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# ECONOMICS OF SUSTAINABLE DEVELOPMENT ЕКОНОМИКА ОДРЖИВОГ РАЗВОЈА



ДРУШТВО ЕКОНОМИСТА "ЕКОНОМИКА" НИШ

SOCIETY OF ECONOMISTS "EKONOMIKA", NIS

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### RELATIONS AMONG ENVIRONMENTAL AND FINANCIAL PERFORMANCE OF RESOURCE USAGE IN ENTERPRISES: LITERATURE REVIEW

### Abstract

The mutual influence and interdependence of financial performance (FP) of resource usage and environmental performance (EP) is an important research area, which has particularly occupied the attention of researchers in the last decade. Increasing requirements for environmental protection, principles of circular economy and regenerative economy create an obligation for the enterprise management regarding efficient and effective management of environmental aspects of business with the aim of sustainability and improvement of EP. In addition, stakeholders of the enterprise are interested in the economic effects of implemented environmental actions on FP. The results of the research dealing with the relations between different indicators of EP and FP of resource use are mixed. Bearing in mind the above, the purpose of this paper is to provide a summary of research on the impact of EP on the FP of resource use, FP of resource use on EP and the interdependence of FP of resource use and EP.

*Keywords: environmental performance, financial performance, impact, interdependence, enterprise* 

JEL classification: Q5

### РЕЛАЦИЈЕ ИЗМЕЂУ ЕКОЛОШКИХ И ФИНАНСИЈСКИХ ПЕРФОРМАНСИ УПОТРЕБЕ РЕСУРСА ПРЕДУЗЕЋА: ПРЕГЛЕД ЛИТЕРАТУРЕ

### Апстракт

Међусобни утицај и међузависност финансијских перформанси употребе ресурса, на једној страни и еколошких перформанси, на другој, представља важно истраживачко подручје, које посебно окупира пажњу истраживача у последњој деценији. Све већи захтеви за заштитом животне средине, принципи циркуларне економије и регенеративне економије, постављају пред менаџмен-

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том предузећа обавезу ефикасног и ефективног управљања еколошким аспектима пословања у циљу одрживости и унапређења еколошких перформанси. Осим тога, власници и остали стејкхолдери предузећа су заинтересовани за економске ефекте реализованих еколошких акција на финансијске перформансе. Резултати истраживања која се баве односима између различитих индикатора еколошких и финансијских перформанси употребе ресурса су различити. Имајући у виду наведено, сврха овог рада је да пружи сумарни приказ истраживања утицаја еколошких перфоманси на финансијске перформансе употребе ресурса, финансијских перформанси употребе ресурса на еколошки перформансе и међузависности финансијских перформанси употребе ресурса и еколошких перформанси.

**Кључне речи:** еколошке перформансе, финансијске перформансе, утицај, међузависност, предузеће

### 1. Introduction

Business performance of an enterprise can be divided into three parts: resource performance, performance of resource usage and social responsibility performance (Krstić, 2022). Resource performance shows the characteristics and quality of resources in the enterprise, while performance of resource usage shows the economic success in using resources. While resource performance is mostly non-financial in nature, performance of resource usage is predominantly financial in nature, although it can also be non-financial (Bogićević et al, 2016). Social responsibility performance is related to the non-economic dimension of the enterprise's operations and includes: social responsibility performance, environmental performance (Krstić et al., 2021), performance of health and safety at work, and finally, ethical performance. They are mostly non-financial (Domanović et al., 2020).

Since the 1970s, the concept of circular economy has gained more and more importance. The initial development of the concept is attributed to Pearce and Turner, who in 1989 described how natural resources affect the economy. They focused on the importance of recycling, re-production, long-term design, repairs, maintenance, etc. (Geissdoerfer et al., 2017). The circular economy implies processes of production/ consumption that maximize service based on the linear flow of materials and energy considering nature-society-nature relations. This is achieved by using cyclic flows of material and energy sources that can be characterized as renewable (Korhonen et al., 2018; Rakić et al, 2021). The principles on which the circular economy is based are: reciprocity, reduced use of resources, sustainability of design, innovative business models, transformation of consumption, inclusion of citizens in sustainability, coordination and participation in the process of change at multiple levels, promotion of different solutions used for the purpose implementing the principle of circularity, incorporating sustainability into political-economic systems and a holistic approach (Velenturf & Purnell, 2021).

Great social inequality, scarcity of resources, destruction of biodiversity, global warming and other climate changes have made the existing systems ineffective and have forced economic subjects to change. As a result, the development of regenerative systems and regenerative economy (BMW Foundation RESPOND, 2022), as a concept

that is related to the concept of circular economy, occurs. Regeneration is a process aimed at creating sustainable systems. Through the use of universal patterns and principles comes the creation of healthy and sustainable systems. Certain principles on which the regenerative economy is based are differentiated. The first principle emphasizes the existence of reciprocity, which implies a high degree of connection and conditioning of all actors and parts of the system. According to the second principle, the system is only as strong as the weakest part. The third one focuses on innovation and adaptation, as ways to survive concerning rivals. The fourth implies that the parts of the system must be connected, and that inclusiveness contributes to a better functioning of the system. The fifth emphasizes that a regenerative economy fosters healthy and resilient communities and regions, while maintaining uniqueness. The sixth talks about the limits of the system, according to which creativity is located at the edges of that system. Seventh, the focus directs to the importance of circularity, between all parts of the system. Finally, the eighth principle of the regenerative economy suggests the importance of the balance of the entire system (Capital Institute, 2023).

The concepts of circular and regenerative economy focus on monitoring and improving the EP of enterprises. EP represents measurable results in managing the environment. There are increasing demands on businesses to focus on improving this performance group. Requirements for standardization (ISO 9000 and ISO 14000) provide an opportunity to improve the market position and achieve competitiveness in relation to participants who do not respect the stated standards. Also, the regulations of certain countries, especially countries that belong to the European Union, require reporting on achieved EP, which encourages enterprises to manage them in the best possible way. Satisfying stakeholder interests is another reason for EP management (Purnomo & Widianingsih, 2012; Jovanović et al., 2013).

Environmental problems are becoming an increasingly topical issue. In addition to the demands for corporate social responsibility, consumer demand for the delivery of environmentally friendly products is also intensifying. Also, a large number of countries prescribe regulations in the field of managing the environmental aspect of business as well as the obligation to report on the achieved EP. Enterprises are faced with the dilemma of the impact of EP on FP (Miladiasari et al., 2021). The importance of EP management is also reflected when it comes to investment activity. In addition to considering financial results, investors often look at environmental practices and results, bearing in mind their impact on FP. In this way, they learn about the possibilities for development, but also possible problems and obstacles for the long-term business of the enterprise, on the basis of which they make the final investment decision (Sari & Sutopo, 2022).

In this paper, by reviewing and analysing the results (outcomes) of the relevant literature, it is examined the connection and influence of EP (emissions reduction, control of pollution, conservation of natural resources, publication of environmental data, environmental cost (EC), energy intensity, eco-efficiency, carbon emission (CE), sustainability reporting disclosure, corporate environmental reporting (CER), environmental accounting (EA), sustainability performance, sustainability performance disclosure, carbon intensity/emission, energy use, water/air/soil pollution, waste production) on FP of the use of resources (return on assets (ROA), return on equity (ROE), return on sales (ROS), return on investment (ROI), return on capital employed (ROCE), Tobin's Q, cash-flow/equity ratio (CF/E ratio), cash-flow/assets ratio (CF/A

ratio), earnings per share (EPS), profitability, earnings before interest and tax (EBIT), earnings before interest, tax and amortization (EBITA), liquidity, leverage, economic value added (EVA), market value/book value ratio (M/B ratio), sales growth, efficiency, income, cumulative return on shares). Then the influence of FP of the resource use on EP and finally the mutual influence of these performance groups are investigated. These relationships are presented in Figure 1.





Source: Authors

# 2. The impact of environmental performance on financial performance of resource usage

In the relevant literature, there is a group of researches that deal with indicators of the effects of reducing harmful emissions (environmental pollution) on the FP of resource usage (Table 1).

Accordingly, Jaggi and Freedman (1992) analysed the impact of pollution performance on FP - ROA, ROE, CF/E ratio and CF/A ratio. The pollution performance from 1978 and its effect on FP for the period 1975-1977 were analysed. The results showed that pollution performance has a weak negative relationship with ROE, then a medium negative relationship with ROA, as well as a strong negative relationship with CF/E ratio and CF/A ratio. A similar analysis was carried out by *Hart & Ahuja* (1996) on the example of Standard and Poor's 500 list of enterprises. A positive impact of emissions reduction (EMRED) on ROA, ROE and ROS was determined, except in the initial year of the research (1989). Also, *King & Lenox (2001)* proved a negative correlation between total emissions and Tobin's Q. They concluded that enterprises with reduced emissions improve financial results in the following year. *Ganda & Samson Milondzo (2018)* investigated the effect of CE on FP of enterprises (ROI, ROE, ROS) in South Africa, proving the negative impact of CE on the observed FP.

It can be concluded that all research from this group proved a negative relationship between the emissions of harmful gases of the enterprise (damage to the environment) and FP of resource usage (ROA, ROE, ROS, Tobin's Q).

The second group of studies deals with the analysis of various indicators of the EP of enterprises and their impact on the FP of resource usage.

