopkins & Kuppelwieser, 2014). Autori su proverili spoljašnja opterećenja svih indikatora i utvrdili da su svi dostigli minimalni nivo od 0,70, te da svi mogu biti uključeni u dalju analizu (Tabela 1). Međutim, kasnija analiza VIF i unakrsnih opterećenja pokazala je da su indikatori CB1, CB4, SI2, ETH2, TD6 i TD3 imali visoke VIF vrednosti (iznad praga od 5,0) i bili visoko korelisani, te su stoga isključeni iz modela. Slika 1 sumira sve gore navedeno.

Tabela 1 Faktorska opterećenja

	Indicators	CB	ETH	HWA	IS	TD	WLB
CB	CB2	0,918					
	CB3	0,901					
ETH	ETH1		0,901				
	ETH3		0,863				
	ETH4		0,792				
HWA	HWA1			0,848			
	HWA2			0,915			
	HWA3			0,691			
	HWA4			0,872			
	HWA5			0,890			
	HWA6			0,845			
IS	SI1				0,833		
	SI3				0,804		
	SI4				0,860		
TD	TD1					0,822	
	TD2					0,942	
	TD4					0,931	
	TD5					0,916	
WLB	WLB1						0,908
	WLB2						0,928
	WLB3						0,923

Izvor: Autori

Formativni konstrukt u modelu testiran je putem spoljašnje težine i značajnosti kroz standardnu devijaciju, t-statistiku i p-vrednost. Takođe je sprovedena analiza multikolinearnosti pomoću faktora inflacije varijanse (VIF). Na osnovu vrednosti u Tabeli 4, zaključili smo da su svi koeficijenti putanja bili pozitivni i značajni (p-vrednosti <0,05), što znači da se konstrukt višeg reda, tj. brend poslodavca, sastojao od 5 varijabli. Analiza multikolinearnosti (common method bias) sprovedena je izračunavanjem faktora inflacije varijanse. N. Kock (2015) je naveo da, ukoliko su sve VIF vrednosti manje od 3,3, ne postoji problem multikolinearnosti. Na osnovu analize, zaključili smo da nije bilo multikolinearnosti između formativnih konstrukata, jer su vrednosti VIF bile manje od 3,3. Potvrdili smo da je formativni deo modela pouzdan i validan.

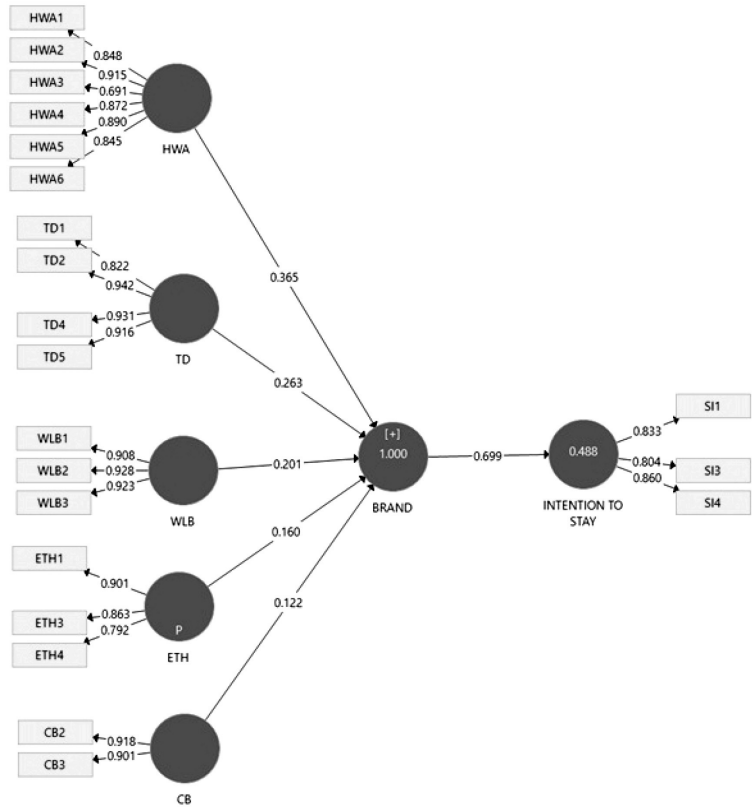
Tabela 2 prikazuje test pouzdanosti, Kronbahovu Alfu, kompozitnu pouzdanost i prosečnu izdvojenu varijansu (AVE). Najniža prihvatljiva granica Kronbahove Alfe treba da bude 0,6 (Dakduk, González & Portalanza, 2019). Najniža granica prihvatljivosti kompozitne pouzdanosti treba da bude 0,7 (Hair *et al*, 2019). Na osnovu podataka iz Tabele 2, autori su utvrdili da je konvergentna validnost zadovoljena, jer su konstrukti ispunili sve kriterijume.

Pored konvergentne validnosti, autori su takođe ispitali diskriminantnu validnost. Diskriminantna validnost je procenjena korišćenjem Fornell-Larcker kriterijuma. Prema Fornell-Larcker kriterijumu, koren AVE latentne varijable mora imati veću vrednost od svih korelacija sa drugim latentnim varijablama (Fornell & Larcker, 1981). Tabela 3 pokazuje da je diskriminantna validnost zadovoljena, jer je vrednost korena AVE na dijagonali bila veća od svih vrednosti ispod za svaku varijablu.

Tabela 2 Pouzdanost i konvergentna validnost

	Cronbach's Alpha	CR	AVE
CB	0,791	0,905	0,827
ETH	0,812	0,889	0,728
HWA	0,920	0,938	0,717
INTENTION TO STAY	0,782	0,872	0,693
TD	0,925	0,947	0,817
WLB	0,909	0,943	0,846

Izvor: Autori



Slika 1 Analiza puta

Izvor: Autori

Završni korak bio je analiza odnosa između nezavisne varijable (brend poslodavca) i zavisne varijable (namera ostanka). R^2 (koeficijent determinacije), kao statistička mera koja pokazuje procenat varijanse zavisne varijable objašnjen nezavisnom varijablom, pokazuje da je 48,8% varijanse namere ostanka objašnjeno brendom poslodavca u modelu. Kvalitet strukturalnog modela verifikovan je korišćenjem indeksa unakrsne validacije redundancije (Stone-Geisser-ov Q^2). Proračun je izvršen tehnikom *blindfolding*-a u Smart PLS-u. Obe Q^2 vrednosti (0,623 za brend poslodavca i 0,324 za nameru ostanka) nalaze se u pozitivnom opsegu, što ukazuje na visok kvalitet strukturalnog modela.

Rezultati prikazani u Tabeli 4 i na Slici 2 ukazuju na statistički značajnu vezu između brenda poslodavca i namere ostanka ($\beta = 0,699$; $t = 17,654$; $p = 0,000$).

Detaljnija analiza pokazala je koji element brenda poslodavca ima najjači uticaj na nameru ostanka. Prema podacima iz Tabele 4, najjači uticaj na nameru ostanka imao je zdrav radni ambijent ($\beta = 0,255$; $t = 15,928$; $p = 0,000$), zatim obuka i razvoj ($\beta = 0,184$; $t = 16,543$; $p = 0,000$), ravnoteža između privatnog i poslovnog života ($\beta = 0,140$; $t = 15,580$; $p = 0,000$), etika i korporativna društvena odgovornost ($\beta = 0,112$; $t = 12,254$; $p = 0,000$) i na kraju kompenzacija i beneficije ($\beta = 0,085$; $t = 14,024$; $p = 0,000$). Na osnovu pomenutog, potvrdili smo našu predloženu hipotezu H1.

Rezultati ukazuju na to da nematerijalni aspekti poput zdrave radne atmosfere i okruženja imaju snažniji uticaj na namere zadržavanja zaposlenih nego finansijski podsticaji, čime se potvrđuje strateški značaj holističkog pristupa brendiranju poslodavca. Ovi rezltati su u skladu sa ranijim istraživanjima

Tabela 3 Diskriminantna validnost (*Fornell-Larcker* kriterijum)

	CB	ETH	HWA	IS	TD	WLB
CB	0,909					
ETH	0,700	0,853				
HWA	0,619	0,802	0,847			
INTENTION TO STAY	0,560	0,614	0,699	0,833		
TD	0,740	0,740	0,793	0,595	0,904	
WLB	0,773	0,738	0,742	0,601	0,797	0,920

Izvor: Autori

Tabela 4 Formativni drugostepeni konstrukti i strukturalni model

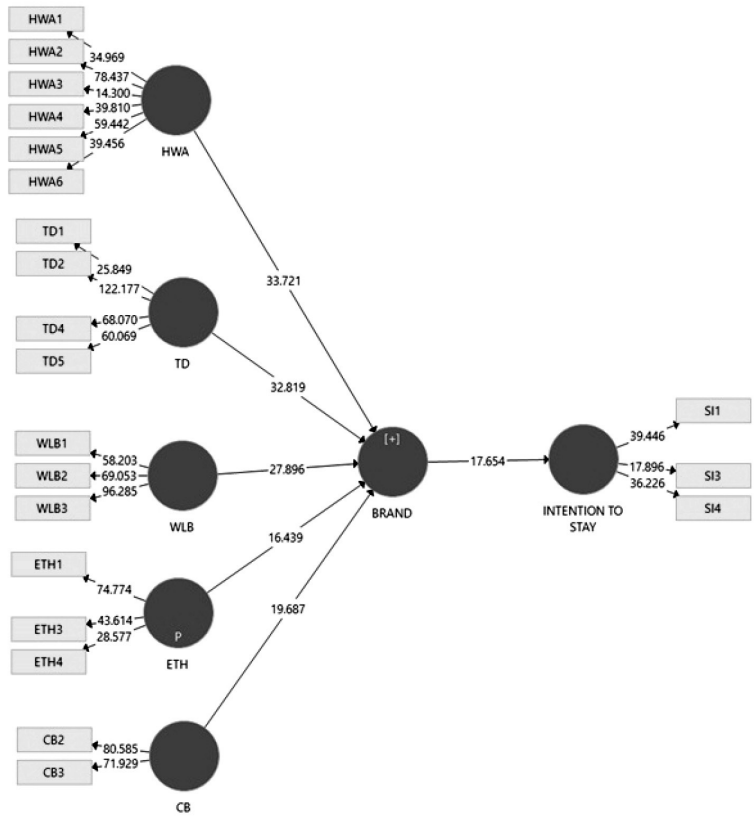
	β	St. dev.	t-statistika	p-vrednosti
Konstrukti drugog reda				
CB → BRAND	0,122	0,006	19,687	0,000
ETH → BRAND	0,160	0,010	16,439	0,000
HWA → BRAND	0,365	0,011	33,721	0,000
TD → BRAND	0,263	0,008	32,819	0,000
WLB → BRAND	0,201	0,007	27,896	0,000
Direktni i indirektni efekti				
BRAND → INTENTION TO STAY	0,699	0,040	17,654	0,000
CB → BRAND → INTENTION TO STAY	0,085	0,006	14,024	0,000
ETH → BRAND → INTENTION TO STAY	0,112	0,009	12,254	0,000
HWA → BRAND → INTENTION TO STAY	0,255	0,016	15,928	0,000
TD → BRAND → INTENTION TO STAY	0,184	0,011	16,543	0,000
WLB → BRAND → INTENTION TO STAY	0,140	0,009	15,580	0,000

Izvor: Autori

A. Rai i B. Nandy (2021) i D. Alzaid i S. Dukhaykh (2023), koji su istakli ulogu brenda poslodavca u jačanju relacijskih psiholoških ugovora i organizacione identifikacije, što dovodi do većeg zadržavanja zaposlenih. Visoka prediktivna vrednost zdrave radne atmosfere odražava značaj međuljudskih odnosa i zadovoljstva poslom, što je primećeno i u sektoru ugostiteljstva tokom kriznih uslova (Kar & Nguyen Thi Phuong, 2022), kao i u kontekstu faktora zadržavanja generacije Z (Hendriana *et al*, 2023). Značaj obuke i razvoja kao drugog najsnažnijeg faktora u skladu je sa rezultatima A. Ahmada *et al* (2020) i H . M. Nguyen i L. N. Nguyen (2023), koji su utvrdili da su mogućnosti za razvoj karijere centralne za atraktivnost poslodavca i angažovanost zaposlenih. Relativno manji, ali i dalje značajan efekat kompenzacije i beneficija odražava zapažanja M. Bussin i H. Mouton (2019) i J. Lukića *et al* (2019) da snažan brend poslodavca može ublažiti težinu finansijskih nagrada u odlukama o zadržavanju zaposlenih. Pored toga, utvrđena uloga etike i korporativne društvene odgovornosti (CSR) kao prediktora podržava zaključke S. Bharadwaj i M. Yameen (2020) i N. Khan *et al* (2021) da društvena odgovornost jača lojalnost i smanjuje fluktuaciju zaposlenih.

ZAKLJUČAK

Rezultati ovog istraživanja u skladu su sa prethodnim istraživanjima (Bharadwaj & Yameen, 2020; Khan *et al*, 2021; Alzaid & Dukhaykh, 2023), potkrepljujući tvrdnju da brend poslodavca ima značajnu ulogu u



Slika 2 *Bootstrapping* analiza

Izvor: Autori

zadržavanju zaposlenih. Naši rezultati potvrđuju da dobro percipiran brend poslodavca pozitivno utiče na nameru zaposlenih da ostanu u kompaniji, pri čemu je najvažniji faktor zdrav radni ambijent, zatim obuka i razvoj, ravnoteža između privatnog i poslovnog života, etika i korporativna društvena odgovornost i kompenzacija i beneficije. Brend poslodavca nije samo alat za privlačenje talenta, već strateški pristup HRM-u koji utiče na održivost organizacije. Usklađivanjem atributa brenda poslodavca sa očekivanjima i potrebama zaposlenih, kompanije mogu podstaći posvećenost radne snage, smanjiti stope fluktuacije i poboljšati ukupne poslovne rezultate. Organizacije koje investiraju u brend poslodavca kao trajni strateški prioritet, a ne kao jednokratnu inicijativu, biće bolje pozicionirane da zadrže vrhunski talenat i održe konkurentsku prednost na tržištu rada. Sveukupno, ovo istraživanje proširuje prethodna saznanja pružajući empirijske dokaze iz privatnog sektora usluga u Srbiji, ukazujući da, iako materijalni faktori ostaju relevantni, relacioni, razvojni i na vrednostima zasnovani atributi brenda poslodavca imaju veći uticaj na nameru zaposlenih da ostanu u organizaciji.

Sa teorijskog aspekta, ovo istraživanje doprinosi rastućoj bazi znanja o brendu poslodavca pružajući empirijske uvide u njegove efekte na zadržavanje zaposlenih u kontekstu poslovnog okruženja u Srbiji. Istraživanje smanjuje postojeću prazninu analizom kako zaposleni percipiraju atribute brenda poslodavca i kako te percepcije utiču na nameru ostanka. Još jedan teorijski doprinos ogleda se u tome što smo dokazali mogućnost implementacije formativnog konstrukta drugog reda brenda poslodavca u modelu sa

namerom zadržavanja zaposlenih. Rezultati dodatno potvrđuju primenu teorije socijalne razmene (SET) u objašnjavanju odnosa između brenda poslodavca i lojalnosti zaposlenih, potvrđujući da zaposleni uzvraćaju povoljne HR prakse povećanom lojalnošću i smanjenjem namera za napuštanje posla. Takođe, ovo istraživanje potvrđuje pouzdanost i validnost instrumenta za merenje koji je prethodno korišćen u različitim poslovnim sredinama, pokazujući njegovu primenjivost u Srbiji. Rezultati sugerišu da brend poslodavca nije samo alat za spoljašnji marketing, već i ključna interna HR strategija koja utiče na ključne organizacione rezultate, kao što su stabilnost radne snage i angažovanost.

Organizacije bi trebalo da prioritizuju kreiranje zdravog radnog ambijenta podsticanjem podržavajuće i inkluzivne kulture na radnom mestu, gde zaposleni osećaju da su cenjeni i poštovani. Otvorena komunikacija, participativno donošenje odluka i podržavajuće liderstvo ključni su za izgradnju pozitivnog radnog okruženja. Takođe, implementacija programa blagostanja koji se fokusiraju na mentalno i fizičko zdravlje, kao što su radionice za upravljanje stresom i fleksibilni radni aranžmani, od ključne je važnosti. Investiranje u kontinuirane mogućnosti učenja, programe za razvoj karijere i mentorske inicijative trebalo bi da bude u centru HR strategija, obezbeđujući jasnu profesionalnu progresiju i unapređenje veština koje se usklađuju sa aspiracijama zaposlenih i poslovnim potrebama. Podsticanje cjeloživotnog učenja putem digitalnih platformi i sertifikacionih programa može značajno poboljšati angažman i posvećenost zaposlenih. Unapređenje ravnoteže između privatnog i poslovnog života kroz fleksibilne radne aranžmane, kao što su rad od kuće, hibridni modeli i skraćeni radni tjedni, uz politike koje podržavaju roditeljski dopust, brigu o deci i lično vreme, može poboljšati ukupno zadovoljstvo poslom, naročito među mlađim zaposlenima. Promovisanje kulture koja stavlja akcenat na učinak, a ne na dužinu radnih sati, pomaže u smanjenju stresa i povećava zadržavanje. Jačanje etike i korporativne društvene odgovornosti (CSR) kroz integraciju etičkih poslovnih praksi u strategiju kompanije, obezbeđivanje transparentnosti, pravičnosti i integriteta u donošenju odluka, i aktivno uključivanje zaposlenih u CSR aktivnosti može poboljšati reputaciju organizacije i podsticati osećaj svrhe. Na kraju, razvoj konkurentnih i fer kompenzacija i beneficija putem redovnog tržišnog poređenja, pružanje personalizovanih beneficija kao što su podsticaji na osnovu učinka, paketi dobrobiti i programi prepoznavanja, kao i uspostavljanje transparentnih i pravičnih sistema plate mogu smanjiti fluktuaciju zaposlenih i izgraditi poverenje unutar radne snage.

Iako studija doprinosi oblastima menadžmenta ljudskih resursa i brenda poslodavca, postoji nekoliko ograničenja koje treba istaći. Veličina uzorka, iako dovoljna za PLS-SEM analizu, mogla bi biti proširena kako bi se obezbedila veća mogućnost generalizacije kroz različite industrije i demografske grupe. Buduća istraživanja treba da istraže potencijalne moderirajuće efekte demografskih varijabli kao što su starost, pol, nivo obrazovanja i menadžerski status na odnos *employer branding*-a i namera za ostanak. Takođe, buduće longitudinalne studije se preporučuju kako bi se ispitali dugoročni efekti *employer branding*-a na zadržavanje i druge zaposlene ishodne varijable. Istraživanje industrijski specifičnih strategija employer branding-a i njihovog uticaja na organizacioni učinak moglo bi pružiti dodatne praktične uvide. Kvalitativne metode istraživanja, kao što su dubinski intervjui ili fokus grupe, mogle bi dopuniti kvantitativne nalaze pružajući bogatije uvide u percepciju i iskustva zaposlenih u vezi sa brendom poslodavca.

REFERENCE

Ahmad, A., Khan, M. N., & Haque, M. A. (2020). Employer branding aids in enhancing employee attraction and retention. *Journal of Asia-Pacific Business*, *21*(1), 27-38. https://doi.org/10.1080/10599231.2020.1708231

Alshathry, S., Clarke, M., & Goodman, S. (2017). The role of employer brand equity in employee attraction and retention: a unified framework. *International Journal of Organizational Analysis*, *25*(3), 413-431. https://doi.org/10.1108/IJOA-05-2016-1025

Alzaid, D., & Dukhaykh, S. (2023). Employer branding and employee retention in the banking sector in Saudi Arabia: Mediating effect of relational psychological contracts. *Sustainability, 15*(7), 6115. https://doi.org/10.3390/su15076115

Ambler, T., & Barrow, S. (1996). The employer brand. *Journal of Brand Management*, 4, 185-206. https://doi.org/10.1057/bm.1996.42

Backhaus, K., & Tikoo, S. (2004). Conceptualizing and researching employer branding. *Career Development International, 9*(5), 501-517. https://doi.org/10.1108/13620430410550754

Berber, N., & Gašić, D. (2024). The mediating role of employee commitment in the relationship between compensation system and turnover intentions. *Employee Relations, 46*(4), 721-755. https://doi.org/10.1108/ER-05-2023-0270

Bharadwaj, S., & Yameen, M. (2020). Analyzing the mediating effect of organizational identification on the relationship between CSR employer branding and employee retention. *Management Research Review, 44*(5), 718-737. https://doi.org/10.1108/mrr-05-2020-0298

Bharadwaj, S., Khan, N. A., & Yameen, M. (2022). Unbundling employer branding, job satisfaction, organizational identification and employee retention: a sequential mediation analysis. *Asia-Pacific Journal of Business Administration, 14*(3), 309-334. https://doi.org/10.1108/APJBA-08-2020-0279

Blau, P. M. (1964). *Exchange and Power in Social Life*. New York (NY): John Wiley & Sons.

Brzaković, A., Brzaković, T., & Brzaković, P. (2020). Izgradnja tržišne vrednosti brenda. *Anali Ekonomskog Fakulteta u Subotici, 55*(42), 17-32. https://doi.org/10.5937/AnEkSub1942017B

Bussin, M., & Mouton, H. (2019). Effectiveness of employer branding on staff retention and compensation expectations. *South African Journal of Economic and Management Sciences, 22*(1). https://doi.org/10.4102/sajems.v22i1.2412

Charbonnier-Voirin, A., & Vignolles, A. (2015). Internal and external employer brand. A literature review and a research agenda. *Revue Française de Gestion, 41*(246), 63-82.

Chopra, A., Sahoo, C. K., & Patel, G. (2024). Exploring the relationship between employer branding and talent retention: the mediation effect of employee engagement. *International Journal of Organizational Analysis, 32*(4), 702-720. https://doi.org/10.1108/IJOA-02-2023-3638

Cvjetković, M., & Babić, T. (2023). The influence of employer brand dimensions on the affective organizational commitment of employees in small and medium-sized enterprises. In M. Sarfraz, & W. Ul Hassan Shah (Eds.), *Organizational Culture-Cultural Change and Technology*. IntechOpen. https://doi.org/10.5772/intechopen.112133

Dakduk, S., González, Á., & Portalanza, A. (2019). *Learn About Structural Equation Modeling in SmartPLS With Data From the Customer Behavior in Electronic Commerce Study in Ecuador (2017)*. SAGE Publications, Limited. https://doi.org/10.4135/9781526498205

Daly, C. J., & Dee, J. R. (2006). Greener pastures: Faculty turnover intent in urban public universities. *The Journal of Higher Education, 77*(5), 776-803. https://doi.org/10.1080/00221546.2006.11778944

De Stobbeleir, K. E., De Clippeleer, I., Caniëls, M. C., Goedertier, F., Deprez, J., De Vos, A., & Buyens, D. (2018). The inside effects of a strong external employer brand: How external perceptions can influence organizational absenteeism rates. *The International Journal of Human Resource Management, 29*(13), 2106-2136. https://doi.org/10.1080/09585192.2016.1239120

Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research, 18*(1), 39-50. https://doi.org/10.1177/002224378101800104

Gallup. (2025). *State of the Global Workplace: Understanding Employees, Informing Leaders. Report*. Washington: Gallup. Retrieved from: https://www.gallup.com/workplace/349484/state-of-the-global-workplace.aspx

Gracita, I., & Anindita, R. (2023). The impact of employer branding on turnover intention in pharmaceutical industries: does generation matter? *Media Ekonomi Dan Manajemen, 38*(2), 285. https://doi.org/10.56444/mem.v38i2.3700

Hair, J. F., Sarstedt, M., Hopkins, L., & Kuppelwieser, V. G. (2014). Partial least squares structural equation modeling (PLS-SEM). *European Business Review, 26*(2), 106-121 https://doi.org/10.1108/EBR-10-2013-0128

Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. *European Business Review, 31*(1), 2-24. https://doi.org/10.1108/EBR-11-2018-0203

Hendriana, E., Christoper, A., Zain, H., & Pricilia, N. (2023). The role of employer branding in work-life balance and employee retention relationship among generation Z workers: Mediation or moderation? *Journal of Theory and Applied Management, 16*(1), 124-143. https://doi.org/10.20473/jmtt.v16i1.41703

Kanwal, H., & Van Hoye, G. (2024). Beyond employer brand content: The role of employer brand process attributes in understanding employees' reactions toward their employer. *Human Resource Management, 63*(1), 67-86. https://doi.org/10.1002/hrm.22187

Kar, A., & Nguyen Thi Phuong, T. (2023). Investigating the influences of employer branding attributes on turnover intentions of hospitality workforce in the COVID-19 in Vietnam. *Journal of Hospitality and Tourism Insights, 6*(5), 2173-2198. https://doi.org/10.1108/JHTI-05-2022-0211

Kerekes, K., Zaharie, M. A., & Rațiu, P. I. (2023). The analysis of work characteristics leading to high job satisfaction in Romania. *Anali Ekonomskog Fakulteta u Subotici*, *59*(50), 3-17. https://doi.org/10.5937/AnEkSub2300027K

Khan, N., Bharadwaj, S., Khatoon, A., & Jamal, M. (2021). Assessing the nexus between employer branding and employee retention: Moderating role of organizational identification. *Management and Labour Studies, 46*(4), 379-398. https://doi.org/10.1177/0258042x211005330

Kock, N. (2015). Common method bias in PLS-SEM: A full collinearity assessment approach. *International Journal of e-Collaboration, 11*(4), 1-10. https://doi.org/10.4018/ijec.2015100101

Krušković, T., Ilić, B., & Anđelić, S. (2023). Attracting and retaining employees as a result of effective employer branding. *International Journal of Quality Research*, 17(4), 1195-1206. http://doi.org/10.24874/IJQR17.04-14

Kuráth, G., Szabó-Bálint, B., & Jarjabka, Á. (2021). Can a university's anniversary be used to strengthen employee engagement and improve the employer brand? *Perspectives: Policy and Practice in Higher Education*, *26*(1), 11-18. https://doi.org/10.1080/13603108.2021.1955033

Lloyd, S. (2002). Branding from the inside out. *Business Review Weekly, 24*(10), 64-66.

Lukić, J., Brkljač, M., & Perčić, K. (2019). Brendiranje poslodavaca u funkciji privlačenja i zadržavanja talenata koji pripadaju generaciji milenijalaca. *Marketing, 50*(2), 83-93. https://doi.org/10.5937/markt1902083l

Meira, J. V. D. S., & Hancer, M. (2021). Using the social exchange theory to explore the employee-organization relationship in the hospitality industry. *International Journal of Contemporary Hospitality Management, 33*(2), 670-692. https://doi.org/10.1108/IJCHM-06-2020-0538

Nguyen, H. M., & Nguyen, L. V. (2023). Employer attractiveness, employee engagement and employee performance. *International Journal of Productivity and Performance Management, 72*(10), 2859-2881. https://doi.org/10.1108/IJPPM-04-2021-0232

Pavlović, G., & Slavković, M. (2024). Does employer brand fuel job satisfaction? The role of intrinsic motivation. *BizInfo Blace, 15*(1), 11-18. https://doi.org/10.5937/bizinfo2401011P

Pološki Vokić, N., Tkalac Verčič, A., & Sinčić Ćorić, D. (2023). Strategic internal communication for effective internal employer branding. *Baltic Journal of Management, 18*(1), 19-33. https://doi.org/10.1108/BJM-02-2022-0070

Poonam, P. D. (2019). The history and importance of employer branding. *International Journal of Management, Technology and Engineering, 9*(1), 669-678.

Poór, J., Slavić, A., Nikolić, M., & Berber, N. (2021). The managerial implications of the labor market and workplace shortage in Central Eastern Europe. *Strategic Management*, *26*(2), 31-41. https://doi.org/10.5937/StraMan2102031P

Rai, A., & Nandy, B. (2021). Employer brand to leverage employees' intention to stay through sequential mediation model: evidence from indian power sector. *International Journal of Energy Sector Management, 15*(3), 551-565. https://doi.org/10.1108/ijesm-10-2019-0024

Sahu, S., Pathardikar, A., & Kumar, A. (2018). Transformational leadership and turnover: Mediating effects of employee engagement, employer branding, and psychological attachment. *Leadership & Organization Development Journal, 39*(1), 82-99. https://doi.org/10.1108/LODJ-12-2014-0243

Slavić, A., & Berber, N. (2022). *Upravljanje talentima: Teorija i praksa*. Subotica: Ekonomski fakultet u Subotici.

Slavković, M., & Mirić, M. (2024a). Do employees benefit from employer branding strategy: The mediator role of affective commitment. *Strategic Management*, *29*(2), 32-47. https://doi.org/10.5937/StraMan2300051S

Slavković, M., & Mirić, M. (2024b). Does employer branding retain employees? Job satisfaction as a mediator. *Teme, 48*(1), 113-130. https://doi.org/10.22190/TEME230227006S

Slavković, M., & Ognjanović, J. (2024). Employer brand and business performance: The Role of Intellectual Capital. *Inzinerine Ekonomika-Engineering Economics, 35*(1), 25-44. https://doi.org/10.5755/j01.ee.35.1.30565

Slavković, M., Pavlović, G., & Simić, M. (2018). Employee recruitment and its relationship with employee satisfaction: Verifying the mediating role of the employer brand. *Economic Horizons, 20*(2), 125-137. https://doi.org/10.5937/ekonhor1802127S

Špoljarić, A., & Tkalac Verčić, A. (2021). Internal communication satisfaction and employee engagement as determinants of the employer brand. *Journal of Communication Management, 26*(1), 130-148. https://doi.org/10.1108/jcom-01-2021-0011

Tanwar, K., & Prasad, A. (2017). Employer brand scale development and validation: A second-order factor approach. *Personnel Review, 46*(2), 389-409. https://doi.org/10.1108/PR-03-2015-0065

Tkalac Verčič, A. (2021). The impact of employee engagement, organisational support and employer branding on internal communication satisfaction. *Public Relations Review, 47*(1), 102009. https://doi.org/10.1016/j.pubrev.2021.102009

Virijević Jovanović, S., & Zdravković J. (2014). *Značaj brendiranja poslodavca za menadžment ljudskih resursa.* HR konferencija: Upravljanje kvalitetom ljudskih resursa - savremeni trendovi, Beograd, 264-270.

Primljeno 6. februara 2025.
nakon revizije,
prihvaćeno za publikovanje 25. septembra 2026.
Elektronska verzija objavljena 24. aprila 2026.

Nemanja Berber je vanredni profesor Ekonomskog fakulteta u Subotici, Univerziteta u Novom Sadu. Njegova uža oblast interesovanja je razvoj prakse upravljanja ljudskim resursima u Centralno-istočnoj Evropi. Gostujući je profesor na Tehničkom univerzitetu u Ulm u Nemačkoj i na Univerzitetu Kipra, na Kipru.

Agneš Slavić je redovni profesor Ekonomskog fakulteta u Subotici, Univerziteta u Novom Sadu. Njena uža oblast interesovanja je razvoj prakse upravljanja ljudskim resursima u Centralno-istočnoj Evropi.

Dimitrije Gašić je docent na Ekonomskom fakultetu u Subotici, Univerziteta u Novom Sadu. Podržava rad srpskog tima u okviru CRANET mreže naučnih institucija, koja istražuje prakse menadžmenta ljudskih resursa širom sveta, i član je European Marketing and Management Association (EUMMAS).

THE RELATIONSHIP BETWEEN EMPLOYER BRAND AND INTENTIONS TO STAY IN ORGANIZATIONS

Nemanja Berber, Agneš Slavić and Dimitrije Gašić

University of Novi Sad, Faculty of Economics in Subotica, Republic of Serbia

In the modern highly competitive business environment, companies characterized by labor shortage are struggling to attract, motivate, and retain talents. As a mix of functional, economic, and psychological benefits that stem from employment, employer brand is one of the approaches that companies develop to create employee value proposition and maintain their workforce. Many employees decide to stay in or leave a company based on the whole human resource management system that a company offers. This paper mainly aims to investigate the relationship between the perceived employer brand and employees' intention to stay in an organization. The research is based on a sample of 209 employees working in Serbia. The research methodology consists of the theoretical and empirical quantitative research in the proposed relationship. The analytical procedure used is PLS-SEM. The results show a positive relationship between the observed variables and points to the conclusion that a positive perception of employer brand leads to employees' higher intention to stay in an organization. The strongest effect on intention to stay was made by a healthy working atmosphere, followed by training and development, work-life balance, ethics and corporate social responsibility, and finally, compensation and benefits.

Keywords: employer brand, intention to stay, HRM, PLS-SEM

JEL Classification: J24, M12, M54

Ekonomski horizonti, Januar - April 2026, Volumen 28, Sveska 1, 47 - 64
UDC: 33 ISSN: 1450-863 X
© Ekonomski fakultet Univerziteta u Kragujevcu
www. ekfak.kg.ac.rs

Izvorni naučni članak
UDK: 502:657(497.11)
doi:10.5937/ekonhor2601047J

IDENTIFIKOVANJE, MERENJE I EVIDENCIJA EKOLOŠKIH TROŠKOVA: SLUČAJ KOMPANIJA U SRBIJI

Dejan Jovanović[1*], Milan Čupić[1], Ivana Medved[2] i Jelena Poljašević[3]

[1]*Univerzitet u Kragujevcu, Ekonomski fakultet, Kragujevac, Republika Srbija*
[2]*Univerzitet u Novom Sadu, Ekonomski fakultet u Subotici, Republika Srbija*
[3]*Univerzitet u Banjoj Luci, Ekonomski fakultet, Banja Luka, Bosna i Hercegovina*

Polazeći od značaja pravilne identifikacije, alokacije i upravljanja troškovima, ali i činjenica da je za poslovanje kompanija, pored ekonomske dimenzije, važna i ekološka, kao i da je stepen integracije ekoloških aspekata u računovodstvene prakse nizak, cilj rada je da se ispita u kojoj meri su firme upoznate sa metodama obračuna ekoloških troškova i da li se praksa kompanija razlikuje u zavisnosti od primene ISO 14001 standarda. Istraživanje je sprovedeno na uzorku preduzeća koja su u obavezi da dostavljaju podatke Nacionalnom registru izvora zagađenja. Analiza podataka izvršena je primenom kvantitativnih statističkih metoda, prvenstveno primenom deskriptivne statistike i neparametarskih testova. Rezultati ukazuju da kompanije vode reaktivnu ekološku politiku, troškove prepoznaju tek kada nastanu, a preventivne zanemaruju. Ekološki troškovi su često prikriveni u opštim troškovima zbog oslanjanja na tradicionalne metode obračuna. Zaključuje se da su glavni problemi neadekvatan regulatorni okvir i izostanak motivacije. Istraživanje ukazuje na potrebu za sistemskim promenama, većom motivacijom kompanija i unapređenjem regulatornog okvira.

Ključne reči: ekološki troškovi, ekološko računovodstvo, metode obračuna troškova, ISO 14001

JEL Classification: M41, M49, Q59

UVOD

Kroz istoriju, preduzeća nisu morala da brinu o zagađenju i bila su relativno neosetljiva na to da li emisije u vazduh smanjuju njegov kvalitet, da li ispuštaju neprečišćene otpadne vode u reke i da li ugrožavaju biljni i životinjski svet. Ova ravnodušnost proizlazila je iz ukorenjene percepcije da postoji obilje resursa koje organizacije i pojedinci mogu koristiti bez uticaja na životnu sredinu. Međutim, ekološka pitanja su danas sastavni deo strategija savremenih preduzeća. A. Susanto i M. Meiryani (2019) sugerišu da je odgovor preduzeća na ekološke probleme ključan ne samo za životnu sredinu, već i za razvoj korporativnog imidža kompanije, održive prakse i sertifikaciju u oblasti zaštite životne sredine, koji poboljšavaju reputaciju i razumevanje menadžera o ekološkim pitanjima i obavezama prema društvu u celini.

* *Korespondencija:* D. Jovanović, Univerzitet u Kragujevcu, Ekonomski fakultet, Liceja Kneževine Srbije 3, 34000 Kragujevac, Republika Srbija; e-mail: djovanovic@kg.ac.rs

Kompanije se suočavaju sa sve većim pritiskom da pokažu vrednost i performanse svojih sistema upravljanja zaštitom životne sredine (Environmental Management Systems - EMS). Takođe, menadžeri shvataju prednosti pravilnog identifikovanja, merenja, alokacije i evidentiranja ekoloških troškova[1] (Stanescu, Cucui, Ionescu, Paschia, Coman, Nicolau, Uzlau & Lixandru, 2021; Broccardo, Giordino, Yaqub & Alshibani, 2024). Iskustvo pokazuje da menadžeri gotovo da nemaju pristup aktuelnim dokumentima iz računovodstva troškova i da su uglavnom svesni samo malog dela ukupnih troškova zaštite životne sredine. S druge strane, finansijski kontrolori poseduju većinu informacija, ali ne mogu da izdvoje ekološke troškove bez dodatnih smernica iz računovodstva troškova. Stoga bi kompanija trebalo da se oslanja na računovodstvo troškova kako bi pravilno identifikovala i merila ekološke troškove pre nego što ih dodeli odgovarajućoj proizvodnoj aktivnosti i pre nego što ih kontroliše (UNDSD, 2001; IFAC, 2005). Na taj način, kompanija ne samo da će smanjiti troškove, već i negativan uticaj na životnu sredinu, odnosno poslovaće u skladu sa ciljevima održivog razvoja (European Commission, 2023), čime će poboljšati kvalitet društva u celini (Wedasuari, Yintayani & Sudana, 2022). Iz tih razloga, državne institucije treba da vrše određeni institucionalni pritisak kroz kreiranje zakona o zaštiti životne sredine, ali i kroz podsticanje kompanija i medija da izveštavaju o ekološkim problemima (Deb, Rahman & Rahman, 2023; Wiredu, Osei Agyemang & Agbadzidah, 2023).

Ekološko računovodstvo može značajno uticati na merenje, identifikaciju i objavljivanje vrednih informacija u vezi sa uticajem aktivnosti kompanija na životnu sredinu (Üçoğlu, 2022; Ratmono, Mail, Cahyonowati & Janie, 2024). Takođe, biće od pomoći organizacijama da identifikuju korišćenje resursa i ekološke troškove koji proističu iz poslovanja (Schaltegger, Christ, Wenzig & Burritt, 2022). Obračun ekoloških troškova doprinosi održivosti preduzeća identifikovanjem troškova zaštite životne sredine koji su "zaboravljeni" u konvencionalnom računovodstvu troškova. Efikasan obračun ekoloških troškova je neophodan za identifikaciju i kvantifikaciju troškova zaštite životne sredine, koji su često skriveni među opštim troškovima (UNDSD, 2001; IFAC, 2005), što dovodi do toga da menadžment proizvodnje nije motivisan da ih smanji i nije svestan njihovog iznosa i uticaja. Ovo je posebno važno s obzirom na to da ekološki troškovi mogu iznositi više od 20% ukupnih operativnih troškova (Ditz, Ranganathan & Banks, 1995; Expósito, 2018).

Izračunavanje ekoloških troškova je još uvek u početnoj fazi u zemljama u razvoju (Nyide & Lekhanya, 2016) jer se prioritet daje pitanjima kao što su nezaposlenost, smanjenje stope inflacije, razvoj infrastrukture. Stoga postoji malo empirijskih dokaza o stavovima kompanija prema identifikaciji, merenju, alokaciji i evidentiranju ekoloških troškova, kao i njihovom izveštavanju. Otuda, predmet istraživanja u ovom radu je identifikovanje, merenje i evidencija ekoloških troškova kompanija u Srbiji. Cilj rada je da se ispita u kojoj meri su kompanije upoznate sa metodama obračuna ekoloških troškova i da li se praksa između kompanija razlikuje u zavisnosti od primene ISO 14001 standarda.

Studija je sprovedena na uzorku preduzeća koja su u obavezi da dostavljaju podatke o izvorima zagađenja životne sredine Nacionalnom registru izvora zagađenja (NRIZ), u skladu sa odredbama Protokola o Registru ispuštanja i prenosa zagađujućih materija (PRTR) (https://sepa.gov.rs/prtr-registar/). Podaci su prikupljeni putem intervjua i upitnika koji je dostavljen menadžmentu svakog preduzeća u uzorku. Analiza podataka je izvršena korišćenjem deskriptivne statistike i neparametarskih testova.

Studija doprinosi literaturi na tri načina. Prvo, ekološko računovodstvo sve više privlači pažnju u literaturi i praksi, jer ekološki troškovi mogu biti visoki za određene industrijske sektore. U prilog navedenom govore kako studije koje su sprovedene pre više od trideset godina, kao što je studija D. Ditz *et al* (1995) koja ukazuje da su ekološki troškovi u rafineriji *Yorktown* iznosili najmanje 22% operativnih troškova, tako i nedavne studije, kao što je studija A. Expósito (2018), koja otkriva da ekološki troškovi predstavljaju 20% ukupnih troškova usluga vodosnabdevanja u poljoprivrednom sektoru u oblastima slivova reka španskog Mediterana. Prvi doprinos ove studije

odnosi se na literaturu o udelu ekoloških troškova u ukupnim troškovima, kao i na pristupe identifikaciji i proceni ekoloških troškova. Studija pruža dokaze o relativno niskom udelu ekoloških troškova u ukupnim troškovima srpskih kompanija i preteranoj oslonjenosti srpskih kompanija na tradicionalne metode obračuna troškova.

Drugo, u mnogim zemljama je ekološka regulativa značajno pooštrena (na primer Nemačka, Švedska, Holandija, Francuska, Japan, Kanada) i očekuje se da će u budućnosti biti još stroža. Nepoštovanje zakona često dovodi do velikih kazni i sankcija, što stvara snažne podsticaje za usklađenost. Međutim, čak i ako kompanija postupa u skladu sa zakonom, to ne znači da neće imati visoke ekološke troškove. Zbog toga postaje važan poslovni cilj da se izabere najpovoljniji način usklađivanja sa regulativom i da se smanji uticaj kompanije na životnu sredinu. Da bi ispunile ovaj cilj, kompanije moraju da mere i upravljaju ekološkim troškovima. Drugi doprinos ove studije odnosi se, dakle, na literaturu o relativnoj važnosti ekološke regulative za vođenje evidencije kompanija o uticaju poslovnih ativnosti na životnu sredinu. Studija pruža dokaze da kompanije iz uzorka gotovo isključivo vode evidenciju o troškovima internih nedostataka i uzimaju u obzir samo ekološke troškove koje su zakonski obavezne da evidentiraju.

Treće, jačanje ekološke svesti potrošača i pritisak od strane ekološki odgovornih konkurenata postaju značajan konkurentski problem za kompanije. Da bi odgovorile na ove pritiske, kompanije moraju voditi računa o svom uticaju na životnu sredinu, kao i o upravljanju ekološkim troškovima. Dakle, treći doprinos ove studije odnosi se na obogaćivanje literature o odnosu između određenih napora koje kompanije ulažu u poboljšanje svoje konkurentske pozicije i evidencija koje vode o svom uticaju na životnu sredinu. Studija pruža dokaze da implementacija standarda ISO 14001 i odluka o uključivanju ekoloških troškova u kalkulaciju cene koštanja (CK) gotovih proizvoda značajno utiču na određene evidencije, posebno one koje se odnose na potencijalne ekološke obaveze, ekološke obaveze i troškove.

Rad je strukturisan u pet delova. Nakon uvoda, rad pruža teorijski okvir i pregled prethodnih istraživanja. Treći deo objašnjava istraživačku metodologiju. Rezultati empirijskog istraživanja predstavljeni su u četvrtom delu. Na kraju, peti deo donosi zaključke i ukazuje na ograničenja i moguće pravce budućih istraživanja.

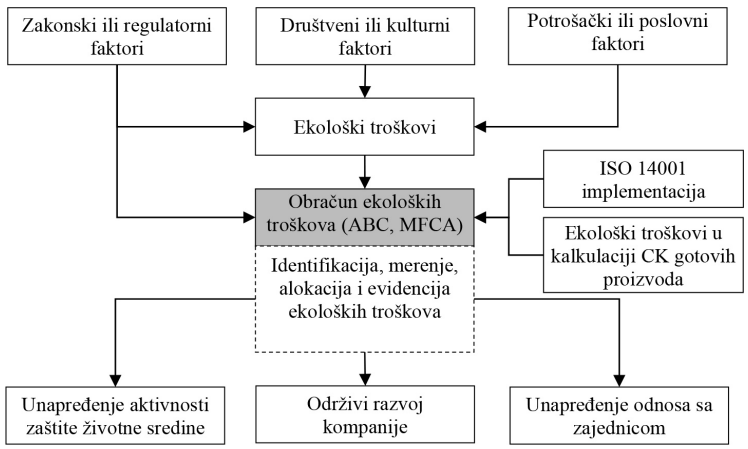
TEORIJSKI OKVIR, PREGLED PRETHODNIH ISTRAŽIVANJA I RAZVOJ ISTRAŽIVAČKIH PITANJA

Interesovanje za identifikovanje, merenje, alokaciju i evidenciju ekoloških troškova je novijeg datuma. Naime, dokle god je javnost bila nedovoljno zabrinuta za štetu koju kompanije nanose životnoj sredini, pravni sistem je dozvoljavao zagađivačima da prebace troškove čišćenja na društvo. Međutim, društvena očekivanja su se promenila i društvo je počelo da zahteva od preduzeća da smanji negativne uticaje na životnu sredinu. Takođe, promene u zakonodavstvu i potrošački pritisci su faktori koji su uslovili potrebu za obračunom ekoloških troškova primenom različitih metodoloških postupaka. Razvijeni obračunski postupci, kada su u pitanju ekološki troškovi, doprinose unapređenju aktivnosti zaštite životne sredine, održivom razvoju kompanije i unapređenju odnosa sa zajednicom (Slika 1).

Polaznu tačku za formulisanje istraživačkih pitanja predstavljaju teorijski okvir i rezultati prethodnih istraživanja dati u nastavku.

Ekološki troškovi

Ekološki troškovi su često skriveni, nematerijalni i povezani sa pojavom određenog događaja, pri čemu neki nastaju pre početka određenih aktivnosti, a neki potencijalno u budućnosti. Ključni izazov za računovodstvenu profesiju u vezi sa ekološkim troškovima je njihova precizna i potpuna identifikacija. Kao i drugi troškovi, ekološki troškovi se mogu definisati i klasifikovati na različite načine (UNDSD, 2001; Wang, Wang, Zhu & Li, 2018; Gonzalez & Peña-Vinces, 2022).



Slika 1 Rezime teorijskog okvira i prethodnih istraživanja

Izvor: Autori

Agencija za zaštitu životne sredine Sjedinjenih Američkih Država (EPA, 1995) definiše ekološke troškove kao troškove koji imaju direktan finansijski uticaj na kompaniju (privatni troškovi), pojedince, društvo i životnu sredinu (društveni troškovi), ali naglašava da definicija ekoloških troškova kompanije zavisi od toga kako namerava da koristi informacije o njima. U nekim zemljama zakonski je utvrđeno da za poreske i/ili statističke svrhe ekološki troškovi uključuju troškove rada i opreme koji se generalno koriste za poboljšanje uticaja kompanije na životnu sredinu. Međutim, za neke kompanije, ova definicija ne uključuje jedan ključni element - ukupne troškove otpada.

Kako otpad ukazuje na neefikasnost proizvodnje, treba uzeti u obzir i troškove otpada, kapitala i rada, kao i troškove i poreze povezane sa stvaranjem deponija. Pregled nekoliko projekata koje su sprovele kompanije, uglavnom u Austriji i Nemačkoj, a koje su izvodili Berlinski institut za ekološke ekonomske studije, Institut za menadžment i zaštitu životne sredine u Augsburgu i Tehnički univerzitet u Gracu, pokazao je da troškovi zbrinjavanja otpada obično čine 1-10% ukupnih ekoloških troškova, dok troškovi otpada predstavljaju 40-90% ekoloških troškova, u zavisnosti od poslovnog sektora (UNDSD, 2001).

S obzirom na to da postoje različite definicije ekoloških troškova, R. L. Burritt (2004) ističe da pet klasifikacija zaslužuje posebnu pažnju prilikom definisanja i određivanja značaja ekoloških troškova u poslovanju. Ove klasifikacije se odnose na:

- konvencionalno računovodstvo troškova - rad i procesi, direktni i indirektni, istorijski i standardni, fiksni i vaarijabilni, redovni i vanredni;
- merljivost - konvencionalni, indirektni skriveni, manje opipljivi, zavisni i društveni;
- kvalitet - prevencija, procena, interni i eksterni nedostaci;
- životni ciklus i aktivnosti - životni ciklus, istraživanje i razvoj, dizajn, proizvodnja, itd.; troškovi zasnovani na aktivnostima, po jedninici, seriji, održavanju proizvoda i na nivou objekta; i
- ciljnu publiku - interni (menadžeri, zaposleni) i eksterni (akcionari, poreske i agencije za zaštitu životne sredine, dobavljači, kreditori, šira javnost, lokalne zajednice).

Pored ove klasifikacije, C. C. Gonzalez i J. Peña-Vinces (2022) navode da se ekološki troškovi mogu klasifikovati kao troškovi: a) prevencije, b) detekcije, c) unutrašnjih (internih) nedostataka i d) spoljašnjih (eksternih) nedostataka.

Teorija i praksa ukazuju da ne postoji jedinstvena klasifikacija ekoloških troškova i da je ona uslovljena

brojnim parametrima. Polazeći od predmeta i cilja istraživanja, u radu će biti korišćena klasifikacija ekoloških troškova koju su usvojili C. C. Gonzalez i J. Peña-Vinces (2022), odnosno klasifikacija koja se podudara sa klasifikacijom troškova kvaliteta.

Determinante ekoloških troškova

Kompanije obično snose ekološke troškove iz tri razloga: 1) zakonski ili regulatorni, 2) društveni ili kulturni, i 3) potrošački ili poslovni. Poznavanje ekoloških troškova i njihovih uzroka može dovesti do redizajniranja procesa koji rezultira manjom upotrebom materijala i manjim emisijama zagađivača u životnu sredinu (interakcija između inovacija i podsticaja za smanjenje troškova). Smanjenjem troškova u sadašnjosti i budućnosti, očekuje se da kompanija postane konkurentnija.

Gore navedeno ukazuje da je informacija o ekološkim troškovima važna za preduzeće iz nekoliko razloga. Ona poboljšava proces donošenja odluka (Doorasamy, 2015; Rounaghi, 2019), služi kao podrška za finansijsko izveštavanje (Hubbard, 2006; Okafor, 2018), poboljšava efikasnost upravljanja otpadom (Youseflo & Babazadeh, 2020) i poboljšava performanse kompanije, naročito kroz ekološke inovacije (Gerged, Zahoor & Cowton, 2024). Takođe, prema principu "zagađivač plaća", ekološki troškovi se uključuju u cenu koštanja proizvoda, što dovodi do povećanja prodajnih cena (Herrera Diaz, Scouse & Kelley, 2022). Na osnovu navedenog, može se reći da se ekološki troškovi određuju prirodom aktivnosti, pristupom kreiranju asortimana proizvoda, izborom tehnoloških procesa i upotrebom opreme za postizanje ciljeva održivog razvoja.

Postoje dokazi da se ekološki troškovi mogu smanjiti investiranjem u prevenciju i aktivnosti detekcije. Primer koji se često pominje u literaturi je *Ford Motor Company*, koja je bila posvećena poboljšanju svog ekološkog učinka. Kao deo ove sveobuhvatne posvećenosti, Ford je stekao ISO 14001 sertifikat u svim svojim objektima širom sveta, što je uštedelo stotine hiljada dolara na ekološkim troškovima. *General Motors* je smanjio troškove odlaganja otpada za 12 miliona dolara uspostavljanjem programa ponovo upotrebljivih kontejnera sa svojim dobavljačima. *Commonwealth Edison* je ostvario finansijske koristi od 25 miliona dolara kroz efikasniju upotrebu resursa. *Public Service Electric and Gas Company* je uštedela više od 2 miliona dolara 1997. godine modernizacijom procesa upravljanja inventarom (EPA, 2000). Pored toga, *Baxter International Inc*., proizvođač medicinskih proizvoda, smanjio je emisiju toksičnog otpada u vazduh, vodu i zemlju od 1992. do 1999. godine povećanjem reciklaže, čime je postigao ekološke uštede od 98 miliona dolara. Slično tome, *Interface Inc*. je uštedela 50 miliona dolara tokom četiri godine, kroz niže troškove materijala, uštede u troškovima energije i smanjenje otpada (Hansen & Mowen, 2003).

S. T. Mukah (2021) je otkrio da izračunavanje ekoloških troškova doprinosi prevenciji zagađenja, očuvanju globalne životne sredine i reciklaži resursa, a samim tim i produktivnosti kompanija u industriji drveta u Kamerunu. E. G. Mieseigha i C. J. Ihenien (2014) su otkrili da su upravljanje otpadom, zdravlje zaposlenih, finansijski i drugi ekološki troškovi relevantni pri donošenju strateških poslovnih odluka. Oni su sugerisali da kompanije treba da učine informacije o ekološkim troškovima dostupnim kako bi se tačno odredili i raspodelili stvarni troškovi preduzeća. Napred navedene konstatacije nedvosmisleno ukazuju da je za preduzeće veoma važno da ima razvijen i efikasan obračun ekoloških troškova.

Obračun ekoloških troškova

Značaj ekološkog računovodstva proizlazi iz razumevanja da je cilj izračunavanja ekoloških troškova postizanje održivog razvoja, pozitivnog odnosa sa zajednicom i obezbeđivanje efikasnosti i efektivnosti u aktivnostima zaštite životne sredine. M. Porter i C. van der Linde (1995) smatraju da kompanije obično ne prate pažljivo ekološke troškove i da bi mogle imati koristi od implementacije savremenijih računovodstvenih sistema za merenje nedovoljno iskorišćenih resursa. R. L. Burritt, C. Herzig, S. Schaltegger i T. Viere (2022) otkrivaju značaj podsticanja čistijih proizvodnih praksi kroz niz alata upravljačkog računovodstva. Oni tvrde da kompanije

ne bi trebalo da se oslanjaju samo na jednu metodu obračuna troškova, kao što je obračun troškova materijalnih tokova, ako žele da poboljšaju ekološke performanse i odnose sa zainteresovanim stranama.

P. de Beer i F. Friend (2006) ističu da obračun ekoloških troškova doprinosi smanjenju troškova zaštite životne sredine i obaveza. Oni naglašavaju značaj EEGECOST (Environmental Engineering Group Environmental Costing) modela razvijenog da promoviše ekološko računovodstvo u Južnoj Africi. Koristili su EEGECOST model u studiji slučaja na proceni životnog ciklusa funkcionalne jedinice od milion cigareta u fabrici *Heidelberg* kompanije *British American Tobacco* (BAT). Studija slučaja je pokazala značaj računovodstva prilikom obračuna ekoloških troškova, kako unutrašnjih, tako i spoljnih, i njihove alokacije na vrste troškova i pokretače troškova u strukturiranom modelu ekološkog računovodstva. Takođe su utvrdili da se troškovi uticaja (kazne, sankcije, rezerve), unutrašnji nematerijalni troškovi i spoljni troškovi obično ne uzimaju u obzir u tradicionalnim računovodstvenim sistemima, iako čine 16% ukupnih troškova proizvodnje cigareta. Rezultati su pokazali da model može pomoći južnoafričkoj industriji u identifikaciji, evidenciji i alokaciji ekoloških troškova unutar ekoloških medijskih grupa, koristeći vrste troškova i pokretače troškova, kako bi poboljšali svoje korporativne procese odlučivanja.

Regulacija se često identifikuje kao ključni faktor koji utiče na ekološke troškove i računovodstvene prakse. S. Joshi, R. Krishnan i L. Lave (2001) otkrivaju da povećanje strogosti regulative značajno povećava vidljive i skrivene troškove usklađivanja sa ekološkim regulativama, pri čemu su skriveni troškovi osam do deset puta veći od vidljivih troškova na margini. Oni dalje otkrivaju da su menadžeri svesni ovih skrivenih troškova, ali im je teško da ih izdvoje i mere putem tradicionalnih računovodstvenih sistema. J. Senn i S. Giordano-Spring (2020) sličnim putem utvrđuju da francuske kompanije ukazuju na teškoće u razdvajanju ekoloških i neekoloških troškova zbog nedostatka metode za merenje, izražavaju potrebu za većom regulativom u oblasti ekološkog računovodstva, i često kao ograničenje vide postojeću regulativu.

M. M. Hossain (2019) je otkrio da su ključni izazovi za implementaciju ekološkog računovodstva u Bangladešu uključivanje ekoloških troškova, nedostatak obučenih radnika, nedostatak definisanih pravila za ekološko računovodstvo, neadekvatni i nedovoljan broj standarda ekološkog računovodstva, slaba primena ekološkog računovodstva, nepostojanje specifičnih principa ekološkog računovodstva i drugi faktori. T. K. T. Nguyen (2020) je sproveo istraživanje o primeni ekološkog računovodstva u industriji rudarstva u Vijetnamu i utvrdio da različiti faktori utiču na prihvatanje ekološkog računovodstva, uključujući prisilni pritisak od strane vladinih agencija, ekološku svest viših rukovodilaca, karakteristike kompanije i kvalifikacije računovođa za ekološko računovodstvo. N. H. Tran, T. T. H. Nguyen i T. P. Nguyen (2021) su istraživali faktore koji utiču na implementaciju ekološkog upravljačkog računovodstva u automobilskoj industriji Vijetnama i utvrdili da su prisilni, normativni i mimetički pritisak, poslovna ekološka nesigurnost, ekološka strategija, koristi od primene ekološkog upravljačkog računovodstva i složenost zadatka posebno važni.

Implementacija ISO 14001 često se smatra važnim faktorom u primeni i efektivnosti ekološkog računovodstva. M. S. Ismail, A. Ramli i F. Darus (2014) navode da su malezijske kompanije koje su sertifikovane prema ISO 14001 (uglavnom proizvodne) implementirale prakse ekološkog upravljačkog računovodstva u svojim naporima da računaju skrivene ekološke troškove i ispune svoju ulogu društveno odgovornih kompanija. D. Jovanović i V. Janjić (2018) navode da su koristi od implementacije ISO 14001 poboljšanje ekološkog učinka kompanije, efikasnosti i profitabilnosti. Takođe, oni navode da srpske kompanije samo delimično prepoznaju ulogu računovodstva u implementaciji ISO 14001.

Polazeći od teorijskog okvira i istraživačkih studija, u ovom radu se razmatraju sledeća istraživačka pitanja:

- Da li kompanije u Srbiji evidentiraju ekološke troškove kao posebnu kategoriju troškova?
- Koje vrste ekoloških troškova kompanije u Srbiji najčešće identifikuju i da li prepoznaju i evidentiraju preventivne ekološke troškove?

- Da li su ekološki troškovi uključeni u cenu koštanja i koliki je njihov udeo u ukupnim troškovima?
- Koje metode obračuna troškova kompanije u Srbiji najčešće koriste i da li su upoznate sa metodama kao što su obračun troškova po aktivnostima (ABC) i obračunom troškova zasnovanom na tokovima materijala (MFCA)?
- Postoji li statistički značajna razlika između kompanija koje primenjuju ISO 14001 standard i onih koje ga ne primenjuju kada je u pitanju evidencija o aktivnostima sa uticajem na životnu sredinu?
- Postoji li statistički značajna razlika u načinu evidentiranja ekoloških aktivnosti između kompanija koje uključuju ekološke troškove u cenu koštanja i onih koje to ne čine?