Salama (2005), during the year 2000, showed that EP (waste management, good environmental reputation, implementation of environmental measures) has a positive impact on FPof resource usage (which leads to achieving a greater competitive advantage through maximizing shareholder's wealth, thereby achieving better financial results). Similarly, Prayanthi & Mandagi (2015) proved a positive impact of EP on ROA and ROE in a three-year period (2011-2013). The sample included only one enterprise in Indonesia. Also, Haninun et al. (2018) conducted research in the period 2009-2014. The analysis showed a significant positive relationship between environmental and FP of resource usage (ROA, ROE). In accordance with these researches are the following. Kalash (2021) conducted the research examining the impact of EP on ROA, ROE and operating profitability. A significant positive impact of environmental performance on all investigated FPs was determined. Galant & Cvek (2021) analysed the environmental impact on FP of the 150 largest enterprises in Croatia. The results of the research showed a positive and significant impact of EP on FP of the analysed enterprises. For research purposes, Fauzi (2022) proved that there is a positive influence of EP on FP (ROE and Tobin's Q), but also on the value of the enterprise. Ramlawati et al. (2022) suggested that there is a positive and significant impact of EP on ROE. Better quality in environmental management by enterprises, according to the research results, leads proportionally to an increase in ROE. And some recent research proved the positive impact of eco indicators on FP of enterprises. Inalloa et al. (2023) investigated the impact of EP indicators on FP. The environmental indicators used in the study included the following: control of pollution, environmental damage prevention, research, development and conservation of natural resources and the determinants of environmental policy. FP indicators used as dependent variables in the study included: ROA, ROE, ROS, book value, market value, residual profit and ROI. The research results showed a significant relationship between EP and FP, as well as a significant impact of environmental on FP of resource usage. Naseer et al. (2023) dealt with the analysis of the impact of EP on FP of resource usage (ROA, Tobin's Q, EPS). The research results implied the existence of a significant positive relationship.

Angelia & Suryaningsih (2015) analysed the influence of EP on ROA and ROE of enterprises divided into 5 groups (the best or first group includes enterprises that fully implement a sustainable business system and environmental management in the long term, while the worst group, i.e. the last one, does not respect the principles of environmental management, with the potential possibility of pollution and damage to the environment). They concluded that EP has a significant positive impact on ROA and ROE only for enterprises in the first group.

*Manrique & Martí-Ballester (2017)* investigated the influence of EP (reduction of emissions of harmful gases, hazardous waste, water use, impact on biodiversity, cooperation with environmental organizations) on FP of resource usage (ROA and Tobin's Q). They showed that there is a positive impact of EP on FP, with greater positive effects for enterprises from developing countries. The reason for this result is that enterprises located in developing

countries are most often in the initial stages of environmental activities, which allows them to achieve better results through the implementation of environmental activities. These activities are simple to implement, require a short period, achieving short-term profits while requiring low financial assets, and improving ROA.

		dent ole	lent ole	Correlation	Regression
<b>Researc</b> h	Sample	Indepen variał	Depenc	Connection	Impact direction
Jaggi & Freedman (1992)	13 enterprises in the USA (1975-1980)	Pollution performance	ROA, ROE, CF/E ratio, CF/A ratio	1978 – No significant impact 1975-1977 - ROE (weak negative), ROA (medium negative), CF/E ratio (strong negative), CF/A ratio (strong negative) 1978-1980 – No significant impact	-
Hart (1996)	127 enterprises in the USA (1989-1992)	EMRED	ROA, ROE, ROS	-	Positive
King & Lenox (2001)	4483 manufacturing enterprises in the USA (1987-1996)	Relative emissions, Industry emissions	Tobin's Q	Relative (weak negative), Industry (No significant impact)	-
Salama (2005)	201 enterprises in the UK (2000)	CER	Cash-flow	-	Positive
Angelia & Suryaningsih (2015)	17 manufacturing, infrastructure and service enterprises in Indonesia (2012-2013)	EP	ROA, ROE	-	Positive
Prayanthi & Mandagi (2015)	1 enterprise in Indonesia (2011-2013)	EP	ROA, ROE	-	Positive in 2012 and 2013; No significant impact in 2011
Md Nor et al. (2016)	100 enterprises in Malaysia (2011)	Environmental disclosure	ROA, ROE, EPS, Profit margin	ROA (strong negative), ROE (strong negative), EPS (weak positive), Profit margin (weak negative)	Positive

Table 1	18	Systematization	of research	results	on the influer	nce of EP	on FP	of resource	usage
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Manrique & Martí-Ballester (2017)	2982 enterprises in developed and developing countries (2008-2015)	CER	ROA, Tobin's Q	-	Positive
Maksum & Tamba (2017)	42 manufacturing enterprises in Indonesia (2012-2014)	EP	ROA	-	No significant impact
Haninun et al. (2018)	108 enterprises from Indonesia stock exchange (2009-2014)	EP	ROA, ROE	-	Positive
Ganda & Milondzo (2018)	63 enterprises in South Africa (2015)	Effect of CE	ROI, ROE, ROS	-	Negative
Nuzulus (2019)	27 chemical enterprises in Japan (2012-2015)	EC	ROA, ROE, NPM, Tobin's Q, PER	-	ROA (negative) ROE (no significant impact) NPM (negative) Tobin's Q (negative) PER (no significant impact)
Ermaya & Mashuri (2020)	23 enterprises in Indonesia (2016-2018)	EP, EC, ISO 14001	FP	-	EP (positive), EC (negative), ISO 14001 (no significant impact)
Yjoti & Khanna (2020)	21 service enterprises in India (2014-2019)	EP	ROI, ROE, ROCE	ROI, ROE, ROCE (weak positive)	Negative
Kalash (2021)	49 enterprises from Istanbul stock exchange (2014-2019)	EP	ROA, ROE, OP	-	Positive
Galant & Cvek (2021)	150 enterprises in Croatia (2018)	EP	FP	-	Positive
Fauzi (2022)	64 enterprises from chemical and manufacturing sector in Indonesia (2016-2018)	EP	ROE, Tobin's Q	-	Positive
Ramlawati et al. (2022)	15 enterprises in Indonesia (2018-2020)	EP	ROE	-	Positive
Naseer et al. (2023)	2711 enterprises in the USA (2001-2021)	EP	ROA, Tobin's Q, EPS	-	Positive

Inalloa et al. (2023)	108 manufacturing enterprises in Iran (2013-2020)	Control of pollution, Environmental damage prevention, Research, development and conservation of natural resources, Environmental	ROI, ROE, ROA, Book value, Market value, Residual profit	-	Positive
		Environmental policy	1 0		

Source: Authors

*Maksum & Tamba (2017)* conducted research that examined the influence of EP on FP. The result suggested that EP has no significant effect on FP. Similarly, *Yjoti & Khanna (2020)* investigated the impact of EP on ROI, ROE and ROCE. The research was conducted in the period 2014-2019 in the UK. The results of the correlation analysis showed that there is a weak positive influence of EP on ROI, ROE and ROCE. Regression analysis showed the existence of a negative impact of EP on all observed FP indicators.

It can be concluded that previous research indicated that enterprises from developing countries, as well as enterprises that stand out as enterprises that respect environmental principles the most, have greater effects on FP due to the improvement of environmental indicators. However, not all research has proven the positive effects of improving environmental indicators on FP of resource use, which can be explained by considering the analysis of this impact in the short term.

Research that dealt with the influence of EC for the enterprise on FP of resource use is also highlighted.

*Firdausi Nuzulus (2019)* investigated the effects of EC on FP of resource usage. The independent variable in the research was the EC, while the dependent variables were: ROA, ROE, NPM, PER and Tobin's Q. The results showed a negative impact of EC on ROA, NPM and Tobin's Q, while no significant impact is observed for ROE and PER indicators.

*Laela Ermaya & Saputri Mashuri (2020)* came to the result that EP has a significant positive effect on FP of resource use, then EC has a negative effect on FP, while ISO 14001 standards have no significant effect on FP.

### 3. Impact of financial performance of resource use on environmental performance

In the relevant literature, some studies proved the positive influence of FP of resource use on EP of enterprises.

Peter Osazuwa & Che-Ahmad (2016) proved the existence of a positive impact of profitability on the relationship between eco-efficiency and enterprise value. Similarly, Laguir et al. (2017) conducted research in the period 2008-2011. The positive impact of all the mentioned indicators of FP (ROA, EBIT and EBITDA) on EP of the analyzed banks was observed. In addition, Farhan et al. (2023) showed a positive impact of ROA

on total sustainability expenditure (total sustainability costs - SUS). The same direction of correlation exists when it comes to the impact of ROA on environment and pollution control-related expenses (ENV). This study resulted in a positive effect of liquidity on the environment and a positive effect of liquidity on environmental consumption. *Efendi et al. (2020)* proved that there is a negative impact of profitability on CE by enterprises. The study by *Moshud (2020)* based on assessing the influence of profitability indicators on the publication of environmental data. The results showed that there is a significant positive impact of profitability on environmental disclosure. In contrast, *Ardi & Yulianto (2020)* conducted research where the results showed that the profitability of the enterprise does not affect the disclosure of data on the impact of the enterprise on the environment. Similar to this research, *Fatmawati & Trisnawati (2022)* analyzed the impact of enterprise profitability on reporting on EP and sustainability (Sustainability Reporting Disclosure - SRD). The results of the analysis showed that profitability does not have a significant impact on the disclosure of environmental data.

Also, some studies didn't prove the positive impact of FP of resource usage on EP of enterprises.

*Wihandoko et al. (2022)* dealt with the research of non-financial enterprises. This research proved that enterprise profitability has a negative impact on EP.

*Aigbedo (2019)* analyzed the impact of FP (ROA, ROE, ROS) on EP for 2012. The research focused on enterprises from different parts of the world (Europe, North America and Asia). The research found that enterprises based in Europe have slightly better EP and practices, however, overall, the research showed that there is no statistically significant relationship between the examined variables.