METODOLOŠKI PRISTUP

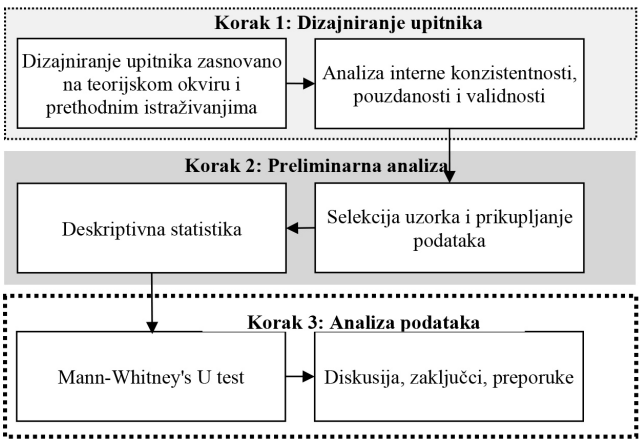
Glavni koraci i aktivnosti istraživačke metodologije korišćene u ovoj studiji su sažeti na Slici 2.

Podaci su prikupljeni anketiranjem i intervjuisanjem menadžmenta kompanija. Anketni upitnik je dizajniran u skladu sa pretpostavkama, konceptima i rezultatima identifikovanim u studijama predstavljenim u teorijskom okviru i pregledu literature. Upitnik se sastojao od 18 pitanja, a ova studija uključuje pitanja vezana za troškove zaštite životne sredine i evidenciju poslovnih aktivnosti vezanih za zaštitu životne sredine kompanija u uzorku. Većina pitanja u upitniku su zatvorena i zasnovana na Likertovoj skali sa pet tačaka. Menadžerima su ponuđeni odgovori u opsegu od 1 - potpuno se ne slažem do 5 - potpuno se slažem.

Duže i nejasne izjave, kao i negativno formulirane i konotativno neskladne izjave su pažljivom analizom kroz pilot istraživanje izbegnute (DeVellis, 2016). Upitnik je testiran u pilot studiji kako bi se osigurala pravilna interpretacija i smanjila dvosmislenost izjava. Nakon toga su izvršene manje promene u vezi sa formulacijom pitanja. Vrednost *Cronbach's Alpha* je 0,834 i veća je od 0,7, što ukazuje na to da finalna verzija upitnika ima dobru internu konzistentnost (Hair, Risher, Sarstedt & Ringle, 2019).

Studija je sprovedena na uzorku kompanija koja su u obavezi da dostave podatke o izvorima zagađenja životne sredine NRIZ, prema odredbama PRTR protokola (Službeni glasnik Republike Srbije, 2011). Prema podacima Agencije za zaštitu životne sredine Republike Srbije (SEPA, 2022), na adrese 179 kompanija (250 objekata) bilo je obavezano da dostavi podatke NRIZ. Upitnik je poslat svim 179 kompanijama, od kojih je 59 popunilo upitnik. To daje stopu odgovora od 32,96%, što je slično nekim prethodnim istraživanjima (Darnall, Henriques & Sadorsky, 2008; Henri, Boiral & Roy, 2016; Mativenga, Agwa-Ejon, Mbohwa, Sultan & Shuaib, 2017; Astuti & Datrini, 2021). Sve kompanije u uzorku su prethodno kontaktirane telefonom pre slanja upitnika kako bi se dobile tačne poštanske adrese menadžmenta preduzeća i detaljnije informacije o stavovima preduzeća prema upravljanju životnom sredinom, kroz intervjue.

Kao što je prikazano u Tabeli 1, većina firmi su društva sa ograničenom odgovornošću (55,9%) i akcionarska društva (32,2%), dok su javna (11,9%) bila najmanje zastupljena. Uglavnom su u pitanju velike kompanije (42,4%), dok su male (22,0%) bile najmanje zastupljene. Nešto više od polovine kompanija je implementiralo ISO 14001 (55,9%). Većina ispitanika su žene (61,0%) i osobe starosti od 36 do 45 godina (39,0%). Ispitanici su uglavnom direktori (15,2%), finansijski direktori (32,2%) i tehnički direktori (8,5%). 44,1% upitnika popunili su komercijalni direktori, šefovi računovodstva, direktori QMS i EMS, kao i drugi. U uzorku dominiraju ispitanici sa univerzitetskom diplomom (97,0%), od kojih je 57,6% diplomiralo ekonomiju. Na kraju, u anketi dominantno mesto zauzimaju ljudi sa više od 10 godina iskustva (81,3%). Imajući u vidu karakteristike uzorka i strukturu ispitanika, činjenicu da su upitnik popunjavale fakultetski obrazovane osobe na menadžerskim pozicijama zaposlene u kompanijama koje se nalaze na spisku NRIZ, a polazeći od sličnih istraživanja u svetu, može se reći da je u pitanju relevantan uzorak.



Slika 2 Istraživačka metodologija

Izvor: Autori

Tabela 1 Karakteristike uzorka

	Frekvencija	%
Pravna forma		
Javna kompanija	7	11,9
Akcionarsko društvo	19	32,2
Društvo sa ograničenom odgovornošću	33	55,9
Veličina kompanije		
Malo	13	22,0
Srednje	21	35,6
Veliko	25	42,4
Implementiran ISO 14001 standard		
Da	33	55,9
Ne	26	44,1
Pol		
Muško	23	39,0
Žensko	36	61,0
Pozicija u kompaniji		
Generalni direktor (CEO)	9	15,2
Finansijski direktor (CFO)	19	32,2
Tehnički direktor (CTO)	5	8,5
Drugo	26	44,1
Godine iskustva		
3 - 5	4	6,8
6 - 10	7	11,9
11 - 15	11	18,6
16 - 25	19	32,2
>25	18	30,5
Ukupno	59	100,0

Izvor: Autori

Podaci iz upitnika analizirani su u programu SPSS (Statistical Package for Social Sciences), verzija 20.0. Deskriptivna statistika korišćena je za merenje centralne tendencije (srednja vrednost, medijana i modus) i varijabilnosti (standardna devijacija) varijabli. Neparametrijski *Mann-Whitney U test* korišćen je za identifikovanje značajnih razlika u odgovorima ispitanika.

REZULTATI ISTRAŽIVANJA I DISKUSIJA

Pre nego što se sagledaju aspekti koji su usko fokusirani na obračun ekoloških troškova, u Tabeli 2 biće prikazani rezultati analize odgovora koji se odnose na vođenje evidencije o aktivnostima koje imaju uticaj na životnu sredinu. Odgovor na ovo pitanje podrazumevao je da se ispitanici izjasne zaokruživanjem na Likertovoj skali da li vode evidenciju o aktivnostima koje imaju uticaj na životnu sredinu. Analizom odgovora na ovo pitanje može se zaključiti da kompanije vode evidenciju, imajući u vidu da je prosečna vrednost veća od 4, a vrednosti modusa i medijane su jednake 5, odnosno najčešći odgovor koji su ispitanici davali je 5. Najveće vrednosti aritmetičke sredine imaju evidencija o otpadu (4,83), potrošnji energije (4,73) i ekološkim obavezama (4,53), što je i očekivano s obzirom na to da su preduzeća zakonski obavezana da vode ove evidencije.

Tabela 2 Analiza evidencije aktivnosti koje imaju uticaj na životnu sredinu

	N	Min	Max	AS	SD	Med.	Mod.
Otpad	59	2	5	4,83	0,53	5	5
Potrošnja energije	59	1	5	4,73	0,78	5	5
Ekološke obaveze	59	1	5	4,53	0,86	5	5
Troškovi u vezi sa zaštitom životne sredine	59	1	5	4,51	0,99	5	5
Reciklaža proizvoda i amabalaže	59	1	5	4,27	1,05	5	5
Potencijalne ekološke obaveze	59	1	5	4,25	1,01	5	5
Povratna ambalža	59	1	5	4,25	1,20	5	5

Napomene: N - broj ispitanika, Min - minimum, Max - maksimum, AS - aritmetička sredina, SD - standardna devijacija, Med. - medijana, Mod. - modus.

Izvor: Autori

Tabela 3 Računovodstvo troškova u anketiranim kompanijama

	Da li su ekološki troškovi uključeni u kalkulaciju CK gotovih proizvoda?		Da li ste upoznati sa obračunom troškova zasnovanim na aktivnostima (ABC)?		Da li ste upoznati sa obračunom troškova toka materijala (MFCA)?	
	N	%	N	%	N	%
Da	41	69,5	29	49,2	26	44,1
Ne	18	30,5	30	50,8	33	55,9
Ukupno	59	100,0	59	100,0	59	100,0

Napomena: N - broj ispitanika

Izvor: Autori

Analiza odgovora ispitanika u vezi sa metodama obračuna troškova koje se primenjuju u kompanijama u uzorku predstavljena je u Tabeli 3. Rezultati pokazuju da 69,5% kompanija uključuje ekološke troškove u kalkulaciju CK gotovih proizvoda, 49,2% ispitanika je upoznato sa obračunom troškova zasnovanim na aktivnostima (ABC), a 44,1% ispitanika je upoznato sa obračunom troškova toka materijala (Material Flow Cost Accounting - MFCA). Treba napomenuti da je jedno pitanje u upitniku bilo otvorenog tipa i ispitanici su trebalo da odgovore koji sistem obračuna troškova koriste u računovodstvu troškova. Rezultati dobijeni analizom odgovora na ovo pitanje, kao i u intervjuima sa ispitanicima, ukazuju na to da srpske kompanije još uvek ne prepoznaju pravu važnost računovodstva troškova. Kompanije u uzorku koje imaju računovodstvo troškova i koje su odgovorile na ovo pitanje primenjuju stvarni obračun troškova ili kombinaciju stvarnog i standardnog obračuna troškova, dok samo jedna firma primenjuje ABC (to je velika firma sa stranim kapitalom). Rezultati su u skladu sa prethodnim empirijskim istraživanjima, koja su takođe pokazala da se kompanije u Srbiji oslanjaju na tradicionalne metode obračuna troškova i retko primenjuju savremene metode računovodstva troškova (Jovanović, Janjić & Janković, 2014).

Tabela 4 prikazuje strukturu uzorka na osnovu udela ekoloških troškova u ukupnim troškovima. Udeo ekoloških troškova je manji od 3% u većini kompanija iz uzorka, dok je samo šest (10,2%) ispitanika navelo da je udeo veći od 10%. Ispitanici su takođe mogli da navedu vrste ekoloških troškova koji se evidentiraju u njihovim kompanijama. Prateći klasifikaciju ekoloških troškova koju su predstavili C. C. Gonzalez i J. Peña-Vinces (2022), utvrđeno je da kompanije iz uzorka najčešće evidentiraju troškove unutrašnjih

nedostataka (troškove merenja, ispitivanja, uklanjanja i obrade opasnog i neopasnog otpada i otpadnih voda; troškove praćenja vode, vazduha i zemljišta; troškove pakovanja i odlaganja otpada; troškove rada i održavanja opreme koja se koristi za smanjenje ili eliminaciju zagađenja; ekološke poreze), dok retko evidentiraju troškove spoljašnjih nedostataka (troškove restauracije i uređenja zelenih površina; troškove neefikasne upotrebe materijala, energije i zemljišta; troškove čišćenja kontaminiranog zemljišta i voda) i troškove prevencije (troškove studija procene uticaja na životnu sredinu; troškove izrade projekata i tehničke dokumentacije za eliminaciju zagađenja; troškove sprovođenja ispitivanja kontaminacije; troškove plata zaposlenih u sektoru zaštite životne sredine).

Vrste ekoloških troškova koje su zabeležene u kompanijama iz uzorka upućuju na to da kompanije primenjuju odbrambenu ekološku politiku. Uključivanjem proaktivne ekološke strategije u poslovnu strategiju preduzeća i efikasnim upravljanjem zaštitom životne sredine, kompanije mogu postići brojne koristi povezane sa smanjenjem otpada i troškova, povećanjem zadovoljstva kupaca, većom posvećenošću zaposlenih, boljim kvalitetom proizvoda i poboljšanim odnosima sa javnošću (Gadenne, Kennedy & McKeiver, 2009). Kompanje iz uzorka, međutim, gotovo isključivo vode evidenciju o troškovima defekata i uzimaju u obzir ekološke troškove na koje su zakonski obavezane kada je u pitanju računovodstvo troškova. Preventivne aktivnosti u većini kompanija svedene su na minimum.

Ukupno 23 kompanije (8 velikih, 9 srednjih i 6 malih) odgovorile su na pitanje o iznosu ekoloških troškova. Ekološki troškovi kreću se od 2.500 evra (uglavnom u malim) do 500.000 evra (uglavnom u srednjim i velikim kompanijama). Izuzetak je jedna kompanija sa ekološkim troškovima od 23 miliona evra; to je javna kompanija koja je imala velika ekološka ulaganja evidentirana kao ekološki troškovi. Međutim, navedeni iznosi treba da se uzmu sa rezervom s obzirom na to da je obračun troškova kompanija iz uzorka nedovoljno razvijen i oslanja se na tradicionalne metode računovodstva troškova

Tabela 4 Udeo ekoloških troškova u ukupnim troškovima kompanije

	Frekvencija	%	Kumulativni %
Manje od 3%	32	54,2	54,2
od 3% do 5%	14	23,7	78,0
od 5% do 10%	7	11,9	89,8
od 10% do 15%	3	5,1	94,9
Više od 15%	3	5,1	100,0
Total	59	100,0	

Izvor: Autori

koje ne prepoznaju ekološke troškove kao posebnu kategoriju troškova, što znači da su većina troškova zaštite životne sredine sakriveni unutar opštih troškova. Konkretno, može se pretpostaviti da su ekološki troškovi verovatno veći za sve kompanije u uzorku, s obzirom na to da se smatraju velikim zagađivačima i zakonski su obavezane da dostavljaju podatke o zagađenju NRIZ.

Polazeći od prethodnih istraživanja, u radu je učinjen pokušaj da se utvrdi da li implementacija ISO 14001 i odluka o uključivanju ekoloških troškova u kalkulaciju CK gotovih proizvoda utiču na pristup koji kompanije koriste da vode evidenciju o aktivnostima koje imaju uticaj na životnu sredinu. Motivacija za ovo i slična istraživanja su potencijalne koristi koje kompanije imaju od implementacije ISO 14001 i korelacija između izračunavanja ekoloških troškova i ISO 14001 kada je u pitanju identifikacija, smanjenje i uključivanje ekoloških troškova u kalkulaciju CK gotovih proizvoda. Istraživanja obično pokazuju da implementacija ISO 14001 dovodi do smanjenja ekoloških troškova i otpada, kao i efikasnijeg korišćenja resursa (Gavronski, Ferrer & Paiva, 2008; Jovanović & Janjić, 2018; Zimon, Madzík, Dellana, Sroufe, Ikram & Lysenko-Ryba, 2022). Da bismo dalje istražili ova pitanja, korišćen je *Mann-Whitney U* test, a statistički značajni rezultati su prikazani u tabelama 5 i 6.

Na osnovu rezultata *Mann-Whitney U* testa u Tabeli 5, može se zaključiti da postoji statistički značajna razlika između preduzeća koja su implementirala ISO 14001 i onih koja nisu, kada je reč o vođenju

Tabela 5 Razlike između kompanija koje imaju/nemaju implementiran ISO 14001 kada je u pitanju evidencija o aktivnostima sa uticajem na životnu sredinu

	ISO 14001 je implementiran		ISO 14001 nije implementiran		U	Z	r
	Ops.	Med.	Ops.	Med.			
Evidencija otpada	33	5	26	5	402,000	-0,735	-
Evidencija potrošnje energije	33	5	26	5	398,000	-0,758	-
Evidencija ekoloških obaveza	33	5	26	5	341,500	-1,626	-
Evidencija ekoloških troškova	33	5	26	5	303,500	-2,455**	0,09
Evidencija o reciklaži proizvoda i ambalaže	33	5	26	4	288,000	-2,413**	0,31
Evidencija potencijalnih ekoloških obaveza	33	5	26	4	292,000	-2,323**	0,30
Evidencija povratne ambalaže	33	5	26	5	406,000	-0,406	-

Napomena: Statistička značajnost 5% (**)

Izvor: Autori

Tabela 6 Razlike između kompanija koje uključuju/ne uključuju ekološke troškove u kalkulaciju CK gotovih proizvoda kada je u pitanju evidencija o aktivnostima sa uticajem na životnu sredinu

	Ekološki troškovi uključeni u kalkulaciju CK		Ekološki troškovi nisu uključeni u kalkulaciju CK		U	Z	r
	Ops.	Med.	Ops.	Med.			
Evidencija otpada	41	5	18	5	367,000	-0,059	-
Evidencija potrošnje energije	41	5	18	5	330,000	-1,028	-
Evidencija ekoloških obaveza	41	5	18	4.5	267,500	-2,034**	0,26
Evidencija ekoloških troškova	41	5	18	4.5	237,500	-2,773*	0,36
Evidencija o reciklaži proizvoda i ambalaže	41	5	18	4	266,500	-1,892	-
Evidencija potencijalnih ekoloških obaveza	41	5	18	4.0	241,000	-2,340**	0,31
Evidencija povratne ambalaže	41	5	18	5	353,500	-0,295	-

Napomena: Statistička značajnost 1% (*) i 5% (**)

Izvor: Autori

evidencije o ekološkim troškovima, potencijalnim ekološkim obavezama i reciklaži proizvoda i ambalaže. Ovaj uticaj je mali kada su u pitanju ekološki troškovi, dok je srednji za preostale dve vrste evidencije. Identifikovane razlike sugerišu da implementacija međunarodno priznatog sistema upravljanja životnom sredinom podstiče organizacije da usvoje formalniji i sistematičniji pristup praćenju ekoloških aspekata poslovanja. To je u skladu sa nalazima istraživanja I. Gavronski *et al* (2008) i M. S. Ismail *et al* (2014), koji ukazuju da je ISO 14001 važan podsticaj za razvoj internih računovodstvenih praksi koje uključuju ekološke aspekte poslovanja. Međutim, efekti nisu ujednačeni za sve kategorije evidencija i rezultati istraživanja ukazuju da nisu utvrđene statistički značajne razlike u vođenju evidencije o otpadu, potrošnji energije, povratnoj ambalaži i ekološkim obavezama, što je i očekivano imajući u vidu da ovu vrstu evidencija vodi većina kompanija nevezano da li imaju ili ne implementiran ISO 14001 standard.

Rezultati *Mann-Whitney U* testa dati u Tabeli 6, ukazuju da postoji statistički značajna razlika između preduzeća koja uključuju i onih koja ne uključuju ekološke troškove u kalkulaciju CK gotovih proizvoda, kada je reč o vođenju evidencije o ekološkim troškovima, potencijalnim ekološkim

obavezama (srednji uticaj) i ekološkim obavezama (mali uticaj). Naime, može se reći da su kompanije koje integrišu ekološke troškove u CK efikasnije kada je u pitanju evidencija ekoloških troškova i opreznije prilikom evidencije stvarnih i potencijalnih ekoloških obaveza. Ovi nalazi ukazuju na to da uključivanje ekoloških troškova u CK može delovati kao signal sistemskog pristupa ekološkom menadžmentu, pri čemu se računovodstvene prakse koriste kao alat za strategijsko odlučivanje. U skladu s teorijskim okvirom, ovo pokazuje da se kompanije koje prepoznaju finansijsku dimenziju ekoloških problema ponašaju proaktivnije u evidenciji i planiranju ekoloških aspekata poslovanja. Međutim, uočeni efekti uglavnom proizilaze iz zakonskih obaveza, dok je evidencija preventivnih aktivnosti i dalje zapostavljena. Rezultati istraživanja nisu identifikovali statistički značajne razlike u ostalim vrstama evidencije, kao što su evidencije o otpadu, potrošnji energije, povratnoj ambalaži i reciklaži proizvoda i ambalaže. Takođe, statistički značajne razlike nisu utvrđene u evidenciji preduzeća različitih veličina.

U celini posmatrano, rezultati *Mann-Whitney U* testa potvrđuju da standardizacija kroz ISO 14001 i integracija ekoloških troškova u CK pozitivno utiču na razvoj evidencione prakse kada je u pitanju evidencija ekoloških troškova i ekoloških obaveza, ali i ukazuju na postojanje prostora za unapređenje, posebno kada je reč o identifikaciji i praćenju preventivnih troškova i troškova eksternih uticaja, koji su važni za sprovođenje proaktivne ekološke politike i smanjenje negativnih uticaja poslovanja na životnu sredinu.

ZAKLJUČAK

Iako su pojedine studije ispitivale prakse kompanija u vezi sa ekološkim računovodstvom, identifikacijom i uključivanjem ekoloških troškova u kalkulaciju CK gotovih proizvoda, poznavanjem različitih pristupa obračuna ekoloških troškova i razlikama u evidentiranju ekoloških aspekata poslovanja, ova studija pruža tri doprinosa literaturi. Prvo, ukazuje na udeo ekoloških troškova u ukupnim troškovima i efikasne pristupe za identifikaciju i procenu ekoloških troškova. Drugo, studija doprinosi literaturi o relativnom značaju ekoloških propisa za evidenciju uticaja poslovnih aktivnosti na životnu sredinu. Treće, studija doprinosi literaturi o odnosu napora koje kompanije ulažu u poboljšanje svoje konkurentske pozicije i evidencije koju vode o svom ekološkom uticaju.

Na osnovu rezultata istraživanja mogu se formulisati odgovori na postavljena istraživačka pitanja. Rezultati istraživanja pokazuju da srpske kompanije ne prepoznaju značaj obračuna troškova u identifikaciji, merenju i alokaciji ekoloških troškova, kao i u njihovom izveštavanju. Većina kompanija u Srbiji ne evidentira ekološke troškove kao posebnu kategoriju, već su oni često sakriveni u okviru opštih troškova. Uzorkovane kompanije se gotovo isključivo oslanjaju na obračun stvarnih troškova ili kombinaciju stvarnih i standardnih troškova, dok samo jedna firma primenjuje ABC metodu. Iako skoro 70% anketiranih firmi uključuje ekološke troškove u kalkulaciju cene koštanja, njihov udeo u ukupnim troškovima je u najvećem broju slučajeva manji od 3%, dok je u samo šest firmi taj udeo veći od 10%. Najčešće evidentirani troškovi su troškovi internih nedostataka, dok se troškovi eksternih nedostataka i troškovi prevencije retko evidentiraju. Ovo ukazuje na to da kompanije generalno sprovode defanzivnu ekološku politiku - evidentiraju troškove grešaka i gotovo isključivo uzimaju u obzir ekološke troškove na koje su zakonski obavezane, dok su preventivne aktivnosti u većini kompanija svedene na minimum. Rezultati *Mann-Whitney U* testa pokazuju da kompanije koje primenjuju ISO 14001 i one koje uključuju ekološke troškove u CK češće vode evidenciju o ekološkim troškovima, potencijalnim obavezama, što potvrđuje postojanje razlika u praksi evidentiranja u zavisnosti od ovih faktora. Nisu identifikovane statistički značajne razlike u vođenju evidencije o otpadu, potrošnji energije i povratnoj ambalaži.

S obzirom na to da je računovodstvo troškova u analiziranim kompanijama nerazvijeno i da se oslanja na tradicionalne metode obračuna troškova, koje ne prepoznaju ekološke troškove kao zasebnu kategoriju, većina ekoloških troškova ostaje skrivena

u okviru opštih troškova. Može se pretpostaviti da je iznos ekoloških troškova veći za analizirane kompanije, s obzirom na to da se one smatraju glavnim zagađivačima i da su zakonski obavezne da dostavljaju podatke o zagađenju Nacionalnom registru izvora zagađenja.

Na bazi navedenog može se zaključiti da kompanije slede reaktivnu ekološku politiku i posvećuju malo pažnje ekološkim pitanjima. Uglavnom vode evidenciju o ekološkim uticajima jer su na to zakonski obavezane, identifikuju samo one ekološke troškove koji su jasno ekološki i koji su već nastali, a retko beleže preventivne troškove. S obzirom na iznos ekoloških troškova koje su ispitanici u istraživanju identifikovali, verovatno je da je dobar deo ekoloških troškova neidentifikovan. Kompanije imaju nerazvijen sistem obračuna troškova i gotovo isključivo koriste tradicionalne metodologije obračuna troškova. Mogući razlozi za nepovoljnu situaciju u srpskim preduzećima su voluntarizam u primeni sistema upravljanja zaštitom životne sredine (EMS), nedovoljni podsticaji i pritisci od strane države i šire javnosti, neadekvatan i slab sistem zakonskih sankcija, kao i neadekvatna primena zakona u oblasti zaštite životne sredine.

Studija ima nekoliko praktičnih implikacija. Pregled prethodnih istraživanja pruža dobru osnovu za teoretičare i praktičare u njihovim istraživanjima i projektima vezanim za ekološko računovodstvo, a posebno za identifikaciju, merenje i alokaciju ekoloških troškova. Metodološki okvir razvijen u studiji pruža teoretičarima koristan instrument za buduća istraživanja, a praktičarima smernice za analizu i unapređenje ekološkog računovodstva pojedinačnih kompanija. Rezultati studije pokazuju da bi donosioci politika trebalo da razviju snažnije i fokusiranije pristupe kako bi pravno obavezali kompanije da vode evidenciju o svojim ekološkim uticajima. Profesionalne organizacije i šira javnost takođe mogu igrati važnu ulogu u ovim naporima pružanjem smernica i vršenjem pritiska. Konačno, rezultati studije su korisni kompanijama da shvate značaj ekološkog računovodstva i faktore bitne za njegovu primenu.

Studija ima nekoliko ograničenja. Veličina uzorka je verovatno najvažnije ograničenje, koje utiče na izbor statističkih testova i rezultate. Pored toga, uzorak uključuje kompanije samo iz jedne zemlje. Veći uzorak bi mogao dati drugačije rezultate. Subjektivnost ispitanika takođe predstavlja ograničenje. Teško je u potpunosti identifikovati i neutralisati odgovore koji, namerno ili nenamerno, ne odražavaju stavove ispitanika. Zbog toga je uložen dodatni napor da se dobiju detaljniji rezultati korišćenjem intervjua pored upitnika. Buduće studije bi trebalo da se fokusiraju na identifikaciju specifičnih faktora koji utiču na ekološke troškove i praksu ekološkog računovodstva u ekonomijama u razvoju, kao i da uključe vremensku dimenziju kako bi analizirale promene u ovim aspektima tokom vremena. Takođe, može se koristiti naprednija statistička metodologija, poput regresione analize uticaja karakteristika firmi na iznos i strukturu njihovih ekoloških troškova i primenjene metodologije obračuna troškova.

ENDNOTE

1 Kako se u literaturi sreću različiti prevodi termina environmental costs, i to: ekološki troškovi, troškovi zaštite životne sredine, troškovi životne sredine, to će se u radu ovi termini koristititi kao sinonimi.

REFERENCE

Astuti, P., & Datrini, L. (2021). Green competitive advantage: Examining the role of environmental consciousness and green intellectual capital. *Management Science Letters, 11*, 1141-1152. https://doi.org/10.5267/j.msl.2020.11.025

Broccardo, L., Giordino, D., Yaqub, M. Z., & Alshibani, S. M. (2024). Implementing sustainability: What role do knowledge management and management accounting play? Agenda for environmentally friendly businesses. *Corporate Social Responsibility and Environmental Management, 32*(1), 383-403. https://doi.org/10.1002/csr.2936

Burritt, R. L. (2004). Environmental management accounting: Roadblocks on the way to the green and pleasant land. *Business Strategy and the Environment, 13*(1), 13-32. https://doi.org/10.1002/bse.379

Burritt, R. L., Herzig, C., Schaltegger, S., & Viere, T. (2019). Diffusion of environmental management accounting for cleaner production: Evidence from some case studies. *Journal of Cleaner Production*, *224*, 479-491. https://doi.org/10.1016/j.jclepro.2019.03.227

Darnall, N., Henriques, I., & Sadorsky, P. (2008). Do environmental management systems improve business performance in an international setting? *Journal of International Management*, *14*(4), 364-376. https://doi.org/10.1016/j.intman.2007.09.006

de Beer, P., & Friend, F. (2006). Environmental accounting: A management tool for enhancing corporate environmental and economic performance. *Ecological Economics*, *58*(3), 548-560. https://doi.org/10.1016/j.ecolecon.2005.07.026

Deb, B. C., Rahman, Md. M., & Rahman, M. S. (2023). The impact of environmental management accounting on environmental and financial performance: Empirical evidence from Bangladesh. *Journal of Accounting & Organizational Change*, *19*(3), 420-446. https://doi.org/10.1108/jaoc-11-2021-0157

DeVellis, R. F. (2016). *Scale Development: Theory and Applications*. Thousand Oaks, CA: Sage.

Ditz, D., Ranganathan, J., & Banks, R. D. (1995). Environmental accounting: An overview. In D. Ditz, J. Ranganathan, & R. D. Banks (Eds.), *Green Ledgers: Case Studies in Corporate Environmental Accounting* (pp. 1-46). World Resources Institute.

Doorasamy, M. (2015). Theoretical developments in environmental management accounting and the role and importance of MFCA. *Foundations of Management*, *7*(1), 37-52. https://doi.org/10.1515/fman-2015-0024

EPA. (1995). *An Introduction to Environmental Accounting as a Business Management Tool: Key Concepts and Terms*. Washington, DC: United States Environmental Protection Agency, Office of Pollution Prevention and Toxics.

EPA. (2000). *The Lean and Green Supply Chain: A Practical Guide for Materials Managers and Supply Chain Managers to Reduce Costs and Improve Environmental Performance*. Washington, DC: United States Environmental Protection Agency, Office of Pollution Prevention and Toxics.

European Commission. (2023). *The European Green Deal: Striving to be the first climate-neutral continent*. Retrieved December 16, 2024, from: https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/european-green-deal_en

Expósito, A. (2018). Irrigated agriculture and the cost recovery principle of water services: Assessment and discussion of the case of the Guadalquivir River Basin (Spain). *Water*, *10*(10), 1338. https://doi.org/10.3390/w10101338

Gadenne, D. L., Kennedy, J., & McKeiver, C. (2009). An empirical study of environmental awareness and practices in SMEs. *Journal of Business Ethics*, *84*(1), 45-63. https://doi.org/10.1007/s10551-008-9672-9

Gavronski, I., Ferrer, G., & Paiva, E. L. (2008). ISO 14001 certification in Brazil: Motivations and benefits. *Journal of Cleaner Production*, *16*(1), 87-94. https://doi.org/10.1016/j.jclepro.2006.11.002

Gerged, A. M., Zahoor, N., & Cowton, C. J. (2024). Understanding the relationship between environmental management accounting and firm performance: The role of environmental innovation and stakeholder integration - Evidence from a developing country. *Management Accounting Research*, *62*, 100865. https://doi.org/10.1016/j.mar.2023.100865

Gonzalez, C. C., & Peña-Vinces, J. (2022). A framework for a green accounting system-exploratory study in a developing country context, Colombia. *Environment, Development and Sustainability*, *25*(9), 9517-9541. https://doi.org/10.1007/s10668-022-02445-w

Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. *European Business Review*, *31*(1), 2-24. https://doi.org/10.1108/EBR-11-2018-0203

Hansen, D. R., & Mowen, M. M. (2003). *Management Accounting*. Ohio: South-Western.

Henri, J. -F., Boiral, O., & Roy, M. J. (2016). Strategic cost management and performance: The case of environmental costs. *The British Accounting Review*, *48*(2), 269-282. https://doi.org/10.1016/j.bar.2015.01.001

Herrera Diaz, M. A., Scouse, A., & Kelley, S. S. (2022). Environmental full cost accounting of alternative materials used for railroad ties: Treated-wood and concrete case study. *Journal of Cleaner Production*, 364, 132536. https://doi.org/10.1016/j.jclepro.2022.132536

Hossain, M. M. (2019). Environmental accounting challenges of selected manufacturing enterprises in Bangladesh. *Open Journal of Business and Management*, *7*(2), 709-727. https://doi.org/10.4236/ojbm.2019.72048

Hubbard, G. (2006). Measuring organizational performance: Beyond the triple bottom line. *Business Strategy and the Environment*, *18*(3), 177-191. https://doi.org/10.1002/bse.564

IFAC. (2005). *International Guidelines Document Environmental Management Accounting.* New York: International Federation of Accountants Committee. Retrieved October 20, 2024, from: https://www.ifac.org/knowledge-gateway/preparing-future-ready-professionals/publications/international-guidance-document-environmental-management-accounting

Ismail, M. S., Ramli, A., & Darus, F. (2014). Environmental management accounting practices and Islamic corporate social responsibility compliance: evidence from ISO14001 companies. *Procedia-Social and Behavioral Sciences*, *145*, 343-351. https://doi.org/10.1016/j.sbspro.2014.06.043

Joshi, S. Krishnan, R., & Lave, L. (2001). Estimating the hidden costs of environmental regulation. *The Accounting Review*, *76*(2), 171-198. https://doi.org/10.2308/accr.2001.76.2.171

Jovanović, D., & Janjić, V. (2018). Motives for, benefits from and accounting support to the ISO 14001 standard implementation. *Economic Horizons*, *20*(1), 25-41. https://doi.org/10.5937/ekonhor1801027j

Jovanović, D., Janjić, V., & Janković, M. (2014). The influence of company size on the implementation of modern cost accounting systems: The case of Serbia. *Teme*, *38*(3), 1095-1114.

Mativenga, P. T., Agwa-Ejon, J., Mbohwa, C., Sultan, A. A. M., & Shuaib, N. A. (2017). Circular economy ownership models: A view from South Africa industry. *Procedia Manufacturing*, *8*, 284-291. https://doi.org/10.1016/j.promfg.2017.02.036

Mieseigha, E. G., & Ihenyen, C. J. (2014). Environmental cost accounting information and strategic business Decisions in Nigeria. *Acta Universitatis Danubius. OEconomica*, *10*(5), 18-27.

Mukah, S. T. (2021). Environmental cost accounting implications on timber company productivity in Cameroon. *Open Journal of Accounting*, *10*(3), 77-92. https://doi.org/10.4236/ojacct.2021.103007

Nguyen, T. K. T. (2020). Studying factors affecting environmental accounting implementation in mining enterprises in Vietnam. *The Journal of Asian Finance, Economics, and Business*, *7*(5), 131-144. https://doi.org/10.13106/jafeb.2020.vol7.no5.131

Nyide, C. J., & Lekhanya, L. M. (2016). Environmental management accounting practices: Major control issues. *Corporate Ownership & Control*, *13*(3), 476-483. https://doi.org/10.22495/cocv13i3c3p6

Službeni glasnik Republike Srbije. (2011). Međunarodni ugovori, br. 8/11. Pristupljeno 20. oktobra 2024, putem linka: https://op.europa.eu/en/web/forum/srbija-serbia

Okafor, T. G. (2018). Environmental costs accounting and reporting on firm financial performance: A survey of quoted Nigerian oil companies. *International Journal of Finance and Accounting*, *7*(1), 1-6.

Porter, M., & Van Der Linde, C. (1995). Green and competitive: Ending the stalemate. *Harvard Business Review*, September-October, 120-134.

Ratmono, D., Mail, R., Cahyonowati, N., & Janie, D. N. A. (2024). The role of environmental performance in mediating the relationship between green accounting and corporate social responsibility. *Environmental Economics*, *15*(1), 46-55. https://doi.org/10.21511/ee.15(1).2024.04

Rounaghi, M. M. (2019). Economic analysis of using green accounting and environmental accounting to identify environmental costs and sustainability indicators. *International Journal of Ethics and Systems*, *35*(4), 504-512. https://doi.org/10.1108/IJOES-03-2019-0056

Schaltegger, S., Christ, K. L., Wenzig, J., & Burritt, R. L. (2022). Corporate sustainability management accounting and multi-level links for sustainability - A systematic review. *International Journal of Management Reviews*, *24*(4), 480-500. https://doi.org/10.1111/ijmr.12288

Senn, J. & Giordano-Spring, S. (2020). The limits of environmental accounting disclosure: Enforcement of regulations, standards and interpretative strategies. *Accounting, Auditing & Accountability Journal*, *33*(6), 1367-1393. https://doi.org/10.1108/AAAJ-04-2018-3461

SEPA. (2022). PRTR protocol activities in Serbia. Retrieved September 7, 2023, from: http://www.sepa.gov.rs/PRTR/en/?lang=de

Stanescu, S. G., Cucui, I., Ionescu, C. A., Paschia, L., Coman, M. D., Nicolau, N. L. G., Uzlau, M. C., & Lixandru, M. L. (2021). Conceptual model for integrating environmental impact in managerial accounting information systems. *International Journal of Environmental Research and Public Health*, *18*(4), 1791. https://doi.org/10.3390/ijerph18041791

Susanto, A., & Meiryani M. (2019). The impact of environmental accounting information system alignment on firm performance and environmental performance: A case of small and medium enterprises of Indonesia. *International Journal of Energy Economics and Policy*, *9*(2), 229-236.

Tran, N. H., Nguyen, T. T. H., & Nguyen, T. P. (2021). Factors affecting an application of environmental management accounting: A case study of the automobile industry in Vietnam. *The Journal of Asian Finance, Economics and Business*, *8*(7), 509-516. https://doi.org/10.13106/JAFEB.2021.VOL8.NO7.0509

Üçoğlu, D. (2022). Challenges and threats to environmental accounting and reporting. In T. Eugénio, G. Azevedo, & A. Fialho (Eds.), *Modern Regulations and Practices for Social and Environmental Accounting* (pp. 1-25). IGI Global. https://doi.org/10.4018/978-1-7998-9410-0.ch001

UNDSD. (2001). *Environmental management accounting procedures and principles*. New York: Department of Social and Economic Affairs, United Nations Division for Sustainable Development. Retrieved May 16, 2023, from: https://www.un.org/esa/sustdev/publications/proceduresandprinciples.pdf

Wang, J., Wang, R., Zhu, Y., & Li, J. (2018). Life cycle assessment and environmental cost accounting of coal-fired power generation in China. *Energy Policy*, *115*, 374-384. https://doi.org/10.1016/j.enpol.2018.01.040

Wedasuari, P. R., Yintayani, N. N., & Sudana, N. M. (2022). Environmental Cost Accounting in the Hotel Industry "A Case Study". Proceedings of the *International Conference on Applied Science and Technology on Social Science 2022* (ICAST-SS 2022), 342-347. https://doi.org/10.2991/978-2-494069-83-1_62

Wiredu, I., Osei Agyemang, A., & Agbadzidah, S. Y. (2023). Does green accounting influences ecological sustainability? Evidence from a developing economy. *Cogent Business & Management*, *10*(2). https://doi.org/10.1080/23311975.2023.2240559

Yousefloo, A., & Babazadeh, R. (2020). Designing an integrated municipal solid waste management network: A case study. *Journal of Cleaner Production*, *244*, 118824. https://doi.org/10.1016/j.jclepro.2019.118824

Zimon, D., Madzík, P., Dellana, S., Sroufe, R., Ikram, M., & Lysenko-Ryba, K. (2022). Environmental effects of ISO 9001 and ISO 14001 management system implementation in SSCM. *The TQM Journal*, *34*(3), 418-447. https://doi.org/10.1108/TQM-01-2021-0025

Primljeno 17. februara 2025,
nakon revizije,
prihvaćeno za publikovanje 30. oktobra 2025.
Elektronska verzija objavljena 24. aprila 2026.

Dejan Jovanović je vanredni profesor na Katedri za računovodstvo, reviziju i poslovne finansije na Ekonomskom fakultetu Univerziteta u Kragujevcu. Njegove sfere interesovanja obuhvataju upravljačko računovodstvo, računovodstvo održivog razvoja, nefinansijsko izveštavanje i sisteme upravljanja životnom sredinom.

Milan Čupić je redovni profesor na Katedri za računovodstvo, reviziju i poslovne finansije na Ekonomskom fakultetu Univerziteta u Kragujevcu. Njegova istraživačka interesovanja uključuju upravljanje valutnim rizikom, upravljanje performansama, finansijsko upravljanje u javnoj administraciji i korporativno upravljanje.

Ivana Medved je vanredni profesor na Katedri za finansije i računovodstvo na Ekonomskom fakultetu u Subotici, Univerzitet u Novom Sadu. Njena naučna interesovanja obuhvataju upravljačko računovodstvo i računovodstvo javnog sektora.

Jelena Poljašević je redovni profesor na Katedri za računovodstvo i poslovne finansije na Ekonomskom fakultetu u Banjoj Luci. Njena naučna interesovanja uključuju analizu finansijskih izveštaja i poslovne finansije.

IDENTIFICATION, MEASUREMENT AND RECORDING OF ENVIRONMENTAL COSTS: THE CASE OF COMPANIES IN SERBIA

Dejan Jovanović[1], Milan Čupić[1], Ivana Medved[2] and Jelena Poljašević[3]

[1]*University in Kragujevac, Faculty of Economics, Kragujevac, Republic of Serbia*
[2]*University in Novi Sad, Faculty of Economics in Subotica, Republic of Serbia*
[3]*University of Banja Luka, Faculty of Economics, Banja Luka, Bosnia and Herzegovina*

Starting from the importance of proper identification, allocation, and management of costs, as well as the fact that, in addition to the economic dimension, the ecological aspect is also crucial for company operations - and considering the low level of the integration of environmental aspects into accounting practices - this paper aims to examine the extent to which companies are familiar with environmental cost-accounting methods and whether practices differ depending on the implementation of the ISO 14001 standard. The research was conducted on a sample of companies obliged to report data to the National Register of Pollution Sources. The data analysis was carried out using quantitative statistical methods, primarily descriptive statistics and non-parametric tests. The results indicate that companies pursue a reactive environmental policy, recognizing costs only after they occur, while preventive measures are neglected. Environmental costs are often hidden within general costs due to reliance on traditional accounting methods. It is concluded that the main issues are an inadequate regulatory framework and a lack of motivation. The research highlights the need for systemic changes, greater company motivation, and the improvement of the regulatory framework.

Keywords: environmental costs, environmental accounting, cost-accounting methodologies, ISO 14001

JEL Classification: M41, M49, Q59

Ekonomski horizonti, Januar - April 2026, Volumen 28, Sveska 1, 65 - 82
UDC: 33 ISSN: 1450-863 X
© Ekonomski fakultet Univerziteta u Kragujevcu
www. ekfak.kg.ac.rs

Izvorni naučni članak
UDK: 005.966.32
331.101.32
doi:10.5937/ekonhor2601065J

MEDIJATORSKI MEHANIZAM ORGANIZACIONE POSVEĆENOSTI: RAZOTKRIVANJE UTICAJA PERCIPIRANE ORGANIZACIONE PRAVDE NA NAMERU ODLASKA ZAPOSLENIH

Ivana Jolović[1]*, Stefan Zdravković[2] i Nevena Jolović[3]

[1]*Univerzitet u Novom Sadu, Fakultet tehničkih nauka, Novi Sad, Republika Srbija*
[2]*Univerzitet MB u Beogradu, Poslovni i pravni fakultet, Beograd, Republika Srbija*
[3]*Institut ekonomskih nauka, Beograd, Republika Srbija*

Polazeći od maksime da „percepcije pojedinaca oblikuju njihovu stvarnost", istraživanje organizacionog ponašanja naglašava važnost prepoznavanja subjektivnih iskustava zaposlenih o okolnostima na radnom mestu. Percepcija proceduralne, distributivne i interakcijske pravde od strane zaposlenih čini snažan prediktor „postojanosti" radne snage – organizacionu pravdu. Rad ima za cilj istraživanje uticaja ovog fenomena na nameru odlaska zaposlenih iz organizacije, uz paralelno ispitivanje potencijalne posredničke uloge organizacione posvećenosti u pomenutoj relaciji. Sveobuhvatan pregled relevantne literature, u kombinaciji sa tehnikama tematske i *desk* analize, postavlja temelje istraživanja. Empirijska komponenta studije obuhvatila je 99 pojedinaca (milenijalaca) zaposlenih u srpskoj privredi na početku 2023. godine. Njihovi stavovi evidentirani su putem elektronskog, online upitnika. Podaci su obrađeni korišćenjem naprednih statističkih alata – SmartPLS 4.0 i SPSS 26.0 softvera. Nalazi su potvrdili glavnu istraživačku pretpostavku koja implicira da organizaciona posvećenost posreduje u odnosu između percipirane organizacione pravde i namere zaposlenih milenijalaca da napuste organizaciju.

Ključne reči: percipirana organizaciona pravda, organizaciona posvećenost, namera odlaska, organizaciona dinamika, PLS-SEM, razdvojeni dvostepeni pristup

JEL Classification: D23, J63, M12, M54

UVOD

Kako bi „organizacioni čvor" sačinjen od organizacione pravde, organizacione posvećenosti i namere odlaska iz organizacije bio razmršen, za istraživače je krucijalno i opredeljujuće saznanje prema kome svaka od imenovanih involviranih komponenti radno okruženje oplemenjuje međusobno korelisanim društveno-ekonomskim aspektima, zahtevajući pritom iscrpno individualno istraživanje. Studija formuliše osnovnu pretpostavku prema kojoj „favorizovanje" pravičnosti i jednakosti u organizaciji, može doneti izrazito poboljšanje stabilnosti radne

* *Korespondencija:* I. Jolović, Univerzitet u Novom Sadu, Fakultet tehničkih nauka, Trg Dositeja Obradovića 6, 21102 Novi Sad, Republika Srbija; e-mail: ivanajolovic@uns.ac.rs

snage i ukupnog finansijskog/inovativnog učinka, budući da organizaciona pravda (obuhvatajući proceduralnu, distributivnu i interakcijsku dimenziju) igra ključnu ulogu u oblikovanju posvećenosti zaposlenih i suzbijanju namera fluktuacije. Organizaciona pravda jasno predočava percepcije zaposlenih po pitanju radnog okruženja, „obuhvata" osećaj organizacione pripadnosti i emocionalnog ulaganja koji se razvija, pri čemu postaje ključna determinanta dugoročne lojalnosti zaposlenih, te sredstvo za ublažavanje fluktuacije (Imamoglu, Ince, Turkcan, Atakay, 2019; Mengstie, 2020; Budomo, 2023). Dosadašnja istraživanja ukazuju na postojanje tvrdnji prema kojima negativna percepcija organizacione pravde od strane zaposlenih može „narušiti" posvećenost i uticati na značajnu eskalaciju stope fluktuacije istih, dok pozitivna percepcija ovog fenomena u radnom okruženju kod zaposlenih može podstaći dubok osećaj lojalnosti, smanjujući verovatnoću negativnih ponašanja u vezi sa poslom. Izložene kompleksne relacije bile su u fokusu opsežnih naučnih istraživanja (Loi, Hang-Yue & Foley, 2006; Bakri & Ali, 2015; Sökmen & Ekmekçioğlu, 2016; Al-Kilani, 2017; Emeji, 2018; Khalid, Rehman & Muqadas, 2018; Khan, Afsheen, Jan & Tariq, 2018; Ekmekcioglu & Aydogan, 2019; Jang & Hwang, 2019; Kang & Sung, 2019; Mete & Sökmen, 2019; Fatima, Izhar & Kazmi, 2020; Aggarwal, Jaisinghani & Nobi, 2022; Mahfouz, Halim, Bahkia & Alias, 2022; Abdullah & Al-Abrrow, 2023; Budomo, 2023).

Prateći intelektualnu misao imenovanih istraživačkih prethodnika, ova studija povlači osnovnu istraživačku pretpostavku da, iako organizaciona pravda deluje kao fundamentalni element retencije zaposlenih (budući da utiče na percepcije i oblikovanje stavova/ponašanja istih u domenu radnog okruženja), nivo posvećenosti zapravo predstavlja ključnu komponentu koja u krajnjoj instanci determiniše nameru zaposlenih da napuste organizaciju ili ostanu u njoj. Predmet studije je temeljno ispitivanje (in)direktnih relacija koje se uočavaju između percipirane organizacione pravde, organizacione posvećenosti i namere zaposlenog da napusti organizaciju. Primarni cilj studije je da se istraži na koji način percipirana organizaciona pravda utiče na odluku prosečnog zaposlenog milenijalca da napusti organizaciju, dok se istovremeno ispituje da li nivo posvećenosti igra posredničku ulogu u ovom odnosu. Inicijalno polazište istraživanja je u teorijskom pregledu literature sa propratnim prikupljanjem statistički vrednih podataka kako bi se empirijska konekcija između organizacione pravde i organizacione posvećenosti mogla razumeti, kao dodatak istraživanju preovlađujućih trendova fluktuacije među milenijumskom generacijom zaposlenih u okviru srpskog poslovnog ambijenta. Predstavljene istraživačke namere ukazuju na targetirani istraživački gep koji prema saznanjima autora postoji, budući da studija koja kombinuje tri imenovane predmetne varijable do sada nije sprovedena na uzorku milenijumske generacije, niti u specifičnom kontekstu nacionalne privrede.

Uzevši u obzir sve navedeno, studija je strukturirana na način da obuhvati nekoliko precizno definisanih segmenata. Prvi segment - teorijski okvir istraživanja, pruža jezgrovito i sistematsko teorijsko obrazloženje svih varijabli uključenih u analizu, te pregled njihovih međusobnih relacija koji je do sada opisan u relevantnoj literaturi. Drugi segment - metodologija istraživanja, daje osvrt na, u istraživanju korišćeni, instrument za prikupljanje podataka, izlaže karakteristike uzorka, te nudi opis statističkih alata upotrebljenih za obradu i analizu prikupljenih podataka. Kroz naredni, treći segment prikazuje se istraživački model razvijen za potrebe studije i izlažu preliminarne analize; nakon čega sledi predstavljanje ključnih rezultata istraživanja, praćenih prigodnom kritičkom diskusijom (četvrti segment). Peti, završni segment studije obuhvata sažeta zaključna razmatranja, „samorefleksiju" studije, te preporuke za buduće pravce istraživanja u datoj naučnoj oblasti.

TEORIJSKI OKVIR ISTRAŽIVANJA

Konstrukt organizacione pravde obuhvata subjektivne percepcije zaposlenih o pravičnosti: praksi menadžmenta ljudskih resursa, odluka, aktivnosti i interakcija načinjenih od strane matične organizacije, zajedno sa posledičnim uticajima koje ove percepcije imaju na njihove radne stavove i ponašanje (Kim, Lin & Leung, 2015; Abdullah &

Al-Abrrov, 2023). Pojednostavljeno, organizaciona pravda predstavlja ličnu procenu etičke i moralne pozicije menadžerskog ponašanja u organizaciji, koju daju zaposleni, odnosno karakterističnu meru verovanja zaposlenih da se prema njima na radnom mestu postupa fer i pošteno (Greenberg & Colquitt, 2013). Ovo je subjektivan i deskriptivan koncept budući da uključuje uverenja pojedinaca (percepciju ispravnosti i usklađenosti sa moralnim kodeksom), a ne objektivnu stvarnost (Cropanzano, Bowen & Gilliland, 2007). Organizaciona pravda, stoga, može biti opisana kao fundamentalni koncept koji naglašava neophodnost inkorporiranja pravičnosti u organizacionu strukturnu i operativnu „bit". Umesto da bude površan dodatak, pravda mora biti duboko ukorenjena u funkcionisanje organizacije (strateško planiranje, procese donošenja odluka, te svakodnevne operacije), osiguravajući da utiče na sve interakcije/odnose zaposlenih. Uspostavljanje ove pravičnosti putem organizacione hijerarhije može uključivati različite alate i strategije (na primer, jedna od ideja kreiranja/osiguranja organizacione pravde predlaže predstavnicima menadžmenta da zauzmu perspektivu zaposlenih i ulože napore u razumevanje/podizanje svesti o tome koje vrste događaja kod zaposlenih izazivaju subjektivni osećaj organizacione pravde).

Kako što je već objašnjeno, organizaciona pravda je kompleksna i obuhvata višestruke dimenzije, uključujući: distributivnu pravdu (koja se tiče pravičnosti raspodele rezultata, poput nagrada i unapređenja, u pogledu individualnih doprinosa zaposlenih), proceduralnu pravdu (koja odražava pravičnost procesa donošenja odluka, fokusiranje na transparentnost, doslednost i mogućnost zaposlenih da daju svoj doprinos) i interakcijsku pravdu (koja se bavi pravičnošću interpersonalnog tretmana, procenjujući u kojoj meri se nadređeni, menadžeri i kolege prema zaposlenima odnose sa poštovanjem, iskreno i ujednačeno) (Kim *et al*, 2015; Al-Kilani, 2017; Dasanayake & Dharmasiri, 2020). Prethodna istraživanja (Phayoonpun & Mat, 2014; Bayarçelik & Findikli, 2016; Imamoglu *et al*, 2019; Dasanayake & Dharmasiri, 2020; Jehanzeb & Mohanty, 2020; Mengstie, 2020; Novitasari, Asbari, Wijaya & Yuwono, 2020; Zarish, Zulqarnain & Rehman, 2020; Đorđević, Milanović & Stanković, 2021; Magfuroh & Herminingsih, 2021; Mulang, 2022; Sunaris Wahyoedi & Tecoalu, 2022; Ghaderi, Tabatabaei, Khoshkam & Shahabi Sorman Abadi, 2023; Malla & Malla, 2023; Özkan, 2023; Alyahya Sobaih, Gharbi, Aliane & Bouzguenda, 2024; Moon, Lim & Kim, 2024; Yousaf, Saleem & Ishaq, 2024) otkrila su da visoka percepcija organizacione pravde generalno dovodi do pozitivnijih radnih stavova, podržavajućeg ponašanja i boljih rezultata učinka, dok percepcija nepravde može rezultirati smanjenom posvećenošću, nezadovoljstvom, smanjenim angažovanjem i motivacijom zaposlenih, te povećanom stopom fluktuacije. Razumevanje i rešavanje problematike ovih percepcija je od vitalnog značaja za organizacionu efektivnost.

Organizaciona posvećenost se može definisati kao emocionalna vezanost i odanost koju zaposleni oseća prema određenoj organizaciji (Karem, Jameel & Ahmad, 2019). Ovaj fenomen odražava stepen do koga se zaposleni identifikuje sa organizacijom-poslodavcem i njenim ciljevima, izražava zabrinutost za dugoročni uspeh i dobrobit organizacije, i oseća ponos bivajući njen pripadnik; odnosno stepen do koga zaposleni želi da zadrži svoje članstvo u istoj (Bakri & Ali, 2015; Bošković, 2021). Drugim rečima, organizaciona posvećenost predstavlja psihološku vezu zaposlenog sa organizacijom koja integriše osećaj emocionalne privrženosti, uključenosti u posao, lojalnost i veru u vrednosti organizacije. Prethodna istraživanja (Bibby, 2008; Jang & Hwang, 2019; Fatima *et al*, 2020; Guzeller & Celiker, 2020; Jolović & Berber, 2021; Aggarwal *et al*, 2022; Budomo, 2023; Chang, Kim & Yoo, 2024) utvrdila su da organizaciona posvećenost zaposlenih služi kao pokretač održive lojalnosti, te poseduje moć smanjenja stopa fluktuacije. Zaposleni koji ispoljavaju visok nivo posvećenosti skloniji su usklađivanju sa dugoročnim organizacionim ciljevima, dok istovremeno značajno doprinose kulturi kompanije i rezultatima rada. U ovom kontekstu, organizaciona posvećenost se profiliše kao ključni faktor efektivnosti, naglašavajući važnost negovanja posvećenog i angažovanog osoblja.

Namera odlaska iz organizacije, odnosno, verovatnoća da će zaposleni radnici razmišljati o

napuštanju svojih radnih mesta, blisko je povezana sa prethodno predstavljenim konceptima (Loi *et al*, 2006; Bakri & Ali, 2015; Sökmen & Ekmekçioğlu, 2016; Khalid *et al*, 2018; Mete & Sökmen, 2019; Mahfouz *et al*, 2022; Budomo, 2023). Literatura ukazuje da je odnos organizacione pravde i namere odlaska iz organizacije objašnjen pomoću tri merodavne teorije. Prva je teorija pravičnosti koja pretpostavlja da zaposleni procenjuju pravičnost upoređujući ono što doprinose (input) sa onim što dobijaju (output) od organizacije (generalno postavljajući pitanje da li je raspodela resursa pravedna). Ukoliko je ovaj odnos u balansu, namere odlaska zaposlenih nisu problem (Greenberg & Colquitt, 2013; Mulang, 2022). Druga, teorija usklađenosti ličnosti i organizacije, sugeriše da su zaposleni skloniji da ostanu u organizaciji kada su njihove lične vrednosti usklađene sa vrednostima organizacije. Zaposleni koji percipiraju podudarnost između svojih vrednosti - kao što su pravičnost i jednakost - i kulture organizacije, imaju veću verovatnoću da će iskazati značajniju posvećenost i niži nivo fluktuacije (Farooqui & Nagendra, 2014). Nasuprot tome, treća, teorija socijalne razmene, pretpostavlja da zaposleni razvijaju dubok osećaj lojalnosti kada primete postojanje recipročnog odnosa sa organizacijom. Kada se zaposleni osećaju cenjeno, te pošteno tretirano, verovatnoća da će uzvratiti povećanom posvećenošću i pozitivnim ponašanjem je veća. Ovaj dvosmerni odnos gradi radno okruženje poverenja i obaveza, što dovodi do nižih stopa fluktuacije (Cropanzano, Anthony, Daniels & Hall, 2017).

Podržane prethodnim istraživanjima i detaljno predstavljenim interkonekcijama, razvijaju se hipoteze, koje će voditi ispitivanje razmatranih aspekata organizacionog ponašanja. Prva istraživačka hipoteza (H_{01}), izvedena iz predstavljenih teorijskih uvida, pretpostavlja da viši nivoi organizacione pravde dovode do viših nivoa posvećenosti zaposlenih, konkretno da postoji direktan, statistički značajan i pozitivan uticaj percipirane organizacione pravde na organizacionu posvećenost. Druga istraživačka hipoteza (H_{02}) pretpostavlja da su viši nivoi organizacione posvećenosti povezani sa ređim formiranjem namere fluktuacije, tvrdeći da postoji direktan, statistički značajan i negativan uticaj organizacione posvećenosti na nameru odlaska iz organizacije. Treća istraživačka hipoteza (H_{03}) pretpostavlja da percipirana organizaciona pravda ima direktan, statistički značajan i negativan uticaj na nameru odlaska iz organizacije; te daje usmerenje ka formulisanju medijatorske istraživačke hipoteze za datu relaciju. Shodno tome, poslednja istraživačka hipoteza (H_{04}) pretpostavlja postojanje medijatorskog (posredničkog) efekta odnosno uloge organizacione posvećenosti u odnosu između percipirane organizacione pravde i namere odlaska iz organizacije, bazirane na konekcijama koje su prethodno ispitali autori N. Bakri i N. Ali (2015), M. H. Al-Kilani (2017), S. Khalid *et al* (2018), E. S. Mete i A. Sökmen (2019) i S. Mahfouz *et al* (2022).