*Vinayagamoorthi et al. (2015)* investigated the influence of FP (ROA, ROE and ROCE) on EP (energy intensity). The results of the analysis showed that energy intensity has a negative impact on ROCE, while the impact on ROA, ROE and ROS is positive.

		lent le	ent le	Correlation	Regression
Research	Sample	Indepenc	Depend	Connection	Impact direction
Vinayagamoorthi et al. (2015)	191 enterprises from Bombay Stock Exchange (2004-2014)	ROA, ROE, ROS, ROCE	Energy intensity	ROA (weak negative) ROE (weak negative) ROS (weak positive) ROCE (weak negative)	ROCE (negative) ROA, ROE, ROS (positive)
Osazuwa & Che- Ahmad (2016)	667 non-financial enterprises in Malaysia (2013)	Profitability, Leverage	Eco-efficiency/ enterprise value	-	Profitability (positive) Leverage (no significant impact)
Laguir et al. (2017)	68 French banks (2008-2011)	ROA, EBIT, EBITA	EP	-	Positive

Table 2 Systematization of research results on the influence of FP of resource usage on EP

Aigbedo (2019)	50 industrial enterprises (2012)	ROA, ROE. ROS	EP	-	No significant impact
Ardi & Yulianto (2020)	9 enterprises from agricultural and mining sector in Indonesia (2014-2018)	Profitability, Leverage	Publication of environmental data	-	Profitability (no significant impact) Leverage (Negative)
Efendi et al. (2020)	35 manufacturing enterprises in Indonesia (2020)	Profitability, Leverage	CE	-	Profitability (Negative) Leverage (Positive)
Moshud (2020)	82 enterprises in Nigeria (2012-2016)	Profitability	Publication of environmental data	-	Positive
Wihandoko et al. (2022)	13 enterprises from Indonesia stock exchange (2017-2020)	Profitability, Leverage, EC	EP	-	Negative
Fatmawati & Trisnawati (2022)	39 enterprises from Indonesia stock exchange (2018-2020)	Profitability, Leverage	Sustainability Reporting Disclosure	-	No significant impact
Farhan et al. (2023)	75 enterprises in India (2015-2021)	ROA, Liquidity, Leverage	SUS, ENV	Weak positive (ROA, SUS), Weak negative (Levage, SUS) Weak positive (ROA i ENV)	Liquidity, ENV (positive), Liquidity, SUS (positive)

Source: Authors

# 4. Interdependence of environmental performance and financial performance of resource usage

There are relevant studies that suggested and proved the significant interdependence of financial and EP of enterprises.

Table 3 Systematization of	the results	of research	on the mutu	al influence
of	FP and EP c	of enterprise		

		lent/ ent le	lent/ ent le	Correlation	Regression
Research	Sample	Independ depend variab	depende variab Independ depende variab		Impact direction
Sarumpaet (2005)	87 enterprises in Indonesia (1996-2000)	ROA	EP	-	No significant impact
Montabon (2007)	45 enterprises in the USA	Sales growth, ROI	Recycling, Reduction of waste, Remanufacturing, Ecological design	Significant positive	-

Smith et al. (2007)	40 enterprises in Malaysia on Kuala Lumpur Stock Exchange (2002)	CER	ROA, ROE, EPS, Taxation, Market participation	ROA (medium negative), ROE (medium negative), Other indicators – no significant	-
Dusseldorp (2008)	100 enterprises from the food industry in the Netherlands (2005)	Energy use, Water pollution, Noise, Waste production, Odor, Hazardous substances, Soil pollution, Air pollution	Efficiency, Profitability, Income	Positive	-
Vijfvinkel et al. (2011)	337 Dutch and Chinese enterprises	Environmental sustainability	Profit growth, Income	-	Positive
Aguilera- Caracuel & Ortiz-de- Mandojana (2013)	140 enterprises in Europe (2007-2010)	EP	ROA	-	Positive
Küçükbay & Küçükbay (2016)	30 enterprises in Turkey (2015)	ROA, B/M ratio	EP	Weak positive	-
Tang & Wang (2017)	620 enterprises in the USA	Tobin's Q	CE	-	Positive
Bartolacci et al. (2018)	45 enterprises in Italy (2012-2015)	ROA	EP	Weak positive	-
Wahyuningrum & Budihardjo (2018)	200 enterprises in Australia (2014)	ROA, ROE, ESP	EP	-	Positive (ROE, ESP) ROA (No significant impact)
Robaina & Madaleno (2019)	17 sectors in Portugal (2008- 2016)	ROA	CE intensity	Weak positive	Positive
Xinlu (2020)	29 manufacturing enterprises in China (2012-2018)	ROE, Tobin's Q	EP	-	Positive
Setyawan (2020)	300 enterprises from Central Java Province (2019)	ROA	EP	-	No significant impact
Matuszewska- Pierzynka (2021)	59 enterprises in the USA (2015-2020)	Cash-flow	CER	-	Negative
Şimşek & Öztürk (2021)	214 enterprises in Turkey	FP	EA		Positive
El-Mohr et al. (2021)	69 enterprises in Egypt (2007- 2013)	Cumulative return on shares	ISO 14001	-	No significant impact
Li et al. (2022)	G7 enterprises (2004-2020)	ROA, ROE	Sustainability performance	Weak positive	-

Jia & Li (2022)	1466 enterprises in Australia (2007-2015)	Financial problems	EP	-	Negative
Dewi & Widyawati (2023)	63 enterprises in Indonesia (2020)	ROA	Disclosure of sustainability performance	-	No significant impact
Rahi et al. (2023)	795 European enterprises (2015-2020)	Tobin's Q, EVA	EP	_	Positive

### Source: Authors

Montabon (2007) conducted research involving enterprises in the USA, which resulted in the existence of a significant positive relationship between the following EP indicators: recycling, proactive waste reduction policy, remanufacturing and environmental design of the product, on the one hand, and FP indicators (ROA, sales growth), on the other hand. Similarly, Dusseldorp (2008) surveyed 100 enterprises belonging to the food industry. The research examined the connection between environmental (energy use, water pollution, noise, waste production, waste materials, hazardous substances, soil pollution, air pollution) and FP (efficiency, profitability and income). The existence of a significant positive statistical relationship was established. Also, Küçükbay & Küçükbay (2016) determined the existence of a positive relationship between ROA and M/B ratio (Market Value/Book Value ratio) and EP. Bartolacci et al. (2017), looking at the four-year period from 2012 to 2015, investigated the interdependence of environmental (environmental practices implemented) and FP (ROA). The analysis showed a positive relationship between the analysed performance indicators. Xinlu (2020) concluded that EP indicators were correlated with FP indicators (ROE and Tobin's O), confirming a significant positive relationship. Rahi et al. (2023) examined the interdependence of FP (Tobin's Q, EVA) and EP. The results of the analysis suggested the existence of a significant positive relationship.

Smith et al. (2007) analysed the interconnection between corporate environmental reporting (CER) and FP. The analysis established that there is statistical significance for the ROA and ROE indicators. Similarly, Tang & Wang (2017) investigated the influence of CE on FP (Tobin's Q). The results showed that enterprises with better FP have greater transparency in publishing data on CE. Also, reducing CE, according to research results, would lead to improved FP. Simsek & Öztürk (2021) investigated the relationship between EA and FP. With the increase in environmental awareness, EA is introduced within the traditional accounting system. The analysis established the existence of a significant positive relationship between EA and FP. Similarly, Dewi & Widyawati (2023) examined the interdependence of FP (ROA) and sustainability performance disclosure. Research results, in contrast to previous studies, didn't show the existence of a significant relationship between the analyzed performances. Li et al. (2022) conducted research and concluded that in years without financial crises, enterprises that base their operations on sustainability have better financial results, as well as enterprises with better financial results, direct their operations towards ecological operations (a significant positive relationship between ROA and ROE, on the one hand, and sustainability performance, on the other hand). During the crisis, a significant negative relationship was noted. In general, for all observed years, a weak positive relationship was proved, on average, between ROA and ROE and sustainability performance.

Aguilera-Caracuel and Ortiz-de-Mandojana (2013) proved that the level of intensity of green innovations (GI) in the enterprise is in positive correlation with FP of resource use. The stricter the environmental regulations in a country, the weaker the positive relationship between the intensity of GI and the improvement of FP.

Contrary to the previous one, there is also a group of researches that proved that there is no statistically significant interdependence between FP and EP of enterprises.

Sarumpaet (2005) came to the conclusion that ROA has no significant interdependence with EP. Similarly, Setyawan (2020) investigates small and medium-sized enterprises. The analysis covered the influence of EP on FP of resource use, and vice versa, financial on EP of enterprises. It was concluded that there is no significant statistical relationship in both directions. ROA indicator was used as a measure of FP. Also, Sri Wahyuningrum & Arief Budihardjo (2018) investigated the relationship between EP and FP. The result implied that there is no significant statistical relationship between EP and ROE, as well as EP and EPS indicators, is positive. The limitation of the study refers to the sample itself, which included enterprises from only one country that were analysed in one year. El-Mohr et al. (2021) examined the interdependence of environmental (existence of ISO 14001 certificate) and FP (cumulative stock returns). The results showed that there is no statistically significant relationship between the observed performance groups.

In addition, some studies pointed to the negative interdependence of EP and FP of resource use.

In their research, *Robaina & Madaleno (2019)* investigated the interdependence of environmental and FP in 17 sectors. The research was based on ROA (as FP indicator) and carbon intensity (as EP indicator) by sector. The analysis established the existence of a significant positive relationship between the variables. Also, in his research, *Matuszewska-Pierzynka (2021)* intended to determine the link between EP and FP. A negative relationship between these performance groups was established.

### 5. Conclusion

There is a trend of increasing interest in the preservation of the environment, due to the increase in the exploitation of natural resources and pollution caused by the human factor. The concept of social and, especially, environmental responsibility is being adopted by an increasing number of enterprises. Especially in developed countries, enterprises are adopting the principles of circular and regenerative economy, while enterprises in developing countries are also demanding the application of ecological practices and initiatives. Monitoring the success of incorporating these practices into the enterprise's operations requires measuring EP, but also assessing the impact of improving EP indicators on FP of the enterprise's resource use.

Research that examines the relationships and mutual influences of EP (emissions reduction, control of pollution, environmental damage prevention, conservation of natural resources, EC, publication of environmental data, environmental accounting, energy intensity, energy use, eco-efficiency, CE, sustainability reporting disclosure, water/air/soil pollution, waste production) and FP of resource use (ROA, ROE, ROS, ROI, ROCE, Tobin's Q, EVA, Profitability, EBIT, EBITA, Liquidity, Leverage, M/B ratio, Sales growth, Efficiency, Income) are mostly focused on the mutual influence of EP and indicators of profitability and market

performance of the enterprise. Research that examined the impact of environmental on FPof resource use presented different results. Nevertheless, it is noted that in most of the conducted analyses, the positive impact of the introduction of environmental measures and initiatives on FP, has been proven. Studies examining the impact of financial on EP also provided mixed results. Here, the existence of positive and negative influence is noted equally, as well as research where there is no statistically significant relationship between the analysed variables. The third group of researchers who examined the mutual influence of environmental and FP, in the largest percentage proved the existence of positive interdependence.

The number of researches and interest in the question of connection between environmental and FP is growing over time, as shown by the large number of published papers over the last 5 years. The most common limitations in published research are the number of enterprises included in the sample, a short period of observation and the number of included variables. Nevertheless, the existing research included enterprises from different countries, both developed and developing countries, and enterprises from different sectors.

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### ECO-FRIENDLY TOURISM DESTINATIONS: STRATEGIES FOR IMPLEMENTING SUSTAINABLE TOURISM PRACTICES

### Abstract

In response to increasing environmental concerns, the global tourism industry is at a critical crossroads, requiring a shift to sustainable practices for long-term viability. This paper explores the concept of eco-friendly destinations. Using detailed global case studies of Slovenia and its capital Ljubljana, Gothenburg (Sweden) and Costa Rica, successful sustainable tourism strategies and their impact on the complex interplay of social, ecological, and economic factors are examined. The study also underlines the central role of sustainability in urban destinations and highlights the comprehensive approaches of Ljubljana and Gothenburg, which are recognized as successful in sustainability. The findings underline the global importance of sustainable tourism practices and highlight the challenges, opportunities and the need for collaboration between different stakeholders. The practical implications and originality of the paper lie in providing insights and recommendations that can help destinations worldwide in pursuing a balanced and sustainable tourism model. In light of ongoing management challenges, the paper highlights increased collaboration between residents, the public and private sectors, and other stakeholders as essential to promoting sustainability. The tourism industry is facing a crucial phase where environmentally friendly strategies are not only a moral obligation, but also a strategic imperative for the durable competitiveness and resilience of destinations. The paper strives to give a complete overview and recognize that sustainable practices are not only ethical, but also essential for the future success of tourism.

*Keywords:* sustainable tourism, strategies, eco-friendly tourism destinations, stakeholders

JEL classification: L83, Z30, Z32

## ЕКО-ТУРИСТИЧКЕ ДЕСТИНАЦИЈЕ: СТРАТЕГИЈЕ ЗА ИМПЛЕМЕНТАЦИЈУ ПРАКСИ ОДРЖИВОГ ТУРИЗМА

### Апстракт

Као одговор на све већу забринутост за очување животне средине, туризам на глобалном нивоу се налази на критичној раскрсници, која захтева прелазак на

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одрживе праксе зарад постизања дугорочне одрживости. Овај рад истражује концепт еколошких дестинација. Детаљне студије случаја о одрживом развоју туризма у Словенији и њеном главном граду Љубљани, Гетеборгу (Шведска) и Костарики описане су зарад испитивања успешних стратегија одрживог туризма и њиховог утицаја на сложену међусобну интеракцију еколошких, друштвених и економских фактора. Рад између осталог подвлачи централну улогу одрживости у урбаним дестинацијама и истиче свеобухватне приступе Љубљане и Гетеборга, чије су стратегије одрживог развоја препознате као успешне. Резултати рада наглашавају глобални значај праксе одрживог туризма и истичу изазове, могућности и потребу за сарадњом између различитих заинтересованих страна. Практичне импликације и оригиналност рада леже у пружању увида и препорука које могу помоћи дестинацијама широм света да следе балансиран и одржив модел туризма. У светлу текућих изазова управљања у туризму, овај рад истиче сарадњу између локалног становништва, приватног сектора, јавног сектора и других заинтересованих страна, која је од суштинског значаја за промовисање одрживости. Туризам се суочава са кључном фазом у којој еколошки прихватљиве стратегије нису само морална обавеза већ и стратешки императив за дугорочну конкурентност и опстанак дестинација тржишту. Рад има за циљ да пружи свеобухватан преглед и препозна да одрживе праксе нису само етичке, већ и суштински важне за будући успех туризма.

**Кључне речи:** одрживи туризам, стратегије, екотуристичке дестинације, стејкхолдери

### **1. Introduction**

Tourism is a fast-growing industry (Marić et al., 2022), but in an era marked by the escalating urgency of environmental concerns, the global tourism industry finds itself at a pivotal crossroads. According to Lazarević and Stanišić (2022), nearly all tourism organizations characterize the success of tourism as an increase in tourist numbers. Higgins-Desbiolles (2018) notes that a critical challenge within the tourism sector is the "addiction to growth", where the focus of tourism strategies is on increasing tourist numbers. This highlights a wider concern about the industry's propensity for constant expansion, potentially overlooking the sustainable aspects of tourism development. Monbiot (2012) contended that the concept of sustainability has undergone a semantic transformation, evolving from "sustainable development" to "sustainable growth" and eventually reaching the term "sustained growth". On the other side, if sustainability holds any meaningful significance, it fundamentally opposes the notion of sustained growth. Furthermore, the pursuit of perpetual growth on a finite planet is inherently unsustainable. This context sets the stage for the addiction to growth within the tourism industry.

However, the paradigm shift towards sustainable tourism practices has become not only a moral imperative but also a strategic necessity for destinations seeking long-term viability. Moreover, there is an immediate requirement for sustainable competitiveness. A successful blueprint for sustainable tourism should prioritize the development of robust adaptive capacities while fostering continuous engagement from all involved parties (Tao & Wall, 2009). Incorporating the internal public into the development and marketing of tourism destinations contributes to the conservation of the natural environment and the cultural identity of the destination (Vodeb, 2012; Krstić et al., 2017).

The term "eco" widely recognized for denoting environmentally friendly products has permeated various sectors, including the tourism industry. Notably, the tourism sector has embraced this "green" trend by incorporating the prefix "eco" into travel-related products, such as travel packages and destinations. This has given rise to the concept of eco-friendly travel destinations or ecotourism (Amendah & Park, 2008). This paper delves into the dynamic realm of eco-friendly destinations examining the pivotal role these strategies play in fostering environmental preservation, community empowerment, and economic growth.

As international travel continues to burgeon, so does the imperative for destinations to re-evaluate their approach to tourism. Unbridled tourism growth, if unchecked, can lead to detrimental effects on ecosystems, cultural heritage, and local communities. Recognizing this, an increasing number of destinations are embracing eco-friendly initiatives that seek to balance the allure of tourism with responsible and sustainable practices. Sustainable tourism practices not only provide financial support to a destination but also contribute to its social infrastructure, employment opportunities, conservation of nature, adoption of innovative work methods, and the rejuvenation of underdeveloped rural areas (Coroș et al., 2017).

Sustainable development and its extension into sustainable tourism, despite their appeal and widespread adoption by international organizations, numerous governments, and legislative bodies, have faced considerable criticism due to their vague definitions and the challenges encountered in their practical implementation (Wall, 2002). It is therefore crucial to clarify the relationship between social, ecological and economic factors that shape the sustainability of tourism destinations. From policy frameworks to community engagement initiatives, from innovative infrastructure development to marketing strategies, each facet contributes to the overarching goal of creating destinations that not only endure the passage of time but thrive in harmony with their surroundings. The question guiding this study is: What effective strategies promote sustainable tourism development in destinations? Therefore, this paper attempts to explore the multi-layered system of sustainable tourism and the strategies that destinations employ to walk the fine line between welcoming tourists and preserving the essence that attracts them. A comprehensive exploration of successful case studies should distil key lessons and recommendations that can guide destinations worldwide in their pursuit of a balanced and sustainable tourism model. Case studies include Slovenia, Ljubljana, Gothenburg (Sweden), and Costa Rica, as destinations that are all widely recognized as exemplary destinations in terms of sustainable tourism practices (Global Destination Sustainability Movement, 2024; Global Sustainable Tourism Council, 2022; Kuščer et al., 2017).

### 2. Literature review

The definition of a sustainable destination depends on sustainable tourism development, and as Lee (2001) stated, the term "sustainable destination" in a precise interpretation would only be applicable when the destination has successfully realized the enduring goals of sustainable development. Sustainable development serves as the core principle guiding progress, with tourism exerting significant economic, ecological, and social influences in the contemporary global context. As such, the advancement of the tourism sector is intricately connected to all three dimensions of sustainability, reflecting a comprehensive approach to balanced and responsible growth (Streimikiene, 2021).