METODOLOGIJA ISTRAŽIVANJA

Upitnik

Zarad prikupljanja primarnih statističkih podataka, *online* upitnik (koji je targetirao zaposlene predstavnike milenijumske generacije širom Republike Srbije tokom prvog tromesečja 2023. godine) je konstruisan korišćenjem platforme *Google Forms*. Upitnik je obuhvatio ukupno 53 pitanja. Od toga, 11 pitanja imalo je za cilj prikupljanje demografskih podataka o ispitanicima (pol, starosna kohorta, obrazovna postignuća i regionalno prebivalište), detalje o njihovom zaposlenju (trenutno stanje zaposlenosti, forma ugovora, forma i dužina zaposlenja, mesečni dohodak, veličina i sektorska pripadnost organizacije). Četrdeset dva dodatna pitanja konstruisana su radi ispitivanja primarnih istraživačkih ciljeva (konstrukti percipirana organizaciona pravda, organizaciona posvećenost i namera odlaska iz organizacije), a izvedena iz znanih, validiranih anketnih upitnika razvijenih od strane autora B. P. Niehoff i R. H. Moorman (1993), J. P. Meyer, N. J. Allen i C. A. Smith (1993), te E. K. Kelloway, B. H. Gottlieb i L. Barham (1999). Primera radi, jedan od šest iskaza razvijenih od strane autora B. P. Niehoff i R. H. Moorman (1993), koji je korišćen za merenje proceduralne pravde, bio je formulisan na sledeći način: „Sve odluke o poslu se

dosledno primenjuju na sve predviđene zaposlene"; jedan od pet iskaza koji je merio distributivnu pravdu glasio je: „Smatram da je nivo moje zarade pravičan"; dok je jedan od devet iskaza koji je trebalo da opiše interakcijsku pravdu imao sledeću sadržinu: „Pri donošenju odluka o mom poslu, generalni menadžer iskazuje brigu za moja radna prava". Primer jednog od 18 iskaza, koji je korišćen za merenje organizacione posvećenosti, glasio je: „Bio/la bih veoma srećan/na da ostatak svoje karijere provedem u ovoj organizaciji", a ekstrahovan je iz skale J. P. Meyer *et al* (1993). Konačno, primer jednog od četiri iskaza razvijenih od strane E. K. Kelloway *et al* (1999), koji je korišćen za merenje namere odlaska iz organizacije, formulisan je kao izjava: „Planiram da potražim novi posao". Detaljan pregled strukture istraživačkog upitnika predstavljen je pomoću Tabele 1.

Petostepena, psihometrijska Likertova skala stavljena je na raspolaganje učesnicima istraživanja, kako bi zabeležila njihove stavove o glavnim komponentama (varijablama) empirijske analize, odnosno pomogla u oceni upitnikom obuhvaćenih iskaza. Skala je imala opseg od 1, što označava potpuno neslaganje, do 5, što predstavlja potpuno slaganje sa izloženim izjavama.

Uzorak

Istraživački uzorak sačinjavalo je 99 ispitanika (od kojih su svi bili državljani Republike Srbije), čija je anketna podobnost potvrđena izjavama da su bili zaposleni u vreme sprovođenja ankete (početak 2023. godine). Starost ispitanika bila je unapred definisana - u istraživanje su uključeni isključivo pripadnici Generacije Y (pojedinci rođeni u periodu između 1980. i 2000. godine, opšteprihvaćeno nazvani „milenijalcima"). Radi kvaliteta interpretacije rezultata, predstavljena kohorta je nadalje podeljena u dve potkategorije - starije milenijalce (rođene između 1980. i 1990) i mlađe milenijalce (rođene između 1991. i 2000).

Tipičan ispitanik u uzorku je bio zaposleni mlađi milenijalac (67,7% uzorka) ženskog pola (62,6%), sa visokim nivoom obrazovnih postignuća, potkrepljenim posedovanjem diplome master akademskih studija (43,4%), koji trenutno živi regionu Južne i Istočne Srbije (39,4% uzorka). Zarad omogućavanja detaljnijeg uvida, demografski profil anketnih ispitanika učinjen je dostupnim u Tabeli 2.

Sa organizacionog stanovišta, tipičan ispitanik u uzorku bio je zaposleni sa punim radnim vremenom (75,8% uzorka), angažovan na neodređeno vreme (43,4%), koji je u postojećoj organizaciji proveo od 1 do 5 godina (49,5%), ostvarujući 251-500 evra mesečnih prihoda (44,4%). Njegova organizacija-poslodavac pripada privatnom sektoru (64,6%) i mikro je veličine (31,3% uzorka). Zarad omogućavanja detaljnijeg uvida, radni profil anketnih ispitanika učinjen je dostupnim u Tabeli 3.

Analiza podataka

Centralnu komponentu studije činio je sveobuhvatan pregled relevantne literature zarad detektovanja ključnih istraživačkih veza, te tehnike tematske i desk

Tabela 1 Struktura anketnog upitnika

Konstrukt	Ukupan broj pitanja	Vrsta varijable	Skala	Izvor
Percipirana organizaciona pravda Proceduralna pravda (6) Distributivna pravda (5) Interakcijska pravda (9)	20	Nezavisna varijabla	Skala percipirane org. pravde	Niehoff & Moorman (1993)
Organizaciona posvećenost	18	Zavisna, medijatorska varijabla	Upitnik organizacione posvećenosti	Meyer *et al* (1993)
Namera odlaska iz organizacije	4	Zavisna varijabla	Skala namere odlaska iz organizacije	Kelloway *et al* (1999)

Izvor: Autori

Tabela 2 Demografski profil anketnih ispitanika

Parametar	Periodičnost	Procenat
Pol		
Muški	37	37,4
Ženski	62	62,6
Kompletan uzorak ispitanika	99	100,0
Starosna kohorta		
Rođeni 1980-1990. (stariji milenijalci)	32	32,3
Rođeni 1991-2000. (mlađi milenijalci)	67	67,7
Kompletan uzorak ispitanika	99	100,0
Obrazovna postignuća		
Osnovno obrazovanje	0	0,0
Srednje obrazovanje	12	12,1
Više obrazovanje	2	2,0
Visoko obrazovanje (Bachelor)	36	36,4
Visoko obrazovanje (Master)	43	43,4
Visoko obrazovanje (Ph.D.)	6	6,1
Kompletan uzorak ispitanika	99	100,0
Regionalno prebivalište u okviru granica Republike Srbije		
Vojvodina	8	8,1
Beograd	19	19,2
Južna i Istočna Srbija	39	39,4
Šumadija i Zapadna Srbija	33	33,3
Kosovo i Metohija	0	0,0
Kompletan uzorak ispitanika	99	100,0

Izvor: Autori

analize, koje su poslužile kao krucijalni istraživački instrumenti za postizanje „naučne dubine" istraživanja. Pre sprovođenja empirijske analize podataka, renomirani softver *IBM SPSS Statistics 26.0* (IBM Corporation, 2019) upotrebljen je radi kreiranja profila tipičnog ispitanika kroz analizu frekvencije. Za validaciju predloženog istraživačkog modela, studija je upotrebila specijalizovanu proceduru Modeliranje strukturnih jednačina, pomoću tehnike parcijalnih najmanjih kvadrata (*Partial Least Squares Structural Equation Modeling - PLS-SEM*), koristeći pritom napredne mogućnosti SmartPLS 4.0 softvera (Ringle, Wende & Becker, 2022) za rigorozno testiranje predloženih hipoteza istraživanja.

Tabela 3 Radni profil anketnih ispitanika

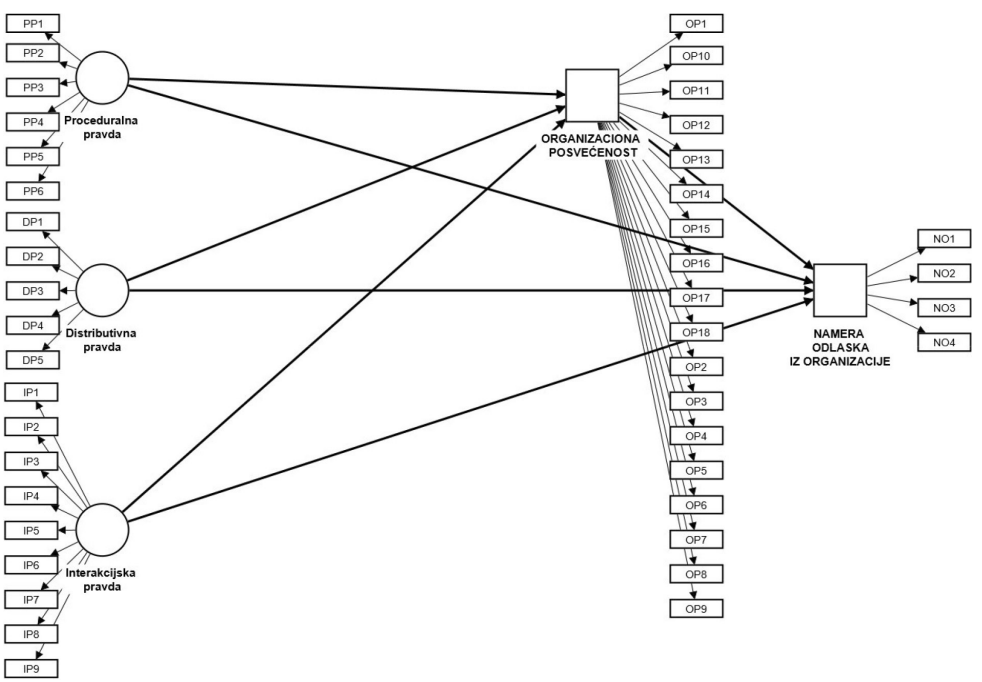
Parametar	Periodičnost	Procenat
Trenutno stanje zaposlenosti		
U radnom odnosu	99	100,0
Van radnog odnosa	0	0,0
Kompletan uzorak ispitanika	99	100,0
Forma ugovora		
Stalni radni odnos	43	43,4
Privremeni radni odnos	38	38,4
Rad van radnog odnosa	9	9,1
Rad bez ugovora	9	9,1
Kompletan uzorak ispitanika	99	100,0
Forma zaposlenja		
Puno radno vreme	75	75,8
Nepuno radno vreme	24	24,2
Kompletan uzorak ispitanika	99	100,0
Dužina zaposlenja		
Kraća od 1 godine	22	22,2
1-5	49	49,5
6-10	18	18,2
11-15	8	8,1
16-20	2	2,0
Duža od 20 godina	0	0,0
Kompletan uzorak ispitanika	99	100,0
Mesečni dohodak		
Do EUR 250	18	18,2
EUR 251-500	44	44,4
EUR 501-750	20	20,2
EUR 751-1.000	10	10,1
Preko EUR 1.000	7	7,1
Kompletan uzorak ispitanika	99	100,0
Sektorska pripadnost organizacije		
Javna	35	35,4
Privatna	64	64,6
Kompletan uzorak ispitanika	99	100,0
Veličina organizacije		
Mikro (1-9 zaposlenih)	31	31,3
Mala (10-49 zaposlenih)	18	18,2
Srednja (50-249 zaposlenih)	25	25,3
Velika (250 zaposlenih ili više)	25	25,2
Kompletan uzorak ispitanika	99	100,0

Izvor: Autori

ISTRAŽIVAČKI MODEL I PRELIMINARNE ANALIZE

Rastući trend u proceni modela strukturnih jednačina promoviše korišćenje Modeliranja strukturnih jednačina pomoću tehnike parcijalnih najmanjih kvadrata (PLS-SEM), o čemu svedoče vodeća istraživanja (Wong, 2013; Hair, Sarstedt, Hopkins & Kuppelwieser, 2014; Hair, Risher, Sarstedt & Ringle, 2019; Jolović & Berber, 2021). Pored toga, nedavne studije u domenu društvenih nauka istakle su značajnu popularnost kompozitnih metoda za modelovanje kompleksnih međusobnih relacija posmatranih latentnih varijabli (Sarstedt, Hair, Cheah, Becker & Ringle, 2019), idući izvan tradicionalnih konceptualizacija konstrukata, koje generalno deluju na jednom nivou apstrakcije. Korišćenje konstrukata višeg reda postalo je primetno rasprostranjeno, budući da pruža okvir za analizu konstrukata kako na apstraktnom (višem), tako i na specifičnijem (nižem) nivou. Kao što su Hair *et al* (2019) polemisali, istraživači na raspolaganju imaju različite metodologije za identifikaciju konstrukata višeg reda, uključujući Pristup ponavljajućih indikatora (*Repeated Indicators Approach*) i Razdvojeni dvostepeni pristup (*Disjoint Two-stage Approach*). Pregled literature od strane M. Sarstedt *et al* (2019), pak, otkriva da značajna većina studija u domenu društvenih nauka (preko 80%) koristi Razdvojeni dvostepeni pristup, za razliku od Pristupa ponavljajućih indikatora. Shodno tome, ovo istraživanje će u svoju strukturu inkorporirati navedeni preovlađujući istraživački pristup.

Istraživački model predložen od strane autora je reflektivno-reflektivnog tipa i integriše Razdvojeni dvostepeni pristup (karakterisan različitom preliminarnom i definitivnom fazom). U prvoj fazi, model uključuje 42 indikatora, koji zajedno formiraju tri konstrukta nižeg reda (poddimenzije percipirane organizacione pravde - proceduralna, distributivna i interakcijska pravda) i dva konstrukta višeg reda (organizaciona posvećenost i namera odlaska iz organizacije), zajedno sa njihovim isprepletanim strukturnim relacijama. Detaljan pregled preliminarne faze reflektivno-reflektivnog modela istraživanja sledi (Slika 1).



Slika 1 Istraživački model u preliminarnoj fazi

Izvor: Autori

Inicijalna procena pouzdanosti uključenih reflektivnih indikatora identifikovala je određen broj onih (PP1, OP2, OP3, OP7, OP9, OP10, OP11, OP12, OP14, OP15, OP17) koji nisu uspeli da dostignu unapred definisani prag pouzdanosti od 0,70. Ovaj kriterijum pokazuje da kada indikator dostigne ili premaši propisanu vrednost, pridruženi istraživački konstrukt čini preko 50% varijanse uočene u indikatoru (Hair *et al*, 2019). Pobrojanih 11 indikatora nije dostiglo navedeni nivo pouzdanosti, te je i isključeno iz dalje analize. Indikatori koji su ispunili kriterijume pouzdanosti predstavljeni su Tabelom 4 i ilustrovani Slikom 2.

Kako bi merni istraživački model bio ocenjen, konstrukti preliminarne faze prolaze niz rigoroznih procena (Hair *et al*, 2019; Jolović & Jolović, 2023):

- Testiranje interne konzistentnosti - koja se može verifikovati pomoću Kronbahovog alfa koeficijenta (*Cronbach's Alpha*) i kriterijuma Kompozitne pouzdanosti (*Composite Reliability Rho_A* i *Composite Reliability Rho_C)* koji zahtevaju premašivanje granične vrednosti od 0,70 od strane konstrukata, ne bi li isti bili ocenjeni kao adekvatni;
- Testiranje konvergentne validnosti - koje se može sprovesti korišćenjem metrike Prosečna vrednost izdvojene varijanse (*Average Variance Extracted - AVE*) sa graničnom vrednošću od 0,50 ili više, koja ukazuje da su konstrukti u stanju da objasne najmanje 50% varijanse svojih pripadajućih stavki;
- Testiranje diskriminantne validnosti - koja se može verifikovati kroz Fornell-Larcker kriterijum koji osigurava da se svaki pojedinačni konstrukt dovoljno razlikuje od svih ostalih konstrukata u istraživačkom modelu upoređivanjem prosečne vrednosti izdvojene varijanse (*Average Variance Extracted - AVE*) za svaki konstrukt sa kvadratom međukonstrukcijskih korelacija.

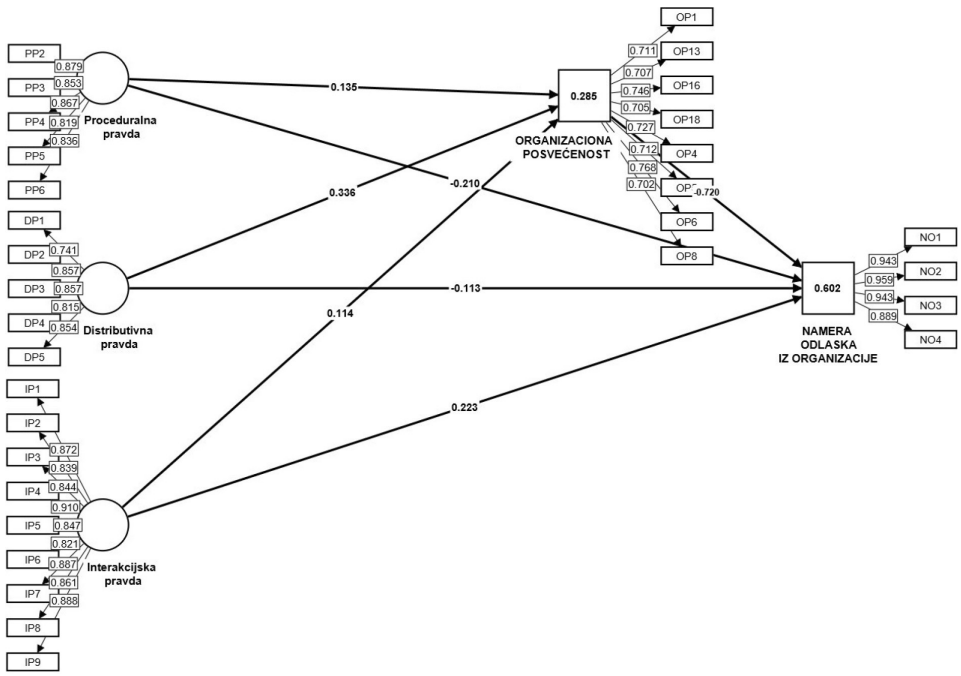
Rezultati sumirani u Tabeli 5 i Tabeli 6, na osnovu evaluacije svih pet razjašnjenih metrika, potvrđuju da su svi konstrukti dostigli unapred definisane kriterijume, te da su podobni za uključivanje u naredne segmente proračuna, odnosno da je svaki konstrukt ponaosob potvrdio sopstvenu jedinstvenost i opravdao vlastiti tretman nezavisnog entiteta u okviru sprovedene studije.

Tabela 4 Testiranje pouzdanosti indikatora

Indikatori	Konstrukti				
	Distributivna pravda	Interakcijska pravda	Namera odlaska iz organizacije	Organizaciona posvećenost	Proceduralna pravda
DP1	0,741				
DP2	0,857				
DP3	0,857				
DP4	0,815				
DP5	0,854				
IP1		0,872			
IP2		0,839			
IP3		0,844			
IP4		0,910			
IP5		0,847			
IP6		0,821			
IP7		0,887			
IP8		0,861			
IP9		0,888			
IP1			0,943		
IP2			0,959		
IP3			0,943		
IP4			0,889		
OP1				0,711	
OP13				0,707	
OP16				0,746	
OP18				0,705	
OP4				0,727	
OP5				0,712	
OP6				0,768	
OP8				0,702	
PP2					0,879
PP3					0,853
PP4					0,867
PP5					0,819
PP6					0,836

Izvor: Autori

Nakon evaluacije konstrukata preliminarne faze u okviru Razdvojenog dvostepenog pristupa, formiran je reflektivno-reflektivni merni model u svojoj definitivnoj fazi (Slika 3), sa fokusom koji je sada usmeren na procenu poslednje uvedene konstrukcije višeg reda.



Slika 2 Rezultati provere pouzdanosti indikatora

Izvor: Autori

Tabela 5 Testiranje interne konzistentnosti i konvergentne validnosti konstrukata u preliminarnoj fazi

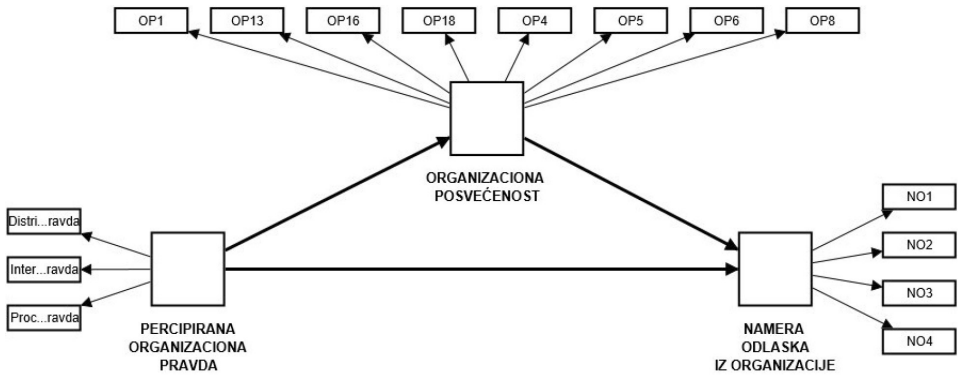
Konstrukti	Kronbahov alfa koeficijent	Kompozitna pouzdanost (Rho_A)	Kompozitna pouzdanost (Rho_C)	Prosečna vrednost izdvojene varijanse (AVE)
Distributivna pravda	0,883	0,889	0,915	0,682
Interakcijska pravda	0,957	0,961	0,964	0,746
Namera odlaska iz organizacije	0,951	0,954	0,964	0,872
Organizaciona posvećenost	0,869	0,871	0,897	0,522
Proceduralna pravda	0,905	0,915	0,929	0,724

Izvor: Autori

Tabela 6 Testiranje diskriminantne validnosti konstrukata u preliminarnoj fazi

Fornell-Larcker kriterijum					
Konstrukti	Distributivna pravda	Namera odlaska iz organizacije	Interakcijska pravda	Organizaciona posvećenost	Proceduralna pravda
Distributivna pravda	0,826				
Namera odlaska iz organizacije	-0,446	0,934			
Interakcijska pravda	0,743	-0,381	0,864		
Organizaciona posvećenost	0,507	-0,764	0,477	0,722	
Proceduralna pravda	0,639	-0,414	0,843	0,446	0,851

Izvor: Autori



Slika 3 Istraživački model u svojoj definitivnoj fazi

Izvor: Autori

Procena preostalog konstrukta višeg reda počinje proverom pouzdanosti interne konzistentnosti i konvergentne validnosti samog konstrukta, nakon čega sledi testiranje diskriminantne validnosti istog (Hair *et al*, 2019; Jolović & Jolović, 2023). Imajući u vidu kriterijume detaljno obrazložene u prethodnom odeljku, može se zaključiti da konstrukt višeg reda, percipirana organizaciona pravda, takođe zadovoljava propisane standarde interne konzistentnosti (0,896, 0,897 i 0,935 - svi premašuju granicu od 0,70), konvergentne validnosti (0,828 premašuje granicu od 0,50), te diskriminantne validnosti (0,934 je veće od -0,764 i -0,456; odnosno 0,722 je veće od 0,525). Tabele 7 i 8 pružaju detaljan uvid u protumačene podatke.

Tabela 7 Testiranje interne konzistentnosti i konvergentne validnosti za konstrukt višeg reda u definitivnoj fazi

Konstrukt višeg reda	Kronbahov alfa koeficijent	Kompozitna pouzdanost (Rho_A)	Kompozitna pouzdanost (Rho_C)	Prosečna vrednost izdvojene varijanse (AVE)
Percipirana organizaciona pravda	0,896	0,897	0,935	0,828

Izvor: Autori

Tabela 8 Testiranje diskriminantne validnosti konstrukata višeg reda u definitivnoj fazi

Fornell-Larcker kriterijum			
Konstrukt višeg reda	Namera odlaska iz organizacije	Organizaciona posvećenost	Percipirana organizaciona pravda
Namera odlaska iz organizacije	0,934		
Organizaciona posvećenost	-0,764	0,722	
Percipirana organizaciona pravda	-0,456	0,525	0,910

Izvor: Autori

REZULTATI I DISKUSIJA

Po završetku svih konstitutivnih proračuna, procena ukupne adekvatnosti, validnosti i robusnosti strukturnog modela može biti izvršena putem koeficijenata determinacije (R^2 i prilagođeni R^2) za zavisne konstrukte. Kako je pojašnjeno od strane J. F. Hair *et al* (2019), ovi koeficijenti kvantifikuju proporciju varijanse objašnjenu u svakom endogenom konstruktu, tačnije, oni imaju sposobnost da kvantifikuju eksplanatorni kapacitet istraživačkog modela. Vrednost R^2, koja se kreće od 0 do 1, označava

stepen eksplanatorne snage. Približna vrednost od 0,19 se koristi da opiše slabu, vrednost od 0,33 umerenu, a vrednost od 0,67 da opiše značajnu eksplanatornu moć koju istraživački model poseduje. Izračunati, koeficijenti determinacije za konstrukte organizaciona posvećenost i namera odlaska iz organizacije dati su u Tabeli 9. Konkretno, vrednost R^2 za organizacionu posvećenost iznosi 0,276, što ukazuje da upotrebljeni model istraživanja poseduje slabu do umerenu prediktivnu sposobnost po pitanju ove zavisne varijable. Nasuprot tome, vrednost R^2 za nameru odlaska iz organizacije iznosi 0,588, što sugeriše da istraživački model poseduje umerenu do visoku prediktivnu sposobnost po pitanju ove zavisne varijable.

Tabela 9 Testiranje eksplanatornog kapaciteta istraživačkog modela

	R2	Prilagođeni R2
Namera odlaska iz organizacije	0,588	0,579
Organizaciona posvećenost	0,276	0,268

Izvor: Autori

Nakon što je eksplanatorni kapacitet modela za podatake ustanovljen, sledeća faza uključuje procenu značajnosti glavnih strukturalnih putanja (*Path Coefficients*) u okviru istraživanja. Ova procena izvršena je pomoću *Bootstrapping* tehnike (upotrebljeno je 5.000 iteracija) i t-testa za prag značajnosti od 0,05 (što odgovara intervalu poverenja od 95%). Detaljno prikazani u Tabeli 10, rezultati potvrđuju postojanje direktnog, statistički značajnog i pozitivnog uticaja percipirane organizacione pravde na organizacionu posvećenost (β = 0,525, t = 6,945, p1 = 0,000, p < 0,05). Pored toga, utvrđen je i direktan, statistički značajan i negativan uticaj organizacione posvećenosti na nameru odlaska iz organizacije (β = -0,724, t = 10,899, p2 = 0,000, p < 0,05). Izloženi nalazi potkrepljuju usvajanje istraživačkih hipoteza H_{01} i H_{02}. Nadalje, nasuprot iskazu koji je pretpostavljen istraživačkom hipotezom $H_{03,}$ utvrđeno je da direktan efekat percipirane organizacione pravde na nameru odlaska iz organizacije nema statističku značajnost (β = -0,076, t = 1,062, p3 = 0,288, p $\not<$ 0,05 - stoga, data hipoteza se odbacuje).

Budući da rezultati, dati u prethodnoj tabeli (Tabela 10), ukazuju da direktna, statistički značajna veza između percipirane organizacione pravde i namere odlaska iz organizacije ne postoji, neophodno je istražiti postojanje bilo koje potencijalne posredničke varijable koja bi mogla povezati ove konstrukte. Nalazi testiranja specifičnih indirektnih efekata u predloženom istraživačkom modelu (predstavljeni u Tabeli 11) pokazuju da organizaciona posvećenost deluje kao posrednička varijabla u odnosu između percipirane organizacione pravde i namere zaposlenih da odu iz organizacije (β = -0,380, t = 5,717). Štaviše, ovaj posrednički efekat je dokazano statistički značajan (p = 0,000, p < 0,05) i omogućava usvajanje hipoteze H_{04}. Polazeći od činjenice da su vrednosti p1 (0,525) i p2 (-0,724) statistički značajne, odnosno da vrednost

Tabela 10 Testiranje direktnih efekata istraživačkog modela

	Originalni uzorak (O)	Srednja vrednost uzorka (M)	Standardna devijacija (STDEV)	T statistika (|O/STDEV|)		P vrednosti
Organizaciona posvećenost → Namera odlaska iz organizacije	-0,724	-0,733	0,066	10,899	p2	0,000
Percipirana organizaciona pravda → Namera odlaska iz organizacije	-0,076	-0,069	0,071	1,062	p3	0,288
Percipirana organizaciona pravda → Organizaciona posvećenost	0,525	0,531	0,076	6,945	p1	0,000

Izvor: Autori

Tabela 11 Testiranje specifičnog indirektnog (posredničkog) efekta u istraživačkom modelu

	Originalni uzorak (O)	Srednja vrednost uzorka (M)	Standardna devijacija (STDEV)	T statistika (|O/STDEV|)	P vrednost
Percipirana organizaciona pravda → Organizaciona posvećenost → Namera odlaska iz organizacije	-0,380	-0,389	0,067	5,717	0,000

Izvor: Autori

Tabela 12 Provera ukupnog efekta u strukturalnom istraživačkom modelu

	Originalni uzorak (O)	Srednja vrednost uzorka (M)	Standardna devijacija (STDEV)	T statistika (|O/STDEV|)	P vrednost
Percipirana organizaciona pravda → Namera odlaska iz organizacije	-0,456	-0,457	0,078	5,841	0,000

Izvor: Autori

p3 (-0,076) nije statistički značajna, može se zaključiti da se u okviru korišćenog modela zabeleženo posredovanje može opisati kao potpuna medijacija (postojanje samo indirektnog efekta) (Nitzl, Roldan & Cepeda, 2016). Pojednostavljeno, to znači da se uticaj percipirane organizacione pravde na nameru odlaska zaposlenih iz organizacije u potpunosti prenosi kroz njihovu organizacionu posvećenost.

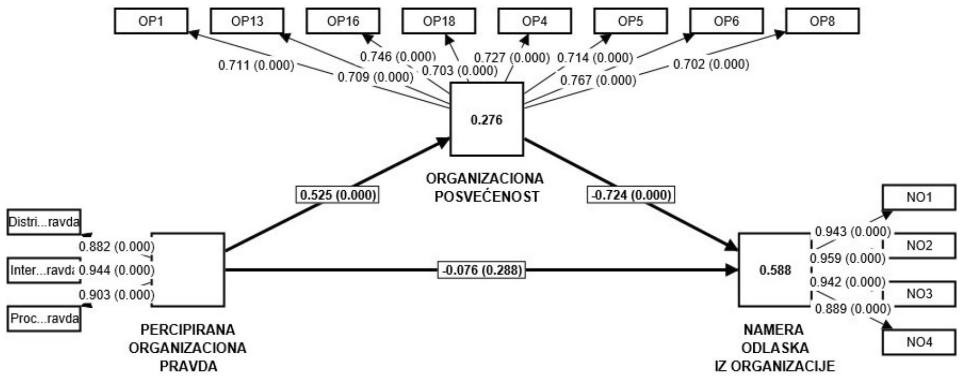
Kao finalni, ali kritičan korak u evaluaciji strukturnog istraživačkog modela, neophodno je proceniti ukupni registrovani, tzv. totalni efekat. Nalazi ukazuju da je ukupni efekat percipirane organizacione pravde na nameru odlaska iz organizacije negativan i statistički značajan (β = -0,456, t = 5,841, p = 0,000), sa nivoom značajnosti od 0,05, pa čak i 0,01 (odnosno, uz intervale poverenja od 95% i 99%, respektivno). Ovi rezultati (prikazani u Tabeli 12) konačno potvrđuju da percipirana organizaciona pravda ima indirektan statistički značajan, negativan uticaj na nameru zaposlenih da napuste organizaciju, uz organizacionu posvećenost kao posredničku varijablu u njihovom odnosu.