Development of tourism that has a positive impact on overall development or is consistent with the principles of sustainable development and guaranteeing the fulfillment of future generations' needs and aspirations while conserving resources is sustainable tourism development (Radjenović et al., 2022). Consequently, the implementation of sustainable tourism policies, effective destination management and vigilant monitoring play a crucial role in improving community well-being, preventing inappropriate use of natural resources and facilitating a better tourism experience (Khan et al., 2021, Stanišić et al., 2022).

Amerta (2017) offers a comprehensive examination of the fundamental principles of sustainable tourism development, with a specific focus on tourists. The highlighted aspects encompass the preservation of environmental quality, the provision of advantages to both tourists and residents, the maintenance of connections between tourism and the environment, the promotion of harmony between local inhabitants and their surroundings, the establishment of adaptable conditions in line with carrying capacities, and the imperative for all stakeholders to collaborate in pursuit of a shared mission for sustainable development. Sustainable tourism is often associated with safeguarding ecosystems, advancing human well-being, ensuring fairness across generations, and involving the public in decision-making (Popović et al., 2023). The interest in this subject has unquestionably increased over the last four decades. Currently, sustainability is considered a policy objective applicable to various types and sizes of tourism activities and settings (Bramwell, 2015).

Nevertheless, ensuring sustainability in tourism destinations poses a persistent challenge in terms of governance. Achieving sustainability necessitates strengthened collaborations that unite residents, the public and private sectors and other stakeholders. Due to the systemic nature of the tourism industry, the difficulty in pursuing sustainability has become more prominent (Roxas et al., 2020). To pursue sustainable tourism, there is a necessity of involving stakeholders, including both present and future visitors, as well as the present and future host community (Byrd, 2007). Yu et al. (2011) stated that for successful sustainable tourism development, a crucial factor is the involvement and cooperation of the residents. Rivera and Gutierrez (2019) emphasized that the adoption of a multi-stakeholder or value chain approach is mandatory. The most effective models of multi-stakeholder action integrate elements of both international and national intervention, incorporating unique contributions from regions and local communities, whether they are public, private, or mutual (Koscak & O'Rourke, 2017; Roxas et al., 2020).

Sustainability enhances a destination's competitiveness by attracting eco-conscious travelers, building a positive reputation, and differentiating the destination from competitors. Cost savings from sustainable practices, community engagement, and adherence to global standards further contribute to long-term resilience and innovation, ensuring continued appeal in the tourism market. Ultimately, sustainability aligns with evolving consumer preferences, regulatory expectations, and economic efficiency, bolstering a destination's competitive edge. Contrarily, a commonly held belief is that incorporating sustainability measures will increase costs, consequently diminishing destination competitiveness (Bramwell & Lane, 2013).

Developing and producing eco-friendly products and services are crucial for minimizing the environmental footprint of industrial activities within tourism destinations.

Within the tourism sector, there is a growing trend of utilizing eco-labels as tools to enhance the destination image of sustainability. Consequently, a firm's eco-brand, eco-label, and social media advertising play a crucial role in establishing a green market in eco-friendly destinations (Chi, 2021). As per Talalova et al. (2021) the tourism industry requires concerted efforts to address global climate change. The creation of environmentally conscious tourism products, often referred to as green tourism products, will not only enhance competitiveness but also increase the overall attractiveness of the destination.

Sulyok et al. (2022) noted that the emphasis on sustainability is becoming increasingly important in our daily lives. Moreover, amidst the expanding scientific literature both domestically and globally, businesses, interest groups, and municipal bodies are progressively embracing circular and eco-conscious practices within their operations. They are striving to align their activities with the principles of sustainability.

### 3. Case studies of eco-friendly destinations

Strategic documents are being implemented at various levels in order to align tourism destinations with the goals of sustainable tourism development. Slovenian tourism is staunchly dedicated to sustainable development. For several years, Slovenia has been actively promoting itself as a destination characterized by its commitment to environmental sustainability, emphasis on outdoor activities, and promotion of healthy lifestyles. The advantages of pursuing sustainable development include cost savings, increased appeal of sustainable businesses to investors, enhanced readiness for shifts in environmental regulations, improved guest satisfaction, employee motivation and retention, heightened visibility, and elevated prestige (Republic of Slovenia, 2024). Slovenia is considered the greenest tourist destination in Europe, as around 60% of its territory is forested and 53.6% of its area is designated as a nature reserve - making it the European country with the highest proportion of such areas. Slovenia has 40 parks and reserves with well-maintained hiking trails, where around 20,000 different plants and animals can be seen (Eaglecreek, 2024). Within Slovenia, Olimia Terme stands out with its glamping center called Glamping Olimia Adria Village. This facility offers luxury tented accommodation that is sustainable and uses natural materials such as wood, stone and canvas. The glamping center focuses on healing thermal mineral water used in the pools and is committed to environmental protection through waste separation and the installation of state-of-the-art eco-wastewater treatment plants (My Green Style, 2024).

The Slovenian city of Ljubljana has successfully achieved the status of a green destination through its sustainable development strategy. Ljubljana has set itself the goal of becoming an attractive, green and environmentally friendly destination that ensures a high quality of life for residents and visitors. Ljubljana was named European Green Capital in 2016 and secured recognition for its sustainable tourism efforts as part of the European Smart Tourism Capital competition in 2018. In addition, the city was awarded the Slovenia Green Destination Platinum award, and numerous hotels and tourism agencies have international sustainable development certifications. Around 20% of Ljubljana's natural areas are protected, with a generous 542 m<sup>2</sup> of green space per inhabitant. Environmental protection measures include a ban on driving in the city center since 2008, and tourists have the option of exploring the city by electric

tourist trains or electric vehicles called Kavalir. The city actively promotes sustainable transportation methods, such as eco-friendly public buses that run on methane and an increasing use of bicycles. Payment for public transportation and other services is facilitated by a contactless payment card called Urbana. The city is also promoting the shared use of an electric car by several people to encourage vehicle sharing. Ljubljana has environmentally friendly public buses, many of which run on methane. Bicycles are a common means of transportation, and efforts are being made to make public spaces and city buses more accessible for people with disabilities. For visitors with reduced mobility, there is a mobile app called Ljubljana by Wheelchair. The city has achieved the highest waste segregation rate in the EU, with underground waste containers in the city center. Ljubljana advocates for the utilization of locally sourced food in its hotels and restaurants. Sustainable development is consistently monitored by tracking key sustainability indicators (Visit Ljubljana, 2024).

To promote the implementation of sustainable development, the Global Destination Sustainability Movement has introduced the Global Destination Sustainability Index. This index, as defined, helps destination management organizations to adopt, support and recognize successful sustainable development practices. It assesses four key areas: Sustainable Development Strategy and Infrastructure (Environmental), Social Sustainability Performance, Supplier Support, and Destination Management Strategy and Initiatives. Based on this assessment, a list of the leading sustainable destinations is published annually. In 2023, the Swedish city of Gothenburg was recognized as the best sustainable destination by the Global Destination Sustainability Movement. The city has maintained its position as the leading destination in the Global Destination Sustainability Index for six consecutive years (2016-2021) and earned the title of the European Capital of Smart Tourism in 2020. In 2021, Lonely Planet recognized it as the Best Sustainable City Stay globally. By April 2022, Gothenburg joined the ranks of the EU's 100 climateneutral and smart cities, actively working towards achieving climate neutrality by 2030. The city has also been honored with the European Capitals of Inclusion and Diversity Awards (Global Destination Sustainability Movement, 2024).

Gothenburg is known for its use of modern technology, which benefits both citizens and tourists. The city has introduced an efficient system for long-term tourism planning and actively promotes public-private partnerships. Gothenburg is also committed to a forward-looking public transportation system with the aim of achieving 100% zeroemission transport by 2030, which meets the needs of all citizens and has dedicated platforms for environmental protection. Even 92% of the city's hotels and 100% of its conference facilities have environmental certificates. Events taking place in the city use a unique tool, the Event Impact Calculator, developed through local technological and scientific collaborations. This tool anticipates the potential environmental impact of events and helps organizers assess events from an economic, social and environmental perspective (European Capitals of Smart Tourism, 2021).

Costa Rica stands out as a destination that exemplifies positive instances of sustainable tourism development (Global Sustainable Tourism Council, 2022). It has garnered international acclaim for its commitment to sustainable tourism. Costa Rica has strategically integrated eco-friendly practices, such as extensive forest preservation, wildlife conservation efforts, and eco-lodges that prioritize environmental responsibility. The country has successfully attracted a growing number of eco-conscious travelers

seeking immersive experiences in nature without compromising environmental integrity. These initiatives contribute not only to the preservation of Costa Rica's rich biodiversity but also to the well-being of local communities, emphasizing the multifaceted impact of sustainable tourism on a global scale. The country is marked by various eco-friendly initiatives, including eco-conscious construction, organic farming, and the active participation of residents in tourism. An illustrative case is the Samasati Nature Reserve, where construction practices involve minimal environmental impact, eschewing heavy machinery and tree cutting, relying on local labor, and channeling profits back into the local community. This reserve is renowned for its focus on ecotourism and adventure tourism. Additionally, the Almonds and Coral Hotel in Costa Rica serves as another noteworthy illustration of effectively applying sustainable development principles. Acknowledged with the highest level of eco-certification, this hotel champions environmental preservation through the incorporation of green construction methods, rigorous recycling practices, avoidance of chemical fertilizers and herbicides, meticulous waste segregation, implementation of a specialized wastewater treatment system, and adherence to a stringent environmental conservation and protection policy (Sustaining Tourism, 2022).

### 4. Discussion

In general, the literature emphasizes that rural tourism (Lakner et al., 2018), green tourism, ecotourism, soft tourism, agritourism, community tourism (Juganaru et al., 2008), health tourism (Illario et al., 2019) are the types of tourism that can contribute to sustainable development. Timur & Getz (2008) found that comparatively little attention has been paid to sustainability in urban tourism compared to other types of tourism. In contrast, this paper presents detailed case studies of two eco-friendly urban destinations, Ljubljana in Slovenia and Gothenburg in Sweden. Ljubljana's success is attributed to its comprehensive sustainable development strategy, which includes measures for environmental protection, sustainable transportation, waste management and the promotion of local products. Gothenburg's recognition as the best sustainable destination also underlines its commitment to modern technologies, long-term tourism planning and innovative transport solutions. These urban areas are a good example of sustainability and tourism stakeholders' willingness to make a change that can be noticed. Approaches for destinations with lower levels of urban development typically prioritize the conservation of natural and cultural assets by promoting eco-friendly tourist activities, engaging local communities in tourism, and incorporating technology (e.g. national parks, national reserves etc). On the other hand, sustainable tourism strategies in urban destinations primarily focus on alleviating negative effects on the environment, such as minimizing the environmental footprint of transportation and enhancing waste management.

The findings and analyses presented in this paper underscore the critical importance of sustainable tourism practices in the contemporary global landscape. As Talalova et al. (2021) point out even tourists recognize sustainability as a great motivation factor, considering that human life and health are linked to sustainability. Despite achieving minor successes, various fundamental structural and attitudinal challenges hinder numerous enterprises from adopting a more sustainable approach. Widespread ignorance persists, as many industry operators, although genuinely concerned about sustainability, lack a comprehensive understanding of
specific issues such as climate change, adverse environmental effects, and social impacts (Agyeiwaah et al., 2017).

Different authors are addressing the urgency of sustainable tourism from different aspects. As highlighted by Cotterell et al. (2021), conceptualization and mastery of sustainability skills are essential for tourism educators, while Cheer (2019) emphasises the urgency of sustainability indicators. Also, Ali & Frew (2013) suggested that information and communication technology should be applied to reach sustainable tourism. This paper emphasizes the dynamic realm of eco-friendly destinations, examining their role in fostering environmental preservation, community empowerment, and economic growth. Ensuring sustainability in tourism destinations requires addressing persistent governance challenges.

Integrating sustainability principles into the tourism sector presents a greater challenge compared to other industries. This complexity arises from the diverse interests and requirements of key stakeholders. Managing this intricate process involves addressing multiple issues simultaneously, and there is no foolproof formula to ensure successful implementation of sustainable tourism policies in practice (Maxim, 2015). In order to achieve sustainability, increased cooperation with the most important interest groups is essential. The difficulty in pursuing sustainability in the systemic nature of the tourism industry becomes apparent, emphasizing the need for multi-stakeholder or value chain approaches.

Investing in green technologies and fostering green innovations enhances job opportunities and directly contributes to the realization of sustainable development objectives (Jovanović et al., 2023). Digital technology in tourism typically concentrates on marketing, management, assessing ecological effects, improving the tourist experience, planning tourism activities, managing destinations, and promoting sustainable development. However, integrating digital technology into sustainable tourism destinations presents a multifaceted challenge that requires collaboration among diverse stakeholders, including tourism operators, policymakers, local communities, and technology providers (El Archi et al., 2023).

In the area of environmentally friendly destinations, Slovenia and its capital city Ljubljana, Gothenburg and Costa Rica have comprehensive strategies for sustainable tourism. Slovenia and its capital city are characterized by a multi-layered approach that includes environmental protection, advanced waste management, active promotion of sustainable principles, global awards and seamless integration of green initiatives into accommodation and facilities. Gothenburg, on the other hand, relies on cutting-edge technological innovations, transformative public transportation improvements, a commitment to environmental certifications, ambitious carbon neutrality targets and robust multi-stakeholder collaboration, all carefully designed to ensure lasting sustainability. Costa Rica's exemplary instances of sustainable tourism development further enrich our understanding of successful models. The country's commitment to extensive forest preservation, wildlife conservation, and the establishment of eco-lodges demonstrates a holistic approach to sustainable tourism. Notably, the Samasati Nature Reserve showcases environmentally conscious construction practices, local community engagement, and a commitment to channeling profits back into community development. Moreover, the Almonds and Coral Hotel exemplifies effective application of sustainable development principles, earning the highest level of eco-certification through green construction, recycling practices, and a stringent environmental conservation policy. These destinations are prime examples of environmentally conscious tourism destinations, demonstrating how diverse and dynamic sustainable practices are. In general, the case studies underline the crucial importance of sustainable tourism and show the diversity of approaches

that destinations around the world can take. The examples of Slovenia, Ljubljana, Gothenburg, and Costa Rica provide valuable insights and lessons that can guide other destinations in their pursuit of balanced and sustainable tourism models. Given the aforementioned points and the global recognition of sustainable tourism in these destinations, it is reasonable to conclude that they employ effective strategies for sustainable tourism development.

# 5. Conclusion

This study navigates the complex terrain of sustainable tourism and focuses in particular on the dynamic area of eco-friendly destinations. The urgency of a paradigm shift in the global tourism industry towards sustainability is undeniable. As international travel increases, destinations are faced with the need to balance the attraction of tourism with responsible and sustainable practices to prevent harmful impacts on ecosystems, cultural heritage and local communities.

The case studies of Slovenia, Ljubljana, Gothenburg and Costa Rica provide insightful examples of successful implementation of sustainable tourism strategies. Ljubljana's comprehensive sustainable development strategy, which includes environmental protection, sustainable transportation and waste management, demonstrates a multi-faceted approach that has earned the city recognition as the European Green Capital. Gothenburg's commitment to modern technologies, long-term tourism planning and innovative transportation solutions has earned the city awards as Best Sustainable Destination and European Capital of Smart Tourism.

The multifaceted system of sustainable tourism, which includes policy frameworks, community engagement, infrastructure development and marketing strategies, highlights the intricate interplay of social, ecological and economic factors that determine the sustainability of destinations. This study recognizes the critical role of sustainability in improving a destination's competitiveness, attracting environmentally conscious travellers and building a positive reputation. In addition, sustainability is in line with evolving consumer preferences, legislative expectations and economic efficiency, which strengthens a destination's competitive advantage.

However, the road to sustainability in tourism destinations is fraught with many challenges. The diverse interests and needs of the most important interest groups make the integration of sustainability principles a difficult undertaking. Persistent governance problems, structural and attitudinal barriers and a widespread lack of awareness impede the widespread implementation of more sustainable practices. Besides this, the issue of growth and sustainability of tourism still needs to be studied.

This study adds to the understanding of sustainable tourism by highlighting key findings and recommendations from successful case studies. Increased collaboration between residents, public and private sectors and other stakeholders is seen as essential to achieving sustainability. The findings highlight the systemic nature of the tourism industry, which requires multi-stakeholder or value chain approaches for successful implementation.

Within the dynamic system of sustainable tourism destinations, Slovenia and its capital city, Gothenburg and Costa Rica emerge not merely as illustrations of eco-friendly paradigms but as instrumental models guiding the global tourism industry. Their diverse and dynamic sustainable practices demonstrate the opportunities for destinations worldwide to pursue a

balanced and sustainable tourism model. As the tourism industry is facing a crucial phase, this study underlines the importance of adopting eco-friendly strategies not only as a moral obligation, but as a strategic necessity for the sustainable competitiveness and resilience of destinations in the face of global challenges. Also, as emphasized by Budeanu et al. (2016) seeking durable solutions to sustainability challenges brings about a sense of adaptability and acceptability that can be beneficial for tourism research, but also raise the bar in terms of research ambitions. No significant change within the tourism framework can be decoupled from broader societal changes, and adaptable, sustainable models must creatively address the new challenges. This brings new challenges for future research.

While the case studies on Slovenia, Ljubljana, Gothenburg and Costa Rica provide valuable insights, it is important to recognize that these destinations do not represent all types of destinations worldwide, which is the limitation of this paper. Therefore, the findings of this paper may not be fully generalizable to all destinations, and further research is needed to explore the applicability of sustainable tourism strategies in different contexts. In addition, further research could explore the perspectives and roles of different stakeholders, including residents, tourists, businesses, governments, and non-governmental organizations, in shaping sustainable tourism outcomes.

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University of Kragujevac, Faculty of Economics, Kragujevac, Republic of Serbia P. 35-51 SCIENTIFIC REVIEW PAPER 10.5937/ESD2402035N Received: December 22, 2023 Accepted: March 19, 2024

# THE APPLICATION OF EFQM MODEL OF BUSINESS EXCELLENCE IN THE PROCESS OF SELF-ASSESSMENT OF BUSINESS PROCESSES: A CASE STUDY

#### Abstract

In contemporary business environment, business excellence is an inevitable condition for the long-term survival, growth and development of an enterprise. Business Excellence implies permanent improvement of all business processes and activities, which ultimately contributes to improvement of long-term and sustainable enterprise effectiveness and creation of value for all stakeholders. Hence, the paper discusses the concept of business excellence and possibilities of application of the model of business excellence in order to define metrics and self-assessment of business processes and activities. The enterprise inevitably implements innovations in business, but the question is whether the innovations are economically justified or not. The aim of the paper is to highlight the significance of self-assessment in the enterprise and the role of the EFQM business excellence model in the analysis of efficiency and effectiveness of the applied innovations. The research results prove that it is possible to apply the EFOM model in the process of self-assessment of business process performances before and after the application of innovations. Practical contribution of the research is reflected in the development and application of authorial database model and suggesting the solution for self-assessment based on EFQM 2013 methodology.