Dobijeni rezultati u skladu su sa nalazima prethodnih istraživanja autora koji su ispitivali iste relacije (sa delimičnim neslaganjem isključivo u istraživačkim rezultatima koji se odnose na statističku značajnost direktnog uticaja percipirane organizacione pravde na nameru odlaska iz organizacije) (Loi *et al*, 2006; Bakri & Ali, 2015; Sökmen & Ekmekçioğlu, 2016; Al-Kilani, 2017; Khalid *et al*, 2018; Khan *et al*, 2018; Ekmekcioglu & Aydogan, 2019; Imamoglu *et al*, 2019; Mete & Sökmen, 2019; Jehanzeb & Mohanty, 2020; Zarish *et al*, 2020; Jolović & Berber, 2021; Magfuroh & Herminingsih, 2021; Mahfouz *et al*, 2022; Abdullah & Al-Abrrow, 2023; Moon *et al*, 2024; Chang *et al*, 2024.).

Radi jasnoće i veće transparentnosti, nalazi istraživanja predstavljeni u prethodnim tabelama su takođe prikazani i vizuelno. Slika 4 daje detaljan pregled rezultata strukturnog istraživačkog modela.

ZAKLJUČAK

Razumevanje kompleksne dinamike retencije zaposlenih podrazumeva istraživačko udubljivanje u spoznaju uloge organizacione posvećenosti u širem kontekstu organizacione pravde. Ovo istraživanje bavi se pitanjem posredničke uloge organizacione posvećenosti u kompleksnom odnosu percipirane organizacione pravde zaposlenih i njihove namere da napuste organizaciju.



Slika 4 Istraživački model sa prikazanim rezultatima

Izvor: Autori

Nalazi istraživanja pružili su ubedljive empirijske dokaze, koji potvrđuju pozitivnu i direktnu korelaciju percipirane organizacione pravde i organizacione posvećenosti, naglašavajući krucijalnu ulogu posvećenosti u negovanju veze sa namerama zaposlenih da odu. Preciznije, detaljno empirijsko istraživanje potvrdilo je da organizaciona pravda deluje kao značajan pokretač posvećenosti, povećavajući privrženost i lojalnost zaposlenih organizaciji, što dalje podržava istraživačku hipotezu H_{01} (percipirana organizaciona pravda ima direktan, statistički značajan i pozitivan uticaj na organizacionu posvećenost zaposlenih). Tabela 10 predstavlja ove nalaze (β = 0,525, t = 6,945, p = 0,000). Dodatno, kroz sprovedeno istraživanje, potkrepljena je i premisa postavljena istraživačkom hipotezom H_{02} - organizaciona posvećenost utiče na nameru zaposlenih da napuste organizaciju (β = -0,724, t = 10,899, p = 0,000, rezultati u Tabeli 10). Ova relacija je direktna, statistički značajna i negativna. Delimično neočekivano, ustanovljeno je da direktan, negativan efekat na relaciji percipirana organizaciona pravda→namera odlaska iz organizacije ne odlikuje statistička značajnost (β = -0,076, t = 1,062, p = 0,288, rezultati u Tabeli 10), čime je trećoj hipotezi istraživanja (H_{03}) uskraćena validacija. Konačno, dokazana odvojena povezanost organizacione posvećenosti sa dve glavne istraživačke varijable (percipiranom organizacionom pravdom i namerom odlaska iz organizacije) dala je mogućnost ispitivanja posredničke uloge date varijable u njihovom odnosu. Finalni proračuni pružili su dovoljno dokaza da se i istraživačka hipoteza H_{04} usvoji, tačnije, da se potvrdi postojanje posredničkog efekta (potpuna medijacija), koji organizaciona posvećenost ima u odnosu između percipirane organizacione pravde i namere odlaska zaposlenih iz organizacije, kako je i demonstrirano rezultatima (β = -0,380, t = 5,717, p = 0,000; Tabela 11). Svi izloženi rezultati (sa jednim izuzetkom) korespondiraju sa nalazima istraživačkih prethodnika na koje je upućeno nešto ranije - u tekstu predzaključnog poglavlja.

Dobijeni nalazi ukazuju na to da, iako organizaciona pravda služi kao temeljni stub koji utiče na percepcije i oblikuje stavove zaposlenih milenijalaca unutar organizacionog konteksta, u srži je nivo posvećenosti taj koji konačno određuje da li će angažovani pojedinci odlučiti da ostanu ili odu. Istraživanje je potvrdilo vitalni značaj negovanja osećaja organizacione posvećenosti među nacionalnom radnom snagom, budući da isti deluje kao amortizer negativnih efekata uočene nepravde i oruđe koje doprinosi ublažavanju namera fluktuacije.

Sprovedeno istraživanje pruža originalan naučni doprinos naučnoj oblasti. Međutim, ono takođe ispoljava nekoliko značajnih ograničenja, uključujući relativno malu veličinu uzorka i isključivu koncentrisanost na milenijalce iz Republike Srbije, što može ograničiti generalizaciju nalaza. Ipak, budući da su nalazi relevantni i veoma korisni za rukovodeće osoblje unutar pomenute nacionalne ekonomije, koja trenutno prvenstveno zapošljava ispitanu starosnu kohortu, te shodno činjenici da srpski

milenijalci dele mnogobrojne opšte karakteristike sa svojim vršnjacima u drugim državama (Kovačević & Labrović, 2018), važnost ovog ograničenja bi se delimično mogla prenebregnuti, a studija čak mogla posmatrati kao inspiracija i pružalac vredne osnove za buduća istraživanja, jer razmatra ponašanje trenutno globalno dominantne demografske kategorije radne snage. Naredno ograničenje odnosi se na činjenicu da studija delimično pojednostavljuje složene koncepte koji se odnose na organizacionu pravdu, organizacionu posvećenost i nameru odlaska iz organizacije, potencijalno zanemarujući njihove višestruke psihološke, ekonomske i socijalne dimenzije. Konačno, istraživanje se nije bavilo spoljnim faktorima koji bi mogli značajno uticati na percepciju organizacione pravde zaposlenih. Da bi se prevazišla ova ograničenja, buduća istraživanja bi trebalo da upotrebe longitudinalne, višekohortne, međukulturalne i sektorski-specifične pristupe, uzimajući u obzir spoljne uticaje i ekonomske izazove, kako bi se omogućilo dublje razumevanje ovog pitanja u organizacionom istraživanju.

ZAHVALNICA

Ovo istraživanje je podržano od strane Ministarstva nauke, tehnološkog razvoja i inovacija Republike Srbije (br. Ugovora: 451-03-65/2024-03/200156) i Fakulteta tehničkih nauka Univerziteta u Novom Sadu kroz projekat „Naučnoistraživački i umetničkoistraživački rad istraživača u nastavnim i saradničkim zvanjima Fakulteta tehničkih nauka Univerziteta u Novom Sadu" (br. 01-3394/1).

Ovo istraživanje takođe je podržano od strane Ministarstva prosvete, nauke i tehnološkog razvoja Republike Srbije kroz „Projekat osnovnih istraživanja" (br. 179062).

Ovo istraživanje takođe je podržano od strane Ministarstva nauke, tehnološkog razvoja i inovacija Republike Srbije (br. Ugovora: 451-03-47/2023-01/200005) i Instituta ekonomskih nauka u Beogradu.

REFERENCE

Abdullah, H. O., & Al-Abrrow, H. (2023). Impact of perceived organisational justice, support and identity on workplace behaviour through job attitudes: Verification in the role of LOC. *International Journal of Organizational Analysis*, *31*(6), 2645-2664. https://doi.org/10.1108/IJOA-01-2022-3099

Aggarwal, A., Jaisinghani, D., & Nobi, K. (2022). Effect of organizational justice and support on organizational commitment and employee turnover intentions: The mediating role of employee engagement. *International Journal of Quality and Service Sciences*, *14*(4), 525-554. https://doi.org/10.1108/IJQSS-08-2021-0112

Al-Kilani, M. H. (2017). The influence of organizational justice on intention to leave: Examining the mediating role of organizational commitment and job satisfaction. *Journal of Management and Strategy*, *8*(1), 18-27. https://doi.org/10.5430/jms.v8n1p18

Alyahya, M. A., Sobaih, A. E. E., Gharbi, H., Aliane, N., & Bouzguenda, K. (2024). To leave or not to leave: Does trust really matter in the nexus between organizational justice and turnover intention among female employees? *Journal of Infrastructure, Policy and Development*, *8*(5), 5077/1-25. https://doi.org/10.24294/jipd.v8i5.5077

Bakri, N., & Ali, N. (2015). The impact of organizational justice on turnover intention of bankers of KPK, Pakistan: The mediator role of organizational commitment. *Asian Social Science*, *11*(21), 143-147. https://doi.org/10.5539/ass.v11n21p143

Bayarçelik, E. B., & Findikli, M. A. (2016). The mediating effect of job satisfaction on the relation between organizational justice perception and intention to leave. *Procedia - Social and Behavioral Sciences*, 235, 403-411. https://doi.org/10.1016/j.sbspro.2016.11.050

Bibby, C. L. (2008). Should I stay or should I leave? Perceptions of age discrimination, organizational justice, and employee attitudes on intentions to leave. *Journal of Applied Management and Entrepreneurship*, *13*(2), 63-86.

Bošković, A. (2021). Employee autonomy and engagement in the digital age: The moderating role of remote working. *Economic Horizons, 23*(3), 231-246. https://doi.org/10.5937/ekonhor2103241B

Budomo, X. M. (2023). The mediating role of organizational justice on organizational commitment and turnover intention among employees. *Review of Integrative Business and Economics Research*, *12*(2), 209-226. https://doi:10.14293/S2199-1006.1.SOR-.PPMMNJI.v1

Chang, Y., Kim, C., & Yoo, J. (2024). Does justice matter? Evaluating the usefulness of commitment and innovative work behavior as a predictor of turnover intention of Korean employees. *Sustainability*, *16*(3), 1054/1-16. https://doi.org/10.3390/su16031054

Cropanzano, R., Anthony, E. L., Daniels, S. R., & Hall, A. V. (2017). Social exchange theory: a critical review with theoretical remedies. *Academy of Management Annals*, *11*(1), 479-516. https://doi.org/10.5465/annals.2015.0099

Cropanzano, R., Bowen, D. E., & Gilliland, S. W. (2007). The management of organizational justice. *Academy of Management Perspectives*, *21*(4), 34-48. https://doi.org/10.5465/amp.2007.27895338

Dasanayake, T. W., & Dharmasiri, A. S. (2020). The impacts of perceived justice and organization-employee relationship quality on the turnover intention of operational level employees. *Sri Lankan Journal of Management*, *25*(2), 64-91.

Đorđević, B., Milanović, S., & Stanković, J. (2021). The influence of communication satisfaction on job satisfaction - the case of employees in the Republic of Serbia. *Economic Horizons*, *23*(2), 165-178. https://doi.org/10.5937/ekonhor2102173D

Ekmekcioglu, E. B., & Aydogan, E. (2019). A moderated mediation model of the relationship between organizational justice and turnover intention. *International Journal of Organizational Analysis*, *27*(4), 1073-1092. https://doi.org/10.1108/IJOA-06-2018-1448

Emeji, T. I. (2018). Organizational justice and turnover intention. *Noble International Journal of Social Sciences Research*, *3*(12), 97-104.

Farooqui, M. S., & Nagendra, A. (2014). The impact of person organization fit on job satisfaction and performance of the employees. *Procedia Economics and Finance*, 11, 122-129. https://doi.org/10.1016/S2212-5671(14)00182-8

Fatima, M., Izhar, Z., & Kazmi, Z. A. (2020). Organizational justice and employee sustainability: The mediating role of organizational commitment. *SEISENSE Journal of Management*, *3*(3), 12-22.

Ghaderi, Z., Tabatabaei, F., Khoshkam, M., & Shahabi Sorman Abadi, R. (2023). Exploring the role of perceived organizational justice and organizational commitment as predictors of job satisfaction among employees in the hospitality industry. *International Journal of Hospitality & Tourism Administration*, *24*(3), 415-444. https://doi.org/10.1080/15256480.2021.1988882

Greenberg, J., & Colquitt, J. A. (2013). *Handbook of Organizational Justice*. New York: Lawrence Erlbaum Associates, Inc.

Guzeller, C. O., & Celiker, N. (2020). Examining the relationship between organizational commitment and turnover intention via a meta-analysis. *International Journal of Culture, Tourism and Hospitality Research*, *14*(1), 102-120. https://doi.org/10.1108/IJCTHR-05-2019-0094

Hair, J. F., Risher, J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. *European Business Review*, *31*(1), 2-24. https://doi.org/10.1108/EBR-11-2018-0203

Hair, J. F., Sarstedt, M., Hopkins, L., & Kuppelwieser, V. G. (2014). Partial least squares structural equation modeling (PLS-SEM): An emerging tool in business research. *European Business Review*, *26*(2), 106-121. https://doi.org/10.1108/EBR-10-2013-0128

IBM Corporation. (2019). *IBM SPSS Statistics for Windows: Version 26.0*. New York: IBM Corporation.

Imamoglu, S. Z., Ince, H., Turkcan, H., & Atakay, B. (2019). The effect of organizational justice and organizational commitment on knowledge sharing and firm performance. *Procedia Computer Science*, 158, 899-906. https://doi.org/10.1016/j.procs.2019.09.129

Jang, S., & Hwang, C. (2019). Effect of employer's justice in digital content company on their turn-over intention, through organizational commitment. *Journal of Korea Society of Digital Industry and Information Management*, *15*(3), 225-239. https://doi.org/10.17662/ksdim.2019.15.3.225

Jehanzeb, K., & Mohanty, J. (2020). The mediating role of organizational commitment between organizational justice and organizational citizenship behavior: Power distance as moderator. *Personnel Review*, *49*(2), 445-468. https://doi.org/10.1108/PR-09-2018-0327

Jolović, I., & Berber, N. (2021). Uticaj praksi menadžmenta ljudskih resursa na nameru odlaska iz organizacije: Medijatorska uloga organizacione posvećenosti. *Ekonomski izazovi*, *10*(20), 96-114. https://doi.org/10.5937/EkoIzazov2120096J

Jolović, I., & Jolović, N. (2023). The linkage of organizational culture with organizational commitment: prospects for embedding a sustainable development strategy at the corporate level. In Lošonc, A. & Ivanišević, A., (Eds.), *Proceedings of the 9th International Scientific Conference "Socio-economic Aspects of Development after the Pandemic"* (pp. 129-151). Novi Sad: Faculty of Technical Sciences, University of Novi Sad.

Kang, M., & Sung, M. (2019). To leave or not to leave: the effects of perceptions of organizational justice on employee turnover intention via employee-organization relationship and employee job engagement. *Journal of Public Relations Research*, *31*(5-6), 152-175. https://doi.org/10.1080/1062726X.2019.1680988

Karem, M. A., Jameel, A. S., & Ahmad, A. R. (2019). The impact of organizational justice dimensions on organizational commitment among bank employees. *International Journal of Psychosocial Rehabilitation*, *23*(2), 502-513.

Kelloway, E. K., Gottlieb, B. H., & Barham, L. (1999). The source, nature, and direction of work and family conflict: A longitudinal investigation. *Journal of Occupational Health Psychology*, *4*(4), 337-346. https://doi.org/10.1037/1076-8998.4.4.337

Khalid, S., Rehman, C. A., & Muqadas, F. (2018). Exploring the mediating role of affective commitment on organizational justice and turnover intention. *Pakistan Business Review*, *19*(4), 1012-1028.

Khan, J. A., Afsheen, S., Jan, D. S., & Tariq, M. (2018). The impact of organizational justice and organizational commitment on turnover in the employees of Allied Bank Peshawar region. *Journal of Business & Tourism*, *4*(1), 27-37. https://doi.org/10.34260/jbt.v4i1.88

Kim, T. Y., Lin, X. W., & Leung, K. (2015). A dynamic approach to fairness: Effects of temporal changes of fairness perceptions on job attitudes. *Journal of Business and Psychology*, *30*(1), 163-175. https://doi.org/10.1007/s10869-013-9341-6

Kovačević I., & Labrović, J. A. (2018). Work motivation among millennial employees with different life goals: Case of Serbian companies. *Revista Brasileira de Estratégia (REBRAE)*, *11*(1), 3-18. https://doi.org/10.7213/rebrae.11.001.AO01

Loi, R., Hang-Yue, N., & Foley, S. (2006). Linking employees' justice perceptions to organizational commitment and intention to leave: The mediating role of perceived organizational support. *Journal of Occupational and Organizational Psychology*, *79*(1), 101-120. https://doi.org/10.1348/096317905X39657

Magfuroh, K., & Herminingsih, A. (2021). The role of organizational commitment and organizational justice in influencing turnover intention through job satisfaction as its mediates variable. *Dinasti International Journal of Education Management and Social Science*, *2*(4), 596-605. https://doi.org/10.31933/dijemss.v2i4.810

Mahfouz, S., Halim, M. S. A., Bahkia, A. S., & Alias, N. (2022). The impact of organizational justice on intention to stay: The mediating role of organizational commitment. *Corporate Governance and Organizational Behavior Review*, *6*(1), 139-149. https://doi.org/10.22495/cgobrv6i1p10

Malla, S. S., & Malla, S. (2023). Does the perception of organizational justice determine employees' affective commitment? The mediating role of organizational trust. *Benchmarking: An International Journal*, *30*(2), 603-627. https://doi.org/10.1108/BIJ-07-2021-0408

Mengstie, M. M. (2020). Perceived organizational justice and turnover intention among hospital healthcare workers. *BMC Psychology*, *8*(19), 1-11. https://doi.org/10.1186/s40359-020-0387-8

Mete, E. S., & Sökmen, A. (2019). The mediating role of organizational commitment in the organizational justice's effect on job satisfaction and turnover intention: A research on academic staff. *Gazi İktisat ve İşletme Dergisi*, *5*(3), 193-205. https://doi.org/10.30855/gjeb.2019.5.3.005

Meyer, J. P., Allen, N. J., & Smith, C. A. (1993). Commitment to organizations and occupations: Extension and test of a three-component conceptualization. *Journal of Applied Psychology*, *78*(4), 538-551. https://doi.org/10.1037/0021-9010.78.4.538

Moon, K. K., Lim, J., & Kim, J. S. (2024). Examining the effect of organizational justice on turnover intention and the moderating role of generational differences: Evidence from Korean public employees. *Sustainability*, *16*(6), 2454/1-19. https://doi.org/10.3390/su16062454

Mulang, H. (2022). Analysis of the effect of organizational justice, worklife balance on employee engagement and turnover intention. *Golden Ratio of Human Resource Management*, *2*(2), 86-97. https://doi.org/10.52970/grhrm.v2i2.169

Niehoff, B. P., & Moorman, R. H. (1993). Justice as a mediator of the relationship between methods of monitoring and organizational citizenship behavior. *Academy of Management Journal*, *36*(5), 527-556. https://doi.org/10.2307/256591

Nitzl, C., Roldan, J. L., & Cepeda, G. (2016). Mediation analysis in partial least squares path modeling. *Industrial Management & Data Systems*, *116*(9), 1849-1864. https://doi.org/10.1108/IMDS-07-2015-0302

Novitasari, D., Asbari, M., Wijaya, M. R., & Yuwono, T. (2020). Effect of organizational justice on organizational commitment: mediating role of intrinsic and extrinsic satisfaction. *International Journal of Science and Management Studies*, *3*(3), 96-112. https://doi.org/10.51386/25815946/ijsms-v3i3p110

Özkan, A. H. (2023). Organizational justice perceptions and turnover intention: a meta-analytic review. *Kybernetes*, *52*(8), 2886-2899. https://doi.org/10.1108/K-01-2022-0119

Phayoonpun, T., & Mat, N. (2014). Organizational justice and turnover intention: the mediation role or job satisfaction. *International Postgraduate Business Journal*, *6*(2), 1-21.

Ringle, C. M., Wende, S., & Becker, J. M. (2022). *SmartPLS 4*. Oststeinbek: SmartPLS.

Sarstedt, M., Hair, J. F., Cheah, J. H., Becker, J. M., & Ringle, C. M. (2019). How to specify, estimate, and validate higher-order constructs in PLS-SEM. *Australasian Marketing Journal*, *27*(3), 197-211. https://doi.org/10.1016/j.ausmj.2019.05.003

Sökmen, A., & Ekmekçioğlu, E. B. (2016). The relationship between organizational justice, organizational commitment and intention to leave: investigating gender difference. *International Journal of Business and Management Invention*, *5*(12), 27-31.

Sunaris, D., Wahyoedi, S., & Tecoalu, M. (2022). Effects of organizational commitment and organizational justice on organizational citizenship behavior with job satisfaction as a mediation. *International Journal of Science, Technology & Management*, *3*(3), 630-640. https://doi.org/10.46729/ijstm.v3i3.511

Wong, K. K. K. (2013). Partial least squares structural equation modeling (PLS-SEM) techniques using SmartPLS. *Marketing Bulletin*, *24*(1), 1-32.

Yousaf, M., Saleem, Z., & Ishaq, M. (2024). Effect of organizational justice on turnover intentions of university teachers. *Human Nature Journal of Social Sciences*, *5*(2), 121-133. https://doi.org/10.71016/hnjss/bw256516

Zarish, H. M., Zulqarnain, M., & Rehman, K. U. (2020). Impact of organizational justice on organizational commitment. *Research Journal for Societal Issues*, *2*(1), 46-61. https://doi.org/10.56976/rjsi.v2i1.8

Primljeno 1. novembra 2024,
nakon revizije,
prihvaćeno za publikovanje 13. oktobra 2025.
Elektronska verzija objavljena 24. aprila 2026.

Ivana Jolović je istraživač-saradnik na Fakultetu tehničkih nauka Univerziteta u Novom Sadu. Njena istraživačka interesovanja obuhvataju poslovnu ekonomiju i menadžment.

Stefan Zdravković je docent na Poslovnom i pravnom fakultetu MB Univerziteta u Beogradu. Njegova istraživačka interesovanja obuhvataju poslovnu ekonomiju i marketing menadžment.

Nevena Jolović je istraživač-saradnik u Institutu ekonomskih nauka u Beogradu. Njena istraživačka interesovanja obuhvataju finansije i bankarstvo.

MEDIATION MECHANISM OF ORGANIZATIONAL COMMITMENT: UNRAVELING PERCEIVED ORGANIZATIONAL JUSTICE'S IMPACT ON EMPLOYEES' INTENTION TO LEAVE

Ivana Jolović[1], Stefan Zdravković[2] and Nevena Jolović[3]

[1]*University of Novi Sad, Faculty of Technical Sciences, Novi Sad, Republic of Serbia*
[2]*MB University, Faculty of Business and Law, Belgrade, Republic of Serbia*
[3]*Institute of Economic Sciences, Belgrade, Republic of Serbia*

Starting from the adage that "individuals' perceptions shape their reality", organizational behavior research underscores the importance of recognizing employees' subjective experiences of workplace circumstances. The perception of procedural, distributive, and interactional justice by employees forms a strong predictor of the "steadiness" of the workforce - organizational justice. The paper aims to investigate the impact of this phenomenon on employees' intention to leave the organization, while concurrently exploring the organizational commitment's mediating role in the mentioned relation. A comprehensive review of relevant literature, coupled with thematic and desk analysis techniques, laid the foundation for research. The study's empirical component included 99 individuals (millennials) employed in the Serbian economy at the outset of 2023. Their views were noted via an electronic, online questionnaire. The data were processed using advanced statistical tools - SmartPLS 4.0 and SPSS 26.0 software. The findings validated the main research premise proposing that organizational commitment mediates the relationship between perceived organizational justice and millennial employees' intention to leave the organization.

Keywords: perceived organizational justice, organizational commitment, intention to leave, organizational dynamics, PLS-SEM, disjoint two-stage approach

JEL Classification: D23, J63, M12, M54

Ekonomski horizonti, Januar - April 2026, Volumen 28, Sveska 1, 83 - 97
UDC: 33 ISSN: 1450-863 X
© Ekonomski fakultet Univerziteta u Kragujevcu
www. ekfak.kg.ac.rs

Review paper
UDC: 338.48
doi:10.5937/ekonhor2601083Z

QUALITY DIMENSIONS IN SLOW TOURISM: TRENDS AND PERSPECTIVES FROM A SYSTEMATIC LITERATURE REVIEW

Vedran Zubović* and Ema Petaković Ikica

University of Rijeka, Faculty of Tourism and Hospitality Management, Republic of Croatia

Tourism faces challenges from today's fast-paced lifestyles, in response to which slow tourism is gaining traction, promoting fewer but richer, more sustainable travel experiences focused on quality over quantity. This study reviews 47 research articles from the Web of Science and Scopus to analyze slow tourism's impact on the sustainability and perceptions of tourism and service quality. It identifies six key quality dimensions: spatial quality, product and service quality, the local quality of life, travel experience quality, perceived service quality, and transport quality. The originality of the study stems from the synthesis of the findings from various sources which enrich the insight into the dynamics and consequences of soft tourism for both travelers and destinations.

Keywords: slow tourism, slow travel, quality, tourist destination, quality dimensions, sustainability

JEL Classification: Q56, Z30, Z32

INTRODUCTION

In recent decades, destinations have faced growing challenges in achieving and sustaining competitive advantage, largely due to rapid technological, social, political, and environmental changes. Today's consumers are better informed, with shifting preferences and heightened demands that reshape market landscapes. Additionally, the growing awareness of environmental protection, sustainable development, and socially responsible behavior has led to a paradigm shift in tourism research. Although sustainable development has long been a focal point, a question arises: Is sustainability truly the future of tourism?

As defined by M. Davenport, M. Delport, J. N. Blignaut, T. Hichert and G. Van der Burgh (2019), sustainable management emphasizes minimizing harm to society and the environment, particularly by conserving non-renewable resources. J. Abbas (2020) extends this by asserting that sustainable management aims to integrate environmental, social, and economic sustainability within organizational decision-making. Rooted in J. Elkington's (1988) framework, social responsibility has the key role

* *Correspondence to:* V. Zubović, University of Rijeka, Faculty of Tourism and Hospitality Management, Primorska 46, 51410 Opatija, Croatia; e-mail: vedran.zubovic@fthm.hr

requiring organizations to assess success not only through financial outcomes but also by considering the wellbeing of people and the planet (Jaccard, 2013). Given the range of environmental and social challenges faced by tourism, sustainable practices are now critical to sector development (Grizane, 2023), requiring a balance between tourism demands and resource use (Nguyen, Kuo, Lu & Nhan, 2024). The rise of soft tourism, which emphasizes community-led development, offers a model for promoting sustainability by involving local stakeholders in tourism planning and decision-making (Walker & Lee, 2021).

Recently, the public awareness of social and environmental issues has spurred demand for tourism products that align with ethical values. Slow tourism is one such approach, encouraging locally sourced consumption, sustainable energy use, local employment, and the quality-of-life improvements for residents. A review of the relevant literature on slow tourism reveals multiple dimensions of quality as crucial responses to the negative impacts of mass tourism in an accelerated world. The existing research gap regarding quality in slow tourism presents a significant challenge, as the lack of comprehensive quality assessment standards could limit the potential for consistent and scalable improvements across destinations. Following the identified research gap, the motivation for this review is methodologically in line with J. Paul, W. M. Lim, A. O'Cass, A. W. Hao and S. Bresciani (2021) and Y. Joshi, W. M. Lim, K. Jagani and S. Kumar (2023) in order to create an updated and more comprehensive literature review that addresses the limitations of earlier studies. Based on that, this paper seeks to fill that gap by systematically analyzing the quality dimensions of slow tourism and highlighting the key authors and journals in the field, thereby contributing to a clearer and more refined direction for future research. The research questions in this study are as follows:

RQ1: How has the concept of slow tourism evolved over time?

RQ2: In what ways does slow tourism differ from conventional tourism models and/or mass tourism?

RQ3: What are the key quality dimensions of slow tourism according to the existing literature?

RQ4: Who are the most influential authors, and which are the leading journals in the field of slow tourism?

RQ5: Where should slow tourism research be heading in the future?

Using a systematic literature review of the research articles indexed by the Web of Science (WoS) and Scopus, this study contributes to a better understanding of slow tourism. The 47 articles were analyzed and summarized so as to provide a comprehensive overview of the existing knowledge and research findings related to quality aspects in slow tourism. The studies reviewed in this paper explore various drivers of slow tourism, examining the factors influencing tourist satisfaction and behavior, with a strong focus on authentic, locally engaging experiences. By synthesizing these insights, this paper provides a comprehensive understanding of quality in slow tourism, offering destination managers, policymakers, and stakeholders valuable guidelines to enhance the quality and experience of slow tourism destinations.

This study begins with an introduction, which is followed by a theoretical overview of slow tourism, explaining the concept and the research methodology. The main section presents the results and discussion, including a summary table of 47 papers with the key findings, quality dimensions, and citations. The paper ends with a conclusion and the references.