*Keywords:* business excellence, *EFQM* model of business excellence, self-assessment, innovations of process, quality documents

JEL Classification: M10, M21

# ПРИМЕНА ЕFQM МОДЕЛА ПОСЛОВНЕ ИЗВРСНОСТИ У ПРОЦЕСУ САМОПРОЦЕНЕ ПОСЛОВНИХ ПРОЦЕСА: СТУДИЈА СЛУЧАЈА

#### Апстракт

У савременом пословном окружењу, пословна изврсност је неизбежан услов за дугорочни опстанак, раст и развој предузећа. Пословна изврсност

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подразумева трајно унапређење свих пословних процеса и активности, што у крајњој линији доприноси побољшању дугорочне и одрживе ефективности предузећа и стварању вредности за све стејкхолдере. Стога се у раду разматра концепт пословне изврсности, као и могућности примене модела пословне изврсности у циљу дефинисања метрике и самопроцене пословних процеса и активности. Предузеће неизбежно примењује иновације у пословању, али је питање да ли су иновације економски оправдане или не. Циљ рада је да се истакне значај самопроцене у предузећу и улога EFQM модела пословне изврсности у анализи ефикасности и ефективности примењених иновација. Резултати истраживања доказују да је EFQM модел могуће применити у процесу самооцењивања перформанси пословних процеса пре и после примене иновација. Практични допринос истраживања огледа се у развоју и примени модела ауторске базе података и апликативног решења за самооцењивање заснованог на методологији EFQM 2013.

*Кључне речи:* пословна изврсност, *EFQM* модел пословне изврсности, самопроцена, иновације процеса, квалитет.

#### 1. Introduction

A contemporary enterprise is faced with numerous challenges and environmental threats. Managers are forced to permanently take measures for improvement and carry out the principle of productivity, cost-effectiveness and profitability in practice. This means that on the one hand, they have to work on improvement of enterprise efficiency in order to achieve economically sustainable competitiveness along with respect and satisfaction of requirements of various stakeholders related to enterprise functioning (socially and ecologically sustainable competitiveness) (Despotovic et al., 2016). Considering the fact that managing the relationships with all relevant stakeholders has a strategic significance for long-term success and existence of an enterprise, the authors Perrini & Tencati (2006) emphasize that measuring the success of a corporation should not be limited to fostering values for one interest group exclusively, i.e. owners-shareholders, but for all stakeholders. This approach resulted in adopting holistic and comprehensive model of measurement and managing the business success of an enterprise. The model is extremely flexible; it combines traditional, accounting criteria of performance with those which assess the success of an enterprise in satisfaction of interests and demands of stakeholders, significant for long-term maintenance of the enterprise profitability. Hence the necessity for implementation of the concept of business/organisational excellence - BE appeared.

There is no world standard of excellence model; it only includes a creative framework of criteria which, using benchmarking and self-assessment model defines the achieved level of excellence. Excellence models include structural criteria which evaluate the management level of an organisation.

In order to achieve business excellence, the enterprises worldwide adopt certain models of quality increase. The most recognised world models are defined and promoted by "European Foundation for Quality Management - EFQM, Japanese Union of Scientists and Engineers – JUSE and National Institute of Standards and Technology – NIST, US

Commerce Department". Their efforts resulted in increased satisfaction of clients, reduction of expenses, greater reliability and quality. However, in certain cases, the dependency on such models made companies focus on the obtained award at the expense of preservation of sustainability.

All models of business excellence are grounded on the truth that the enterprise will achieve best results by including all employees in the activities of permanent improvement and innovation of own processes and products (Heleta, 2008). According to this concept, the models also include continual quality self-assessment, which is a methodical and well planned re-examining of the enterprise's activities and outcomes, realised through the applied excellence model. Self-assessment is a useful and constructive model of focusing and prioritising the efforts in continual improvements and innovations, as well as their model of measuring the progression which is permanently repeated. The method is oriented towards constant solutions, increase of competitiveness and long-term results (Nedić, 2015).

Thus, the focus of this paper is the application of the model of business excellence in self-assessment of an enterprise. The aim of the research is firstly to emphasize the significance of business excellence in contemporary business environment and then to point out the effect of one model of business excellence, i.e. EFQM to the self-assessment process (Suárez, Roldán & Calvo-Mora, 2014).

In line with the defined subject and aims of research it is possible to define an initial hypothesis that it is possible to apply EFQM model of business excellence in the defining and realisation of the self-assessment process of the enterprise (Tutuncu & Kucukusta, 2009).

Starting from the initial presumption, the qualitative methodology was relevant together with the model of database and application solution for self-assessment by using EFQM 2013 (EFQM Model in Action, 2016). By using the method of synthesis and induction based on theoretical and empirical research of various authors related to the application of business excellence model, the synthesis of diverse attitudes was done, which resulted in general conclusions about the significance of application of business excellence model in contemporary business environment.

The paper is structured in the form of three thematically completed wholes. The first part presents conceptual bases of business excellence. The second part provides a review of the preceding studies related to the application of business excellence model. The third part presents an original model of database and suggests the solution for the self-assessment of an enterprise.

Finally, pursuant to the results of practical implementation of the developed application solution, the appropriate conclusions are made and the attitude about the validity of initial hypothesis is adopted. In continuation of final considerations, scientific and practical contribution of the research is pointed out, the limitations are identified and the proposed direction of further research is proposed.

#### 2. Conceptual bases of business excellence

Traditionally, managers rely to financial criteria in order to assess performance and make some business decisions. Domanović & Bogićević (2015, p 272) point out that "in addition to indisputable possibilities provided by financial criteria, it is necessary to point to their deficiency and incompleteness, necessary in the assessment of the enterprise performance... financial

reports are a retrospective presentation of business-financial life of an enterprise on the certain day or for a certain period, and as such, make possible the identification of historically oriented financial criteria of the enterprise performance.... The complexities of accounting rules, which are often subject to changes, together with the discretion of a manager to numerically design financial reports are a specific problem in the assessment of the enterprise performance."

Domanović & Bogićević (2015, 272) emphasize that complete relevant information for assessment of the enterprise performance is not available, and some is impossible to asses. To rely on financial indicators only is like a ride with the help of rear-view mirror. Or, as Kaynes says *"There is a danger of expecting results of the future to be predicted from the past."* (Winslow, 2003). However, the maintenance of competitiveness in contemporary business environment demands rather holistic approach to measurement of performance. Even when the initiatives of total quality management were applied in practice, effectiveness still remained a challenge. (Dubey, 2016, p. 60). At the same time, business leaders searched for the definition of business excellence.

Business excellence is a result of utilisation of "philosophy of total quality management". Total quality management – TQM implies provision of quality in all segments of business in an enterprise and in relationships with all stakeholders (providers, employees, consultants, shareholders, creditors, etc.). The models of business excellence and total quality management enable the measuring of satisfaction of customers, employees and shareholders at the same time. Business excellence is a section of total quality management because it is developed on the same values. Total quality management and business excellence develop their philosophy from good experience and practice of successful companies (Domanović, 2010, p. 164).

Models of business excellence (Figure 1) are based on the concept that it is necessary to respect the interests and requirements of all stakeholders which are by any means connected with the functioning of an enterprise. The perspectives of stakeholders are obvious "in the excellence model of European Foundation for Quality Management and National Award for Quality – *Malcolm Baldrige*". Domanović (2010, p. 165) points out that "business excellence model of European Foundation for Quality Management – EFQM appeared at the moment when 'quality' and 'total quality' reached their peak in the mind of managers. Advancement towards quality was conditioned by acceptance of ISO 9000, the international standard focused on the systems of quality searched for the models of business description by using numerous characteristics, which implied a step further from pure observation of the systems of internal quality."



Figure 1 Generic model of business/organizational excellence

This model of thinking and acting led to the establishment of "European Foundation for Quality Management – EFQM" and publication of the model of "business excellence". Plowman (2001) points out the model of business excellence which includes 9 elements (Fig. 2). Five elements are known as *inputs (enablers)*, i.e. everything that contributes to the realisation of results, while the remaining four elements are *results*. Each element is weighed and looking as a whole, the enterprise which is said to have 80% or more points is said to have achieved *excellence* in its business. In Europe such a positive outcome allows the enterprise to compete for annual European Quality Award-EQA.





Kanji (2002, p. 7) points out that "EFQM and European Organisation for Quality" define organisational excellence as a "model of functioning which enables the enterprise to achieve balanced satisfaction of stakeholders/constituents (i.e. buyers, employees, society and shareholders) thus increasing the probability of long-term success." The author points to a few models of business excellence based on TQM philosophy such as (Kanji, 2002, p. 16) "Kanji's business excellence model (KBEM), *Deming* award, *ESQM* excellence model, *Malcolm Baldrige* national quality award (*MBNQA*), *Ericsson* business excellence model (*EBEM*), *Balanced Scorecard* (*BSC*), *Lynch* and *Cross* performance pyramid, ISO 9000, Capability maturity model (*CMM*)".

These models are to a great degree based on TQM theories, but are different in the scope and approach. Some models are more oriented to results, while other ones are more procedurally oriented. There are three awards such as: *Deming, MBNQA* and European quality award (*EQA*). Some models demand external evaluation of performance, while other ones serve for "self-assessment" of business success (Kanji, 2002, p. 16-39).

# 3. The previous research related to the application of business excellence model

Sheikholeslam & Emamian (2016) point out that as much as market competitiveness increases, the relationship between organisational performances and the practice of total quality management becomes stronger and more positive. In aim to improve the customers' satisfaction and business excellence, the role of "total quality management" becomes unavoidable and essential. The customers' satisfaction is one of the highest assessed aims in the application of the concept of total quality management. Particular organisational practise and employees' perceptions of the principles of quality management could be associated, eventually leading to the customers' satisfaction. The customers' satisfaction can lead to business excellence. Together with other related factors the employees' satisfaction could lead to both customers' satisfaction and business excellence.