THE THEORETICAL DETERMINANTS OF SLOW TOURISM

Slow tourism is a form of niche tourism. P. Bac Dorin (2014) hypothesizes the development of slow tourism through four steps, considering the evolution of the concept and its development, starting with fast food, transitioning to slow food, then slow city or "*Cittaslow*", and finally embracing slow tourism. Originating from the slow food movement that emphasizes local, sustainable food and community engagement (Jung,

Ineson & Miller, 2014), slow tourism opposes mass tourism by focusing on meaningful, immersive experiences (Heitmann, Robinson & Povey, 2011). In this paradigm, tourists become active participants, choosing depth over breadth in their travel activities (Gürsoy, 2021). Slow tourism prioritizes quality over quantity by encouraging fewer, yet richer, activities, fostering a qualitative approach that aligns closely with sustainable and socially responsible practices.

Mass tourism and slow tourism represent two opposing paradigms within the travel industry, each offering travelers different experiences and characteristics. I. M. Petroman, L. Văduva and D. Marin (2021) define mass tourism as quantitative and emphasize large-scale accommodation in high-capacity resorts and hotels, standardized and fast-paced activities, reduced interaction with locals and reliance on air travel and modern communication technologies. In contrast, slow tourism takes a qualitative approach and favors accommodation in guesthouses or smaller units with limited capacity.

A core element that distinguishes slow tourism from mass tourism is its emphasis on quality. The success of slow tourism destinations relies on their ability to deliver high-quality experiences that align with tourists' expectations for authenticity, community engagement, and environmental responsibility (Heitmann *et al*, 2011; UNWTO Think Tank, 2016; Fusté-Forné & Jamal, 2020; Gürsoy, 2021). H. Mustafa, B. Omar and S. N. S. Mukhiar (2020) emphasize that creating and providing perceived value for tourists is essential for the strategic development of destinations. Perceived value is the key factor that gives destinations competitive advantage in meeting customer needs (Lu, Geng & Zhuang, 2017). S. Marković (2004) adds that service quality is categorized as low when expectations are not met, and high when they are exceeded, which shows that service quality is directly linked to customer expectations. In today's dynamic environment, internet technologies have transformed traditional marketing, shifting the focus to modern methods, such as electronic interpersonal communication (Kocić & Radaković, 2019), which in slow tourism shapes travelers' pursuit of meaningful, sustainable experiences. Therefore, slow tourism must consistently meet or exceed expectations in order to provide perceived value.

The Slow City movement emphasizes the authenticity of a location, celebrates local culture and tradition, and enhances spatial quality by retaining distinctive local characteristics of a tourist attraction (Cicek, Ulu & Uslay, 2019). Destination authenticity has a crucial role in the Slow City movement as it contributes to regional economic and cultural development and ultimately improves the quality of life (Chao, 2015). M. Emmendoerfer, T. C. de Almeida, G. Richards and L. Marques (2023) argue that the movement enhances the tourism offer by co-creating local gastronomy, promoting regional identity and encouraging community participation in sustainable tourism. Even in global tourist destinations where they are not the main attraction, agricultural and food products remain essential in enriching the tourism experience (Ristić, Bošković & Despotović, 2019). This is especially true for slow tourism and "green products" (Filipović & Šapić, 2025) which value authentic, local, and sustainable experiences. Increased tourist spending boosts food production, supporting the development of the agricultural sector. Slow tourism creates opportunities for entrepreneurs, especially small producers and service providers, who can innovate and quickly adapt to tourists' specific needs. Entrepreneurship has risen to a pivotal role, becoming essential for market competitiveness and survival (Milohnić & Licul, 2025). Slow tourism crates further possibilities for small businesses to thrive by offering unique, personalized services that align with slow tourism's values compared to mass tourism.

As W. Tu, L. Zhou, B. Y. Haobin and Q. Yan (2022) states, slow tourism destinations emphasize service quality through a blend of local ambience, resource management and cultural integration, which ultimately enhances perceived values and influences tourists' attitudes, emotions and intentions. Based on the previously mentioned literature on slow tourism, quality remains limited, especially in the field of the quality of the products, services, destination, or life of the local people.

METHODOLOGY

The purpose of the previous review was to identify which quality dimensions are most frequently analyzed in connection with slow tourism and where further research is needed. This was done by applying a systematic review of the scientific literature within a specific field essential for identifying relevant research questions and providing a solid foundation for future studies (Swartz, 2011).

To ensure the transparency of the literature review, the SPAR-4-SLR protocol by J. Paul *et al* (2021) and later on Y. Joshi *et al* (2023) was followed. This protocol comprises three main phases: assembling, arranging, and assessing, which are further divided into six substages: identification, acquisition, organization, purification, evaluation, and reporting. This approach closely parallels the method proposed by B. Kitchenham (2004) and later adopted by J. Bacca, S. Baldiris, R. Fabregat, S. Graf and Kinshuk (2014) and P. V. Torres-Carrión, C. S. González-González, S. Aciar and G. Rodríguez-Morales (2018), which also structures the review into three core stages: planning, conducting, and reporting results. Both methodologies emphasize a systematic and rigorous process that guides researchers from the initial literature gathering through critical analysis to the final presentation of the findings, ensuring clarity, replicability, and methodological rigor. Following these defined stages in creating a literature review helps researchers minimize bias, improve reproducibility and clarity of their research, and synthesizes the existing knowledge. The results are presented based on the approach proposed by T. Blommerde (2023), while some sections were further added to reflect the research goals of this paper.

Assembling

The first assembling phase included the articles indexed in the WoS and Scopus bases. In the first phase, the peer-reviewed early access and published research articles indexed in the Web of Science (WoS) and Scopus databases were selected, following the recommendation of B. Mavric, M. Öğretmenoğlu and O. Akova (2021), who had conducted a bibliometric analysis on slow tourism and highlighted the need for further research based on these databases. These databases were selected because, according to S. Kraus, M. Breier, W. M. Lim, M. Dabić, S. Kumar, D. Kanbach, D. Mukherjee, V. Corvello, J. Piñeiro-Chousa, E. Liguori, D. Palacios-Marqués, F. Schiavone, A. Ferraris, C. Fernandes and J. J. Ferreira (2022), they represent the largest repositories of scientific articles. It is only articles that were selected for the analysis, whereas books, book chapters, conference papers, and working papers were not considered, as suggested by T. Blommerde (2023). When examining all the fields in the two databases, the Boolean operators "or" and "and" were used to identify the articles written in English, spanning the period from January 2008 to March 2024. Only articles in the fields of social sciences; economics, management and accounting; econometrics and finance were considered. After a thorough review of the literature, the following terms were used: "slow tourism," "service* quality and slow tourism," "entrepreneurship and slow tourism," "slow tourism and destination*," "slow tourism and quality*," "slow travel," sustainability*." The asterisks (*) denote any character, including the possibility of none.

Arranging

The next phase involves the organization and purification of the synthesized literature (Paul & Rosado-Serrano, 2019; Paul *et al*, 2021; Blommerde, 2023). In the cleaning phase, 34 duplicate articles were discarded, and the remaining 133 articles were screened based on their title, abstract, and full text. Subsequently, 39 articles were excluded because they did not fulfil the research objective. The final analysis resulted in the 47 articles that had met the inclusion criteria, 30 from the WoS and 17 from the Scopus database. In the third, assessing phase, a content analysis was carried out, which included the evaluation and reporting of the articles included in the analysis.

Assessing

In the assessing phase, a content analysis was carried out, which included the evaluation and reporting of the articles included in the analysis. This phase was structured according to the TTCM framework (Kraus *et al*, 2022) so as to structure the assessment and analysis of the themes in the literature. The identification of the research gaps was conducted according to the method of T. Blommerde (2023). The results in this section are presented in Table 1, which lists the journals, the main findings, the quality dimensions, and the number of the citations based on Google Scholar in February 2025.

RESULTS AND DISCUSSION

Through a thorough search of relevant databases, 47 articles were selected, analyzed and summarized to provide a comprehensive overview of existing knowledge and research findings. This approach allows consideration of a wide range of quality dimensions and not limit the authors to those that affect the satisfaction of guests, the local population and the local economy, but to examine quality in a broader context that supports sustainable goals in tourism.

Table 1 The quality dimensions of slow tourism

No.	Authors	Findings	The dominant quality dimension of the study	Citations
1	A. Klarin, E. Park and S. Kim (2024)	Slowness has extended to most dimensions of our everyday life, such as the slow city, slow management, slow fashion, slow philosophy in general, and slow tourism.	The quality of life	19
2	J. Wu, X. Wang and C. Zhang (2024)	Slow tourists' existential journey is fundamentally an emotional quest.	The quality of life	7
3	F. Baghirov, Z. Bozbay and Y. Zhang (2023)	Individual factors, tourist satisfaction, and revisit intentions to develop an extended model for better understanding slow tourists' decision-making.	Perceived quality	13
4	X. Matteucci and T. R. Tiller (2023)	Controlling the pace is essential to being a slow traveler.	Perceived quality	7
5	F. Fusté-Forné (2023)	Slow tourism motivation factors are accentuated when viewed from the perspective of a geo-tourism destination.	The quality of life	15
6	A. Klarin, E. Park, Q. Xiao and S. Kim (2023)	Slow travel aims to promote tourists' consumption-oriented enjoyment of experience through various travel patterns.	Perceived quality	25
7	O. Kosykh, H. Roh and R. Hart (2023)	The Siberian train tourists' experiences of flow, self-realization, authenticity, and enjoyment positively influenced their self-expression and overall life satisfaction.	Spatial quality	5
8	M. Ladu, S. Battino, G. Balletto and A. Amaro García (2023)	The development of the FI (Feasibility Index) to assess the viability of the Stop Places (SPs) project along a horse trail, integrating the current slow mobility methods for bicycles and pedestrians in the bioregion.	The quality of products and services	16
9	M. E. Menconi, R. Abbate, G. Ceccarelli, A. Grassi, and D. Grohmann (2023)	Rural stakeholders see collaborative maps as effective for promoting tourism and fostering respect for rural place identities.	Spatial quality	4
10	A. C. Moreira, Pereira, C. R., Lopes, C. A. R. Calisto and V. T. Vale (2023)	The *Cittaslow* perspective leans towards sustainability over environmentalism.	The quality of products and services	14

11	T. Y. Huang, J. S. Chen and W. D. Ramos (2023)	Authenticity and slowness significantly affect tourists' slow food experience.	The quality of products and services	30
12	M. Darvishmotevali, K. Tajeddini and L. Altinay (2023)	Cultural exploration moderates the relationships among experiential festival attributes, perceived value, and behavioral intentions.	The quality of life	28
13	D. D'Uva and A. Rolando (2022)	Developing a strategy to identify the most suitable routes based on spatial quality and walkability/cyclability.	The quality of life	5
14	W. Tu, L. Zhou, B. Y. Haobin and Q. Yan (2022)	Perceived value positively influences attitude, consumption emotion, and behavioral intentions in slow tourism.	Spatial quality	8
15	D. Krešić and M. Gjurašić (2022)	Research interest in slow tourism is rapidly growing, focusing on slow travel, food, sustainability, and immersive travel experiences.	Spatial quality	16
16	A.Manthiou, P. Klaus and V. H. Luong (2022)	This research highlights the gaps in the concepts and practices of slow tourism.	The quality of products and services	62
17	K. Kostilnikova, K. Matlovicova, M. Demkova, P. Mocak, P. K. Mishra, Z. Bujdoso, R. Matlovic and B. Zawilinska (2022)	From the socio-cultural perspective, slow tourism aims to support local communities, especially vulnerable groups facing poverty.	The quality of products and services	6
18	X. Su and H. Zhang (2022)	Understanding wellbeing in tourism involves the dynamic interplay of tourists, tea, and environments over time and space.	The quality of the transportation mode	62
19	T. Božović, M. D.Vujičić, S. Kovačić, T. Jovanović and T. Pivac (2022)	Leisure and research were identified as the main driving motives for travelers' decisions to engage in slow tourism.	The quality of life	2
20	J. H. Kim, B. E. M. King and S. Kim (2022)	The proposed index serves as a practical guide for local government officials to implement slow city principles and policies.	The quality of the transportation mode	38
21	Y. Kebete (2021)	Slow tourism as a unique approach augments the overall tourism activities, mainly within emerging destinations.	Spatial quality	6
22	T. B. Walker and T. J. Lee (2021)	The quality of life and the value of tourism experience complement the *Cittaslow* approach.	The quality of life	48
23	D. Dimitrovski, S. Starčević and V. Marinković (2021)	The locality, taste and quality of food were found to be the main triggers of visitor satisfaction in slow tourism.	The quality of life	21
24	T. B. Walker, T. J. Lee and X. Li (2021)	The dynamic nature of the tourism industry presents opportunities for promoting sustainability in regions.	The quality of products and services	88
25	L. P. Lin, S. C. Huang and Y. C. Ho (2020)	Virtual reality is a very useful tool for encouraging slow tourism.	Spatial quality	215
26	Z. Serdane (2020)	The implementation of slow tourism relies on individual suppliers without public sector oversight.	The quality of products and services	34
27	F. N. Kucukergin and Y. Ozturk (2020)	The perception of local people related to social change differs according to their gender and duration of stay.	Spatial quality	14
28	S. C. Oliveira (2020)	Slow travel blogs serve as both an informative source and a creator of this travel mode, forming a dialectic process.	Spatial quality	25

29	M. Cicek *et al* (2019)	Slow City membership has a positive effect on perceived entrepreneurial opportunities and economic development.	The quality of travel experience	41
30	H. J. Park and T. J. Lee (2019)	Eliciting positive feelings and brand associations are effective marketing strategies that boost tourist visits.	Spatial quality	70
31	J. H. Han, J. S. Kim, C. K. Lee and N. Kim (2019)	Place attachment significantly influences attitude, subjective norm, and perceived behavioral control, thereby impacting behavioral intention.	The quality of products and services	148
32	M. Ahlawat, P. Sharma and P. K. Gautam (2019)	The study identifies the five key factors for developing slow food tourism: government support, improved infrastructure, inter-industry cooperation, local awareness, and marketing.	Spatial quality	33
33	M. B. Duignan, S. I. Kirby, D. O'Brien and S. Everett (2018)	Event legacies that boost local sustainability foster authentic connections with communities and create a more leisurely visitor experience.	The quality of the travel experience	34
34	I. Sigurardottir (2018)	Integrating slow adventure, wellness, and outdoor recreation in equestrian tourism offers significant support to small entrepreneurs in developing their products.	The quality of products and services	42
35	L. P. Lin (2018)	Onsite tourism program design significantly influenced visitors' intentions for slow travel.	The quality of the travel experience	23
36	A. Brown and B. Jeong (2018)	Specific standards are needed for Slow City branded products, and local residents should receive quality assessment training.	The quality of the travel experience	13
37	Y. Y. Sun and Z. W. Lin (2018)	The "slowness" at the destination enhances valuable experiences and memories through engaging with people.	The quality of life	73
38	C. Foley (2017)	Friendship and community flourish more easily in environments where people prioritize genuine connections over the pursuit of the status and saving time.	The quality of the travel experience	42
39	L. P. Lin (2017)	To promote a meaningful slow pace and enhance the happiness of potential slow travelers, dynamic partnerships should be established between tour operators and destination managers.	Service quality	76
40	H. Oh, A. G. Assaf and S. Baloglu (2016)	This study contributes to a new understanding of speed, mobility, temporality, pace, tourists' time practices, and the influences of fast and slow travel modes on the literature.	The quality of the travel experience	350
41	R. F. Chao (2015)	Slow tourism promotes sustainable development through tourism campaigns.	The quality of life	10
42	B. Hatipoglu (2015)	The residents are supportive of the initiatives and are becoming more involved in the *Cittaslow* activities.	The quality of the travel experience	115
43	A. Presenza, T. Abbate and R. Micera (2015)	The impact of *Cittaslow* certifications on the destination policy, planning, and management.	The quality of the travel experience	112
44	J. E. Dickinson, L. M. Lumsdon and D. Robbins (2011)	Slow travel involves the holiday style and travel mode choices, with walking, cycling, buses, coaches, and trains supporting slow travel, unlike air and car travel.	The quality of the travel experience	464
45	L. M. Lumsdon and P. McGrath (2011)	Slow travel is viewed as a travel mindset rather than a tangible product, focusing on reduced speed rather than slowness itself.	Spatial quality	438
46	D. Conway and B. F. Timms (2010)	Slow tourism complements various alternative tourism types, such as sports tourism, heritage tourism, agrotourism, and ecotourism derivatives.	The quality of products and services	262
47	J. G. Molz (2009)	Paying attention to pace and the way pace is socially encoded in media contexts reveals a more complicated narrative of mobility and modernity.	The quality of the travel experience	239

Source: Authors

Results

Based on the analysis of 47 studies in the systematic literature review, it was found that 12 of them employed a quantitative methodology and conducted empirical research. Additionally, 11 studies applied a qualitative methodology, while 10 studies employed a mixed-methods approach, combining both qualitative and quantitative methodologies. Finally, eight of the analyzed studies used a literature review approach to investigate the research topic. The studies were carried out in the context of slow tourism, Slow Tourists' experiences and motivations, Slow Food experiences and festivals, the Slow City movement and its influence on the environment, and Slow Travel and its influence on the future.

The systematic literature analysis identified several significant quality criteria that are commonly examined in the slow tourism domain. The literature emphasizes the dominant dimensions of quality: spatial quality (11 articles), product and service quality (10 articles), the quality of life of the locals (10 articles), the quality of the travel experience (10 articles), perceived service quality (4 articles) and the quality of transport (2 articles).

Discussion

This research has shown that the body of the literature on slow tourism is experiencing significant growth, which is in line with the findings of B. Mavric *et al* (2021). The research highlights the beneficial effects of slow tourism on the quality of life for both visitors and local populations (Walker & Lee, 2021; Su & Zhang, 2022; Huang *et al*, 2023). Slow tourism fosters social ties, sustainable tourism development, provider satisfaction, and emotional enrichment by emphasizing authentic tourist experiences (Park & Lee, 2019; Kucukergin & Ozturk, 2020). Moreover, studies indicate that slow tourism enhances life happiness and fosters interaction with the locals and cultural involvement (Hatipoglu, 2015; Presenza *et al*, 2015; Foley, 2017; Klarin *et al*, 2023).

The quality dimension of perceived quality in slow tourism primarily refers to the fulfilment of tourists' expectations of quality experiences in all dimensions of the value chain in a destination (Baghirov *et al*, 2023; Wu *et al*, 2024). The research shows that slow tourism's focus on the authenticity of a destination may significantly influence tourist satisfaction, which ultimately increases perceived value and strengthens return intentions and recommendations (Darvishmotevali *et al*, 2023; Wu *et al*, 2024).

The quality of products and services in slow tourism focuses on an offer that emphasizes the products and services offered at the quality level that guests expect and are willing to pay for, while being sustainable and authentic (Lin *et al*, 2020; Dimitrovski *et al*, 2021). Products and services should fulfil, and even exceed, guests' needs, simultaneously also supporting the local community (Conway & Timms, 2010; Ahlawat *et al*, 2019; Klarin *et al*, 2023).

The quality of travel experiences in slow tourism focuses on promoting meaningful and comprehensive interactions with the local culture, environment and people (Božović *et al*, 2022; Kosykh *et al*, 2023). According to H. J. Park and T. J. Lee (2019) and H. Oh *et al* (2016), it is important to achieve an emotional connection with a tourist destination, as that will encourage repeat visits and recommendations by the guest, which in turn contributes to the success of the destination itself (Oh *et al*, 2016; Park & Lee, 2019).

The final quality factor of transport is essential to slow tourism, emphasizing the sustainable and leisurely travel methods that enhance tourists' wellbeing, environmental consciousness, and the sustainable advancement of tourism (Kucukergin & Ozturk, 2020; Su & Zhang, 2022). Transport modes such as bicycles, walking trails and public transport are in line with the values of slow tourism and support the environmentally friendly travel that enriches the travel experience and enables a more responsible approach to mobility (Kim *et al*, 2022; D'Uva & Rolando, 2022).

In contrast, in the study by B. Mavric *et al* (2021), the concepts of tourist experience and connection to a place were identified as the most frequently studied themes in slow tourism from 2018 to 2020. In addition, the findings of D. Krešić and M. Gjurašić (2022) indicate

an increasing focus on slow food, sustainability and immersive travel experiences in slow tourism. By expanding on these underrepresented areas, this study contributes to the understanding of the quality dimensions in slow tourism and supports future research and development in this area.

The annual scientific production shows that the most productive year was 2023, in which 10 articles were published, followed by 2022, in which 8 articles were published, showing an increasing interest in the quality dimensions of slow tourism in the literature. The most frequently cited articles in the analysis are J. G. Molz (2009) (239 citations), D. Conway and B. F. Timms (2010) (262 citations), J. E. Dickinson *et al* (2011) (464 citations), L. M. Lumsdon and P. McGrath (2011) (438 citations) and H. Oh *et al* (2016) (350 citations). The articles with more than 200 citations were published at least seven years ago.

The analysis of all the authors shows that only two authors contributed a total of three articles on the topic of slow traffic. The authors H. J. Park and T. J. Lee (2019) were cited 194 times, mainly dealing with sustainable tourism and the quality of life in relation to non-motorized transport. The author L. P. Lin (2018) collected 258 citations focusing on service quality, transport quality and the quality of life. Apart from Lumsdon and Walker, who published two articles each, all the other authors contributed only one article. Among the journals, the *Journal of Sustainable Tourism* stands out as the most cited, with more than six articles published on this topic. The journal *Sustainability* follows closely behind with four articles, while *Tourism Planning and Development* ranks third three published articles.

CONCLUSION

Research into slow tourism as a form of alternative travelling is a current topic in tourism research. The results show that this type of tourism needs to be researched further. This review consists of an analysis of 47 relevant scientific articles published in the period from 2008 to 2024 that deal with the topic of "slow tourism," focusing on various quality dimensions researched in this area. The systematic SPAR-4-SLR protocol was used to analyze the articles and summarize the results, allowing the identification of critical categories in the research to date.

Based on the comprehensive review, it was determined that a significant research gap exists, which forms the basis for actionable recommendations for future research in the field of slow tourism. Previous research has not adequately considered important quality dimensions, such as the quality of space, the quality of products and services, the quality of life of local communities, the quality of the travel experience, the perceived quality of service and the quality of transport. This omission points to the gap between the conceptual framework and the practical reality of slow tourism, where these dimensions have an important role in shaping both visitor satisfaction and destination sustainability. Among the analyzed studies, spatial quality appears as the most frequently addressed dimension, featuring in 11 papers. This highlights the centrality of physical setting, accessibility, and the character of a place in shaping slow tourism experiences and distinguishing destinations that support such forms of travel. By contrast, service quality is notably underrepresented, suggesting that future research should more closely examine the experiential and operational aspects of service delivery in slow tourism contexts. As academic and practitioner interest in slow tourism continues to grow, the development of more robust frameworks for assessing quality across multiple dimensions, such as guest satisfaction and community impact, is becoming increasingly important. Notably, service quality remains an underexplored area, indicating a clear opportunity for further investigation.

The studies reviewed offer a range of practical insights for tourism stakeholders, emphasizing that slow tourism enhances the travel experience by fostering meaningful connections with local communities, promoting sustainable practices and increasing holistic wellbeing. The increasing academic focus on this topic reflects growing public and institutional

awareness and suggests that destinations should proactively adapt to this emerging market segment.

Tourist boards and local governments are encouraged to promote slow travel experiences, such as longer stays, immersive cultural experiences and ecofriendly practices as distinctive assets in an increasingly competitive tourism landscape. Incorporating local produce and traditions into tourism offerings can be a timely response to the fast pace of modern life. Slow tourism offers a counterbalance and invites travelers to connect with a place, time and culture in a more conscious and enriching way.

Destination management organizations should therefore prioritize the development of locally rooted, sustainable tourism experiences in their strategic planning. Not only does this reflect travelers' changing preferences but also promotes more resilient and community-oriented tourism models.

In addition, soft tourism's thematic focus on spatial quality, product and service quality, the quality of life for the locals and the overall experience of the trip emphasizes its potential to deliver emotionally engaging and high-quality visitor experiences. Destinations can capitalize on these attributes by offering authentic experiences rooted in the community that strengthen attachment to a place and contribute to both visitor satisfaction and the wellbeing of the locals.

Although this review offers a comprehensive overview of the quality dimensions explored in the literature on slow tourism, several limitations should be acknowledged. First, the study is limited to the publications indexed in the selected academic databases, which may have excluded the relevant grey literature or industry reports that provide practical insights into the implementation of slow tourism principles. Second, the interpretation of the dominant quality dimensions remains partly subjective, particularly in cases where multiple themes were present within a single study.

Furthermore, future research should examine how spatial quality and perceived quality influence the success of slow tourism destinations. A deeper understanding of the factors that shape traveler perceptions and satisfaction could support more effective destination management and enable local stakeholders to refine and strengthen their tourism offerings. In addition, future research should examine how distinctive products and services developed in slow tourism contexts (often deeply embedded in local culture and sustainable practices) could be selectively adapted and offered in other destinations. This raises the following question of how to engage tourists that do not initially self-identify as slow travelers. Building on the recommendations of the previous studies analyzed in this paper, which are largely focused on the further development of slow tourism destinations, research should explore the potential of these offerings to attract a broader visitor base. It should also examine the possible deterrents that might prevent such travelers from choosing slow tourism destinations.

REFERENCES

Abbas, J. (2020). Impact of total quality management on corporate sustainability through the mediating effect of knowledge management. *Journal of Cleaner Production*, *244*, 118806. https://doi.org/10.1016/j.jclepro.2019.118806

Ahlawat, M., Sharma, P., & Gautam, P. K. (2019). Slow food and tourism development: A case study of slow food tourism in Uttarakhand, India. *GeoJournal of Tourism and Geosites*, *26*(3), 751-760. https://doi.org/10.30892/gtg.26306-394

Bac Dorin, P. (2014). From slow food to slow tourism. *Annals of Faculty of Economics*, *1*(2), 137-144.

Bacca, J., Baldiris, S., Fabregat, R., Graf, S., & Kinshuk. (2014). Augmented reality trends in education: A systematic review of research and applications. *Educational Technology & Society*, *14*(4), 133-149.

Baghirov, F., Bozbay, Z., & Zhang, Y. (2023). Individual factors impacting tourist satisfaction and revisit intention in slow tourism cities: An extended model. *International Journal of Tourism Cities*, *11*(1), 63-82. https://doi.org/10.1108/IJTC-05-2023-0094

Blommerde, T. (2023). Service innovation capability: a systematic literature review and research agenda. *The Service Industries Journal*, *43*(15-16), 1197-1227. https://doi.org/10.1080/02642069.2023.2249830

Božović, T., Vujičić, M. D., Kovačić, S., Jovanović, T., & Pivac, T. (2022). Tourist motivation for slow travel: A case study of the Vojvodina region, Serbia. *Acta Geographica Slovenica*, *62*(3), 33-45. https://doi.org/10.3986/ags.10583

Brown, A., & Jeong, B. (2018). International comparison and implementation of Slow City success determinants: The case of Damyang Slow City, South Korea, and Seferihisar Slow City, Turkey. *Development and Society*, *47*(4), 613-631.

Chao, R. F. (2015). Development of slow tourism challenge and operation architecture: A case study on Green Island, Taiwan. *Acta Oeconomica*, *65*(2), 351-367. https://doi.org/10.1556/032.65.2015.s2.26

Cicek, M., Ulu, S., & Uslay, C. (2019). The impact of the slow city movement on place authenticity, entrepreneurial opportunity, and economic development. *Journal of Macromarketing*, *39*(4), 400-414. https://doi.org/10.1177/0276146719882767

Conway, D., & Timms, B. F. (2010). Re-branding alternative tourism in the Caribbean: The case for `slow tourism'. *Tourism And Hospitality Research*, *10*(4), 329-344. https://doi.org/10.1057/thr.2010.12

D'Uva, D., & Rolando, A. (2022). A method to select and optimize slow tourism routes using a quality index procedure based on image segmentation and DTM modelling based on NURBS: The case study of multimodal access to inner places from the nodes of the Adriatic coastline's infrastructure bundle. *Sustainability*, *15*(1), 373. https://doi.org/10.3390/su15010373

Darvishmotevali, M., Tajeddini, K., & Altinay, L. (2023). Experiential festival attributes, perceived value, cultural exploration, and behavioral intentions to visit a food festival. *Journal of Convention & Event Tourism*, *24*(1), 57-86. https://doi.org/10.1080/15470148.2022.2131668

Davenport, M., Delport, M., Blignaut, J. N., Hichert, T., & Van der Burgh, G. (2019). Combining theory and wisdom in pragmatic, scenario-based decision support for sustainable development. *Journal of Environmental Planning and Management*, *62*(4), 692-716. https://doi.org/10.1080/09640568.2018.1428185

Dickinson, J. E., Lumsdon, L. M., & Robbins, D. (2011). Slow travel: issues for tourism and climate change. *Journal of Sustainable Tourism*, *19*(3), 281-300. https://doi.org/10.1080/09669582.2010.524704

Dimitrovski, D., Starčević, S., & Marinković, V. (2021). Which Attributes Are the Most Important in the Context of the Slow Food Festival? *Leisure Sciences, 46*(3), 340-358. https://doi.org/10.1080/01490400.2021.1967234

Duignan, M. B., Kirby, S. I., O'Brien, D., & Everett, S. (2018). From "clone towns" to "slow towns": Examining festival legacies. *Journal of Place Management and Development, 11*(3), 350-366. https://doi.org/10.1108/JPMD-07-2017-0071

Emmendoerfer, M., de Almeida, T. C., Richards, G., & Marques, L. (2023). Co-creation of local gastronomy for regional development in a slow city. *Tourism & Management Studies, 19*(2), 51-60. https://doi.org/10.18089/tms.2023.190204

Elkington, J. (1997). The triple bottom line. *Environmental management: Readings and cases, 2*(1997), 49-66.

Foley, C. (2017). The art of wasting time: Sociability, friendship, community and holidays. *Leisure Studies, 36*(1), 1-20. https://doi.org/10.1080/02614367.2015.1055296

Filipović, J., & Šapić, S. (2025). The impact of social media marketing activities on consumer behavior towards green products: An analysis of local and global companies. *Economic Horizons, 27*(1), 49-62. https://doi.org/10.5937/ekonhor2501049f

Fusté-Forné, F. (2023). A slow tourist in the Basque Coast Geopark (Spain). *International Journal of Geoheritage and Parks, 11*(2), 247-258. https://doi.org/10.1016/j.ijgeop.2023.03.003

Fusté-Forné, F., & Jamal, T. (2020). Slow food tourism: An ethical microtrend for the Anthropocene. *Journal of Tourism Futures, 6*(3), 227-232. https://doi.org/10.1108/JTF-10-2019-0120

Grizane, T. (2023). Sustainability of tourism and the environment. In *Environment. Technology. Resources: Proceedings of the 14th International Scientific and Practical Conference* (Vol. 1, pp. 70-73). Riga Technical University. https://doi.org/10.17770/etr2023vol1.7302

Gürsoy, I. T. (2021). Slow food justice and tourism: Tracing Karakılçık bread in Seferihisar, Turkey. *Journal of Sustainable Tourism, 29*(2-3), 467-487. https://doi.org/10.1080/09669582.2020.1770772

Han, J. H., Kim, J. S., Lee, C. K., & Kim, N. (2019). Role of place attachment dimensions in tourists' decision-making process in Cittaslow. *Journal of Destination Marketing & Management, 11*, 108-119. https://doi.org/10.1016/j.jdmm.2018.12.008

Hatipoglu, B. (2015). Cittaslow: Quality of life and visitor experiences. *Tourism Planning & Development, 12*(1), 20-36. https://doi.org/10.1080/21568316.2014.960601

Heitmann, S., Robinson, P., & Povey, G. (2011). Slow food, slow cities and slow tourism. In P. Robinson, S. Heitmann & P. Dieke (Eds.), *Research themes for tourism* (pp. 114-127). Oxford, UK: CAB International. https://doi.org/10.1079/9781845936846.0114

Huang, T.-Y., Chen, J. S., & Ramos, W. D. (2023). Slow tourism: The relationship between tourists' slow food experiences and their quality of life. *Tourism Review, 78*(1), 159-176. https://doi.org/10.1108/TR-02-2022-0053

Jaccard, M. (2013). *The objective is quality: An introduction to performance and sustainability management systems*. New York, US: EPFL Press. https://doi.org/10.1201/b16067

Joshi, Y., Lim, W. M., Jagani, K., & Kumar, S. (2023). Social media influencer marketing: Foundations, trends, and ways forward. *Electronic Commerce Research, 25*,1199-1253. https://doi.org/10.1007/s10660-023-09719-z

Jung, T., Ineson, E. M., & Miller, A. (2014). The slow food movement and sustainable tourism development: A case study of Mold, Wales. *International Journal of Culture, Tourism and Hospitality Research, 8*(4), 432-445. https://doi.org/10.1108/ijcthr-01-2014-0001

Kebete, Y. (2021). Promoting slow tourism to wrestle the challenges of shorter length of tourist stay: Implications for sustainable tourism. *GeoJournal of Tourism and Geosites, 39*, 1388-1396. https://doi.org/10.30892/gtg.394spl09-782

Kim, J. H., King, B. E. M., & Kim, S. (2022). Developing a slow city tourism evaluation index: A Delphi-AHP review of Cittaslow requirements. *Journal of Sustainable Tourism, 30*(4), 846-874. https://doi.org/10.1080/09669582.2021.1897130

Kitchenham, B. (2004). *Procedures for performing systematic reviews*. Keele, UK: Keele University.

Klarin, A., Park, E., & Kim, S. (2024). The slow movements: Informetric mapping of the scholarship and implications for tourism and hospitality. *Journal of Hospitality & Tourism Research, 48*(3), 464-482. https://doi.org/10.1177/10963480221116049

Klarin, A., Park, E., Xiao, Q., & Kim, S. (2023). Time to transform the way we travel? A conceptual framework for slow tourism and travel research. *Tourism Management Perspectives, 46*, 101100. https://doi.org/10.1016/j.tmp.2023.101100

Kocić, M., & Radaković, K. (2019). The implications of the electronic word-of-mouth communication in choosing a wellness offer. *Economic Horizons, 21*(1), 43-56. https://doi.org/10.5937/ekonhor1901043k

Kostilnikova, K., Matlovicova, K., Demkova, M., Mocak, P., Mishra, P. K., Bujdoso, Z., Matlovic, R., & Zawilinska, B. (2022). Slow travel in tourism: An outline of conceptual frameworks—potential and limits in the context of post-pandemic. *GeoJournal of Tourism and Geosites, 42*, 751-758. https://doi.org/10.30892/gtg.422spl14-885

Kosykh, O., Roh, H., & Hart, R. (2023). Self-expressiveness in slow tourism as a sustainable driver: The Trans-Siberian railway travel experience. *Sustainability, 15*(10), 8011. https://doi.org/10.3390/su15108011

Kraus, S., Breier, M., Lim, W. M., Dabić, M., Kumar, S., Kanbach, D., Mukherjee, D., Corvello, V., Piñeiro-Chousa, J., Liguori, E., Palacios-Marqués, D., Schiavone, F., Ferraris, A., Fernandes, C., & Ferreira, J. J. (2022). Literature reviews as independent studies: Guidelines for academic practice. *Review of Managerial Science, 16*(8), 2577-2595. https://doi.org/10.1007/s11846-022-00588-8

Krešić, D., & Gjurašić, M. (2022). Slow tourism as an immersive travel experience: A bibliometric analysis. *Academica Turistica, 15*(3), 323-333. https://doi.org/10.26493/2335-4194.15.323-333

Kucukergin, F. N., & Ozturk, Y. (2020). Does slowness bring social change through Cittaslow? *International Journal of Tourism Cities, 6*(4), 749-767. https://doi.org/10.1108/IJTC-06-2019-0093

Ladu, M., Battino, S., Balletto, G., & Amaro Garcia, A. (2023). Green infrastructure and slow tourism: A methodological approach for mining heritage accessibility in the Sulcis-Iglesiente bioregion (Sardinia, Italy). *Sustainability, 15*(5), 4665. https://doi.org/10.3390/su15054665

Lin, L.-P., Huang, S.-C., & Ho, Y.-C. (2020). Could virtual reality effectively market slow travel in a heritage destination? *Tourism Management, 78*, 104027. https://doi.org/10.1016/j.tourman.2019.104027

Lin, L.-P. (2018). How would the contextual features of a destination function together with individual factors to enhance tourists' intention toward slow travel in Taiwan? *Journal of Sustainable Tourism, 26*(9), 1625-1646. https://doi.org/10.1080/09669582.2018.1491586

Lin, L.-P. (2017). Industrial tourists' behavioral intention toward slow travel in Taiwan. *Journal of Sustainable Tourism, 25*(3), 379-396. https://doi.org/10.1080/09669582.2016.1213848

Lu, C., Geng, B., & Zhuang, T. (2017). Study on willingness and behavior of participation in pro-poor tourism of farmers and grazers in Tibetan regions: Evidence from survey of 1320 households of 23 counties of Sichuan Tibetan regions. *Tourism Tribune, 32*(1), 64-76.

Lumsdon, L. M., & McGrath, P. (2011). Developing a conceptual framework for slow travel: A grounded theory approach. *Journal of Sustainable Tourism, 19*(3), 265-279. https://doi.org/10.1080/09669582.2010.519438

Manthiou, A., Klaus, P., & Luong, V. H. (2022). Slow tourism: Conceptualization and interpretation - A travel vloggers' perspective. *Tourism Management, 93*, 104570. https://doi.org/10.1016/j.tourman.2022.104570

Marković, S. (2004). Measuring service quality in the Croatian hotel industry: A multivariate statistical analysis. *Our Economy/Nase Gospodarstvo, 50*(1), 1-27.

Matteucci, X., & Tiller, T. R. (2023). Package cycle tourists' relationship to time and pace. *Tourism and Hospitality Research, 23*(3), 332-343. https://doi.org/10.1177/14673584221102701

Mavric, B., Öğretmenoğlu, M., & Akova, O. (2021). Bibliometric analysis of slow tourism. *Advances in Hospitality and Tourism Research (AHTR), 9*(1), 157-178. https://doi.org/10.30519/ahtr.794656

Menconi, M. E., Abbate, R., Ceccarelli, G., Grassi, A., & Grohmann, D. (2023). Rural slow routes as connectors of local communities for the promotion of place identity. *Sustainability, 15*(4), 3344. https://doi.org/10.3390/su15043344

Milohnić, I., & Licul, I. (2025). The factors influencing students' entrepreneurial intentions: An analysis using the theory of planned behavior. *Economic Horizons, 27*(1), 79-95. https://doi.org/10.5937/ekonhor2501079m

Molz, J. G. (2009). Representing pace in tourism mobilities: Staycations, slow travel and *The Amazing Race*. *Journal of Tourism and Cultural Change, 7*(4), 270-286. https://doi.org/10.1080/14766820903464242

Moreira, A. C., Pereira, C. R., Lopes, M. F., Calisto, R. A. R., & Vale, V. T. (2023). Sustainable and green city brand: An exploratory review. *Cuadernos de Gestión, 23*(1), 23-35. https://doi.org/10.5295/cdg.221715ac

Mustafa, H., Omar, B., & Mukhiar, S. N. S. (2020). Measuring destination competitiveness: An importance-performance analysis (IPA) of six top island destinations in South East Asia. *Asia Pacific Journal of Tourism Research, 25*(3), 223-243. https://doi.org/10.1080/10941665.2019.1687534

Nguyen, D. T., Kuo, K. C., Lu, W. M., & Nhan, D. T. (2024). How sustainable are tourist destinations worldwide? An environmental, economic, and social analysis. *Journal of Hospitality & Tourism Research, 48*(4), 698-711. https://doi.org/10.1177/10963480231168286

Oh, H., Assaf, A. G., & Baloglu, S. (2016). Motivations and goals of slow tourism. *Journal of Travel Research, 55*(2), 205-219. https://doi.org/10.1177/0047287514546228

Oliveira, S. C. (2020). My trip in my words: Subjectivities, time(s) and mobilities in slow travel blogs. *Time & Society, 29*(1), 223-255. https://doi.org/10.1177/0961463X18820740

Park, H. J., & Lee, T. J. (2019). Influence of the "slow city" brand association on the behavioural intention of potential tourists. *Current Issues in Tourism, 22*(12), 1405-1422. https://doi.org/10.1080/13683500.2017.1391753

Paul, J., & Rosado-Serrano, A. (2019). Gradual internationalization vs born-global/international new venture models: A review and research agenda. *International Marketing Review, 36*(6), 830-858. https://doi.org/10.1108/IMR-10-2018-0280

Paul, J., Lim, W. M., O'Cass, A., Hao, A. W., & Bresciani, S. (2021). Scientific procedures and rationales for systematic literature reviews (SPAR-4-SLR). *International Journal of Consumer Studies, 45*(4), O1-O16. https://doi.org/10.1111/ijcs.12695

Petroman, I. M., Văduva, L., & Marin, D. (2021). Benefits of slow tourism for local economies. *Quaestus, 18*, 280-291.

Presenza, A., Abbate, T., & Micera, R. (2015). The Cittaslow movement: Opportunities and challenges for the governance of tourism destinations. *Tourism Planning & Development, 12*(4), 479-488. https://doi.org/10.1080/21568316.2015.1037929

Ristić, L., Bošković, N., & Despotović, D. (2019). Sustainable integral development of agriculture and tourism in the Republic of Serbia. *Economic Horizons, 21*(1), 57-74. https://doi.org/10.5937/ekonhor1901057R

Serdane, Z. (2020). Slow philosophy in tourism development in Latvia: The supply side perspective. *Tourism Planning & Development, 17*(3), 295-312. https://doi.org/10.1080/21568316.2019.1650103

Siguroardottir, I. (2018). Wellness and equestrian tourism: New kind of adventure? *Scandinavian Journal of Hospitality and Tourism, 18*(4), 377-392. https://doi.org/10.1080/15022250.2018.1522718

Su, X., & Zhang, H. (2022). Tea drinking and the tastescapes of wellbeing in tourism. *Tourism Geographies, 24*(6-7), 1061-1081. https://doi.org/10.1080/14616688.2020.1750685

Sun, Y.-Y., & Lin, Z.-W. (2018). Move fast, travel slow: The influence of high-speed rail on tourism in Taiwan. *Journal of Sustainable Tourism, 26*(3), 433-450. https://doi.org/10.1080/09669582.2017.1359279

Swartz, M. K. (2011). The PRISMA statement: A guideline for systematic reviews and meta-analyses. *Journal of Pediatric Health Care, 25*(1), 1-2. https://doi.org/10.1016/j.pedhc.2010.09.006

Torres-Carrión, P. V., González-González, C. S., Aciar, S., & Rodríguez-Morales, G. (2018). Methodology for systematic literature review applied to engineering and education. In *2018 IEEE Global Engineering Education Conference (EDUCON)* (pp. 1364-1373). New York, US:Institute of Electrical and Electronics Engineers

Tu, W., Zhou, L., Haobin, B. Y., & Yan, Q. (2022). Conceptualizing and assessing the competitiveness of slow tourism destinations: Evidence from the first accredited Cittaslow in China. *SAGE Open, 12*(1). https://doi.org/10.1177/21582440211068823

UNWTO Think Tank. (2016). *The role of governments in advancing quality management in tourism destinations*. United Nations World Tourism Organization.

Walker, T. B., & Lee, T. J. (2021). Contributions to sustainable tourism in small islands: An analysis of the Cittaslow movement. *Tourism Geographies, 23*(3), 415-435. https://doi.org/10.1080/14616688.2019.1654539

Walker, T. B., Lee, T. J., & Li, X. (2021). Sustainable development for small island tourism: Developing slow tourism in the Caribbean. *Journal of Travel & Tourism Marketing, 38*(1), 1-15. https://doi.org/10.1080/10548408.2020.1842289

Wu, J., Wang, X., & Zhang, C. (2024). Exploring the on-site experience of slow tourists from an embodied practice perspective. *International Journal of Tourism Research, 26*(1), e2610. https://doi.org/10.1002/jtr.2610

Received on 24th February 2025,
after revision,
accepted for publication on 12th September 2026.
Published online on 24th April 2026

Vedran Zubović is a Senior Assistant at the Faculty of Tourism and Hospitality Management, University of Rijeka, Croatia. He completed his doctoral study in tourism with a dissertation focused on outdoor tourism and destination competitiveness. His research interests include tourism development, destination competitiveness, and tourism entrepreneurship.

Ema Petaković Ikica is a Senior Assistant at the Faculty of Tourism and Hospitality Management, University of Rijeka, Croatia. She is an early-career researcher focusing on quality management in tourism and hospitality, with an emphasis on customer satisfaction, service quality, TQM systems, ISO standards, and continuous improvement.

DIMENZIJE KVALITETA SPOROG TURIZMA: TRENDOVI I PERSPEKTIVE NA OSNOVU SISTEMATSKOG PREGLEDA LITERATURE

Vedran Zubović and Ema Petaković Ikica

University of Rijeka, Faculty of Tourism and Hospitality Management, Republic of Croatia

Turizam se suočava sa izazovima ubrzanog načina života, na koje kao odgovor sve više dobija na značaju koncept sporog turizma, koji promoviše ređa, ali bogatija i održivija putnička iskustva usmerena na kvalitet umesto na kvantitet. Ova studija analizira 47 naučnih radova iz baza Web of Science i Scopus kako bi ispitala uticaj sporog turizma na održivost, kao i na percepciju kvaliteta turizma i turističkih usluga. Istraživanje identifikuje šest ključnih dimenzija kvaliteta: prostorni kvalitet, kvalitet proizvoda i usluga, lokalni kvalitet života, kvalitet turističkog iskustva, percipirani kvalitet usluga i kvalitet transporta. Originalnost studije proizlazi iz sinteze nalaza iz različitih izvora, čime se produbljuje razumevanje dinamike i posledica sporog turizma za turiste, ali i za turističke destinacije.

Ključne reči: spori turizam, sporo putovanje, kvalitet, turistička destinacija, dimenzije kvaliteta, održivost

JEL Classification: Q56, Z30, Z32

Ekonomski horizonti, Januar - April 2026, Volumen 28, Sveska 1, 99 - 100
UDC: 33 ISSN: 1450-863 X
© Ekonomski fakultet Univerziteta u Kragujevcu
www. ekfak.kg.ac.rs

Najava konferencije

CONTEMPORARY ISSUES IN ECONOMICS, BUSINESS AND MANAGEMENT - EBM 2026

December 16-17, 2026, Faculty of Economics, University of Kragujevac

Jelena Erić Nielsen*

Međunarodna naučna konferencija *Contemporary Issues in Economics, Business and Management - EBM 2026*, biće organizovana 16. i 17. decembra 2026. godine, na Ekonomskom fakultetu Univerziteta u Kragujevcu. Konferencija se od 2010. godine održava bijenalno, a ove godine se po deveti put okupljaju istraživači iz regiona i sa evropskih visokoškolskih institucija sa ciljem da analiziraju i razmene uvide u aktuelna pitanja i izazove iz oblasti ekonomije, biznisa i menadžmenta.

Savremeni trendovi u globalnom okruženju nameću nezabeležen tempo promena stvarajući izazove koji podstiču preispitivanje ključnih pretpostavki i transformaciju postojećih istraživačkih pravaca, uz redefinisanje osnovnih ekonomskih paradigmi. Konferencija EBM 2026 pokriva širok spektar tematskih oblasti, što omogućava interdisciplinarnu i kreativnu debatu istraživača iz različitih ekonomskih disciplina. Uvažavajući značaj uočenih izazova u oblastima ekonomije, biznisa i menadžmenta, u nastojanju da ukaže na pravce daljeg razvoja i prevazilaženja problema, na Konferenciji će biti prezentovana istaživanja u okviru sledeće četiri tematske oblasti:

- Globalizacija i regionalizacija,
- Ključni problemi i izazovi u menadžmentu i marketingu,
- Računovodstvo i poslovne finansije, i
- Primenjena informatika i kvantitativni metodi u ekonomiji i menadžmentu.

Tematske oblasti su definisane sveobuhvatno, obuhvataju brojne i raznovrsne podteme, što omogućava istraživačima da ponude širok dijapazon istraživačkih dostignuća i rezultata. Prvi dan konferencije predviđen je za plenarnu sesiju i četiri paralelne sesije, dok je drugi dan namenjen nastavku dijaloga, sintezi i kritičkom sagledavanju ostvarenih dostignuća, kao i identifikovanju daljih pravaca razvoja.

Specifičnost EBM 2026 ogleda se u posebnoj sesiji posvećenoj decenijskoj saradnji u okviru međunarodnog četvoropartitnog sporazuma Ekonomskog fakulteta u Kragujevcu i partnerskih univerziteta u Poljskoj (*Cracow University of Economics*), Italiji (*University of Messina*) i Ukrajini (*Kyiv National University of Trade and Economics*).

* *Korespondencija:* J. Erić Nielsen, Ekonomski fakultet Univerziteta u Kragujevcu, Liceja Kneževine Srbije 3, 34000 Kragujevac, Republika Srbija; e-mail: jelena_eric@kg.ac.rs

Prvog dana konferencije plenarnu sesije će otvoriti uvodničari, renomirani istraživači sa evropskih univerziteta:

Jörn Kleinert, Karl-Franzens-Universität Graz, Austria; i

Viktorija Skvarciany, Vilnius Gediminas Technical University, Lithuania.

Pozivamo učesnike da doprinesu u radu konferencije dostavljanjem originalnih neobjavljenih teorijskih i empirijskih istraživanja koja su sprovodili u prethodnom periodu. Radovi su predmet dvostruke anonimne recenzije, a nakon konferencije biće publikovani u Zborniku radova. Na dan održavanja konferencije svim učesnicima će biti na raspolaganju Zbornik apstrakata, a biće im uručeni i sertifikati o učešću. Autorima selektovanih radova, koji se posebno istaknu originalnim doprinosom i kvalitetom, će biti omogućeno da nakon standarnog postupka dvostruke anonimne recenzije, svoja istraživanja publikuju u sledećim renomiranim časopisima:

Ekonomski horizonti - časopis koji izdaje Ekonomski fakultet Univerziteta u Kragujevcu, koji je indeksiran u različitim relevantnim časopisnim bazama i to: SCOPUS (Q3), ProQuest/ABI/INFORM, Cabell's Directories, Index Copernicus Journals Master List, EconLit, EBSCO, Ulrich's Web.

Naše gospodarstvo/Our economy - časopis koji izdaje Ekonomsko-poslovni fakultet Univerziteta u Mariboru, indeksiran, između ostalih, u bazama: DOAJ, ERIH Plus, Dimensions, EBSCO, ECONIS, EconLit.

Značajno je istaći sledeće važne datume za učesnike na konferenciji:

- 15. septembar 2026. godine - Rok za dostavljanje apstrakta
- 01. oktobar 2026. godine - Obaveštenje o prihvatanju apstrakta
- 15. oktobar 2026. godine - Rok za ranu registraciju učesnika
- 31. oktobar 2026. godine - Rok za dostavljanje radova
- 15. novembar 2026. godine - Obaveštenje o prihvatanju rada.

Detaljne informacije o konferenciji mogu se pronaći na zvaničnom sajtu EBM 2026: https://ebm.ekf.rs/.

Na konferenciji će istraživači imati priliku ne samo da izlože rezultate svojih istraživanja, već i da u otvorenom dijalogu i uz pomoć drugih učesnika prevaziđu metodološke teškoće i razjasne istraživačke dileme, ali i da steknu nova znanja.

Kao predsednik Programskog odbora, očekujem značajan broj kvalitetnih istraživanja učesnika iz zemlje i inostranstva, u kojima će biti predočene ideje i delimično osvetljena moguća rešenja za neke od ključnih izazova savremene ekonomije i upravljanja poslovnim sistemima. Smisao i cilj konferencije je da osnaži komunikaciju učesnika u regionu i Evropi, čime se stvara platforma za nove oblike saradnje u okviru naučno-istraživačkih projekata i inicijativa.

Primljeno 19. marta 2026,
nakon revizije,
prihvaćeno za publikovanje 31. marta 2026.
Elektronska verzija objavljena 24. aprila 2026.

Jelena Erić Nielsen je redovni profesor preduzetništva i menadžmenta na Ekonomskom fakultetu Univerziteta u Kragujevcu, gde je doktorirala 2013. godine. Njena istraživačka interesovanja obuhvataju korporativno i zeleno preduzetništvo, menadžment, liderstvo, strategijski menadžment, organizacionu transformaciju i ponašanje, korporativno upravljanje. Usavršavala se na evropskim i američkim univerzitetima u okviru različitih programa mobilnosti.

CIP - Каталогизација у публикацији
Народна библиотека Србије, Београд

33

EKONOMSKI horizonti / glavni i odgovorni urednik Vladimir Mihajlović. - God. 1, br. 1/2 (1999)- . - Kragujevac: Ekonomski fakultet Univerziteta u Kragujevcu, 1999 - (Kragujevac: InterPrint). - 26 cm

Tri puta godišnje. - Tekst na srp. i engl. jeziku. - Drugo izdanje na drugom medijumu : Ekonomski horizonti (Online) = ISSN 2217-9232
ISSN 1450-863X = Ekonomski horizonti (Štampano izd.)
COBISS.SR-ID 158022663

UPUTSTVA AUTORIMA

Uvod: Rukopisi, koji se podnose Glavnom i odgovornom uredniku Časopisa, trebaju biti originalni, neobjavljeni, i ne smeju biti u postupku recenziranja bilo kog drugog časopisa. Rukopisi trebaju biti napisani na stilski i gramatički standardnom **srpskom i engleskom,** odnosno, samo na **engleskom** jeziku, autora čiji maternji jezik nije srpski. Autorima se sugeriše da rukopise striktno usaglase u svim elementima sa zahtevima ovog Uputstva. Svi rukopisi podležu procesu dvostruko anonimnog recenziranja.

Podnošenje rukopisa: Rukopisi se podnose elektronski na e-mail horizonti@kg.ac.rs. Autori treba da podnesu tri fajla: fajl sa informacijama o: naslovu rada, imenima autora, njihovim godištima, institucijama i adresama (e-mail, poštanska adresa, broj telefona), fajl sa rukopisom: naslov rada, apstrakt, ključne reči, JEL klasifikacija rukopisa, središnji deo rada, slike, tabele, grafikoni ugrađeni u rad, zahvalnica (ukoliko postoji), reference, prilozi (ukoliko postoje), endnote (ukoliko postoje), i fajl sa potpisanom i skeniranom Izjavom autora o originalnosti rukopisa.

Dužina podnesaka: Rukopisi bi trebali da sadrže od 5000 do 7000 reči.

Naslov rukopisa: Naslov rukopisa treba biti napisan najviše u dva reda.

Apstrakt i Ključne reči: Apstrakt treba biti od 100 do 150 reči. Autori treba da izdvoje 3-6 ključnih reči.

JEL klasifikacija: Prema: *Journal of Economic Literature (JEL) Classification System:* http://www.aeaweb.org/journal/jel_class_system.php, autori treba da klasifikuju svoj rukopis.

Slike i Tabele: Slike mogu biti u TIFF, GIF, JPG, PDF, CDR formatu, u rezoluciji najmanje 300dpi. Tabele trebaju biti urađene u Word, Excel, Corel, Visio, SPSS formatu. Slike i tabele treba numerisati uzastopno; svaka Slika treba biti potpisana svojim naslovom, i izvorom, a svaka Tabela treba imati svoje zaglavlje, i biti potpisana izvorom.

Zahvalnica: Naziv i broj projekta u okviru koga je rukopis nastao, i naziv institucije koja finansira projekat, odnosno, zahvalnost recenzentima, itd. navode se nakon Zaključka, tj, ispred Referenaca.

Endnote: Endnote treba smestiti na kraju rukopisa, nakon Referenci. Fusnote se ne prihvataju.

Reference: Reference bi trebale biti iz svih odgovarajućih izvora, i trebale bi biti lako dostupne čitaocima. Broj referenaca na koje se autori pozivaju u svom rukopisu bi trebao biti od 20 do 30. U **tekstu:** u slučaju jedne reference, izvor se navodi na sledeći način: (Rosenhead, 2005); u slučaju više referenaca, izvore treba poređati hronološki, na primer: (Midgley, 2000; Mingers, 2006). U **listi** referenaca: treba navesti samo one izvore na koje se autori pozivaju u rukopisu; radovi se navode bez numerisanja, prema prezimenima autora, u abecednom redosledu; ukoliko više od jedne reference ima isto autorstvo i datum koristi se a, b, ... nakon datuma, na primer: Jackson, M. C. (2006a); ukoliko neka referenca poseduje DOI broj, treba ga napisati na kraju reference. Reference u tekstu i listu referenci treba uraditi prema (APA - Publication Manual of American Psychological Association (http://www.apastyle apastyle.org/pubmanual.html): **Knjiga s jednim autorom**: Morgan, G. (1997). *Images of Organization*. London, UK: SAGE Publications. **Knjiga sa dva autora:** Flood, R. L., & Romm, N. R. A. (1996). *Diversity Management: Triple Loop Learning.* Chichester, England: John Wiley. **Knjiga sa više od dva autora:** van Marrewijk, C., Ottens, D., & Schueller, S. (2006). *International Economics: Theory, Application, and Policy.* Oxford, UK: Oxford University Press. **Članak u časopisu:** Zhu, Z. (2011). After paradigm: why mixing-methodology theorising fails and how to make it work again. *Journal of the Operational Research Society, 62*(4), 784-798. **Poglavlje u redigovanoj knjizi:** Brocklesby, J. (1997). Becoming multimethodology literate: An assessment of the cognitive difficulties of working across paradigms. In J. Mingers, & A. Gill (Eds.), *Multimethodology: The Theory and Practice of Combining Management Science Methodologies* (pp. 189-216). Chichester, England: John Wiley. **Saopštenje - u zborniku sa naučne konferencije - štampano u celini:** Feret, K. (2011). Serbia and Poland on map of the global air cargo shipment. In V. Babić (Ed.), *Contemporary Issues in Economics, Business and Management* (pp. 3-16). Kragujevac: Faculty of Economics in Kragujevac. **Rad prezentiran na naučnoj konferenciji/simpozujumu, skupu:** Prochniak, M. (2008, April). *Real Economic Convergence between Central and Eastern Europe and the European Union.* Paper presented at the conference of the Chinese Economic Association, Cambridge, UK. **Web site:** Waugh, M. E. (2010). International Trade and Income Differences. *American Economic Review,* 5, 2093-2124. Retrieved March 11, 2012, from http://www.aeaweb.org/aer/contents/index.php.

Biografska skica autora: Na kraju rukopisa treba - u ne više od 50-tak reči - navesti osnovne podatke iz profesionalne biografije autora.

Prikazi knjiga i ***Najava i prikazi naučnih konferencija:*** podležu procesu recenziranja, i ne bi trebalo da sadrže više od 1000 reči. Prikaz knjige treba da obuhvati naslov knjige, ime autora i izdavača, godinu publikovanja, broj strana i ISBN broj. Prikaz knjige treba da sadrži kritičko i konstruktivno vrednovanje njene relevantnosti u teorijsko-metodološkom i praktičnom smislu.

Etika publikovanja: S ciljem predupređivanja objavljivanja plagijata, neverodostojnih podataka i rezultata, itd, autori uz Rukopis treba da - kao attachment - dostave potpisanu i skeniranu Izjavu o originalnosti rukopisa, koja se može preuzeti sa sajta Časopisa.

Sekretar Uredništva: Sve relevantne informacije, autori rukopisa mogu dobiti od sekretara Uredništva:

e-mail: horizonti@kg.ac.rs