Gómez-Gómez *et al.* (2016) investigated weight factor dimensions in *EFQM* model and concluded that depending on methodology used for weight factor assessment, weight factor could be different from those in basic *EFQM* model. The authors suggested that managers should define weight factors for each element in the model in accordance with the characteristic of an enterprise. "Leadership, strategy, partnership, resources and processes" could be more or less important in the creation of success, depending on the specific situation in the enterprise.

Ismyrlis & Moschidis (2015) conclude that ISO standards are universally adopted and applied in all companies and countries. *TQM* model is still in practice. On the other hand, many other models of quality management are not very popular in Greece, such as *kaizen*, quality circles, *and PDCA* circle and excellence models. Besides, the authors point out that it is the size of an enterprise, not its sector that influences the level of application of tools/ techniques.

Kralj (2016) investigates the model of "business excellence based on *EFQM* model". The model of sustainable excellence is holistic and integrates various excellence models pointing to possibilities of their complementary application.

"National Institute of Standards and Technology (NIST)" (2015) indicates the changes in 2015-2016, pointing out that a holistic view of making effective management decisions is implemented in increasingly complex and competitive external environment. Therefore, it is necessary to reconsider the criteria for assessment of business excellence due to rapid changes in business and social environment.

Dubey (2016, p. 64-69) suggests a new model which overcomes shortages of the already established models of business excellence measurements. Beginning with *EFQM* model as a base, he suggests the model which presents various enablers in each stage of development towards agile model of business excellence. The enablers from the first to the fifth stage of development will provide flexibility and dynamism necessary for customization in the final stage. In the final stage of development, the model is adjusted to geopolitical factors, national and organisational culture, size and type of organisation, corresponding sub criteria, functions and sectors, so that the model becomes suitable for a specific organisation. The enablers of development in certain stages are flexibility, strategic causes, integration with the model, balance sheet results, fine tuning, comprehensiveness and level of model tuning.

In their research Safari et al. (2012) are focused on human aspects of EFQM model by examining correlation between the criteria of employees from the aspect of enablers of

EFQM on the one hand and on the other hand from the aspect of results i.e. the satisfaction of employees. According to the research results, the criterion of people is strongly connected with the criterion of results of people. Also, their conclusion was that companies should not be focused on a few sub criteria only, but should be devoted to each sub criterion, i.e. to approach the model in a balanced way as a unique whole.

Milovanović (2014) examines the influence of the application of concept of total quality management on the profitability of an enterprise in the domain of hotel management in the Republic of Serbia. The author does not find the existence of clear connection between the concept of total quality management and hotel profitability, but he points out those limiting factors are a possible reason of such results. This finding is especially unexpected because the existing level of implementation of total quality management in the hotels in Republic of Serbia is relatively high. Potential reason of this can be found in insufficient understanding of hotel managers of the significance of the implementation and practical application of TQM.

Radosavljević et al. (2015) analyse "business performance of small and medium" companies in the Republic of Serbia pursuant to *EFQM* model criteria. The results of research show that the number of small and medium companies with *ISO* certificate is very small in comparison to the developed countries, while the number of small and medium companies which apply *EQFM* is even smaller. The results of research show that the stated model has positive implications on the business of small and medium companies. The results concerning customers, employees and key business results are the links which should be improved in order to achieve business excellence in future.

# 4. Analysis of excellence self-assessment by using EFQM 2013 methodology

Self-assessment is a multidimensional method of permanent and systematic reexamining in the process of continuous improvement and innovations of business processes as following:

- What have we achieved?
- · The possibilities we have for further improvement and innovations
- The gap between actual and expected results

In aim to perform "self-assessment according to EFQM 2013 methodology", the "analysis of current questionnaires (EFQM Model in Action, 2016; Guide, Business Excellence Matrix-User, 2013)" in all nine criteria was done; thus the database model was modified and developed together with the solution suggestion for self-assessment (Fig. 3). The solution suggestion enables the instalment of the programme on the enterprise computers as well as "continuous process of self-assessment" by using this methodology. Thus, the requirements for assessment of nearfly momentous position of an enterprise are provided together with the identification of its key advantages and domains of progress. The succeeding formula presents a mathematical form of the self-assessment model:

$$R = 600 \cdot \sum_{i=1}^{9} W_C(i) \cdot \left(\frac{\sum_{j=1}^{m} G_{SubC}(i,j)}{m}\right)$$
(1)

where:

i

i

- principal criteria of the method (from 1 to 9),

- subcriteria of each of principal criterion (from 1 to minimum m=7 and maximum m=9, respectively)
- W<sub>c</sub> fixed weight factor for each of main criteria (from 1 to 9 with values 0.1 or 0.15 in accordance with Fig. 2), so the scoring limited to 600 points.
- G<sub>subC</sub> grade as weight factor for each of "subcriteria (from 0 to 4 where 0 brings 0%; 1 brings 25%; 2 brings 50%; 3 brings 75%; and 4 brings 100% points " which is brought by sub-criterium in line with the coefficient of weight and number of corresponding subcriteria into a criterion)



Figure 3 Main self-assessment software menu

The need for implementation of *software* in the implementation process of business "excellence model" enlarges with the growth of an enterprise size. The application of *software* encourages the changes in business processes. Some authors point out that an enterprise in contemporary business environment should use various performance indicators in magererial purposes (Krstić, Sekulić, & Ivanović, 2014), financial and non-finacial (Krstić, 2009). "Proper combination of traditional performance criteria, support them with Web analytics and get connected with vision and strategy in order to provide a holistic approach to the organisation" (Domanović (2016, 164). In addition, software provides faster and more continual development of corporate culture of self-assessment and expands the base of self-assessment to practically all stakeholders in the enterprise.

In particular research, the database of solution suggestion is initially made in line with EFQM 2013 demands, but the users might adapt and expand the defined criteria and

subcriteria, change their weight factors and scientific assessment. This allows the possibility of fine tuning of the applied methodology according to particular needs of an enterprise (Gómez-Gómez *et al.* (2016).

Besides the numerical assessment, we could give descriptive comments to each criterion regarding "a) the existing advantages and b) the domain of improvement of an enterprise for the segment of business to which the observed criterion is related. The programme also supports the entry of these descriptive comments, but they are not taken into consideration during the analysis".

In line with the defined EFQM 2013 model, the assessment is made for every subcriterion within these nine criteria (Figure 4)



Figure 4 Form for entry and updating of self-assessment results

The review of results is realised in the reviews which present comparable results for two or more selected self-assessments. Thus, the improvement, i.e. the change of the attained business excellence is presented expositorily and numerically.



Figure 5 Diagram for presentation of sub criterion results (with a description of a sub criterion)

The Figure presents the review for sub criteria by one selected criterion, while Figure 6 shows a summary review of two self-assessments by all criteria of the model.



Figure 6 Summary review of self-assessment results of enterprises before and after the process innovation

Practical use of application solution was carried out as a joint analysis of a group of case studies, focused on the realisation and analysis of self-assessment of the organisation before and after the implementation of innovation of one of *core* business processes (i.e. one of the realisation processes). In wider sense, the influence of various implementations of

"Quality document management system (QDMS)" as a catalyser and innovation prototypical platforms on the process of innovation of business procedures were examined, depicted in detail in the paper Nedic et al., (2016), schematically presented in the Figure 7. "The observed companies made self-assessment before and after the implementation of innovative software solutions" as a support to the defined core process. The results are presented in the form of graphic a) separately per enterprise (Fig. 8); and b) and summary (Fig.9).



Figure 7 Presentation of QDMS as a catalyst and innovative prototypical platforms and its influence on business excellence

To be more precise, the presented analysis utilised the data obtained from four projects (four case studies) where software solutions were deliberately developed and implemented in order to support this innovation processes in four production organisations, whose structure belonged to small and medium companies. The mentioned innovative projects engaged approximately the same resources in the realisation of innovation. The observed enterprises implemented ISOO 9001 metasystem and therefore a certain "form of documentation management" (Erić & Nedić, 2010). The companies taken as subjects of study cases were selected in the way to provide the follow-up of the influence of both domain and scope of "implementation and exploitation of the developed QDMS on management of innovation process".

The Table includes the review (by companies which were the subjects of case studies) of descriptions of corresponding forms of QMS documentation, business processes and implemented innovations of the processes.

Enterprise code	The form of implemented QDMS	Process/subprocess which is innovated	Description of innovation
P1	The enterprise does not use QDMS software solution	Subprocess of contracting, supply and transport of raw milk	Implementation of software for support to subprocess
P2	The enterprise uses QDMS only in the domain of QMS documentation	Subprocess of analysis and transport of raw milk	Implementation of software for support to subprocess of transport transformed into <i>outsource</i>

<b>Fable</b>	1	Analysed	enterprises/	<i>companies</i>

Р3	The enterprise uses extended QDMS with management of QMS records	The process of production of dairy products	Implementation of software for follow up of the loss of raw material, semi-manufactured goods and finalized products in the process
Р4	The enterprise uses QDMS with management of drafts, records and system for publication and subscription to data from records (ED)	The process of analysis, contracting, supply and transport of raw milk.	Implementation of software for support to whole process

In Figure 8 separate radar diagrams are presented for each enterprise, which provide parallel interpretation of the results before and after the innovation of the process in amounts of percentage for each EFQM criterion.



Figure 8 Review of results (%) of self-assessment of companies before and after the innovation of process

Discussing the summary results the value of acquired points by EFQM 2013 model of business excellence is presented a) before the implementation of process innovation, b) after the implementation of process innovation and c) the obtained difference (Fig. 9)



Figure 9 Summary results of self-assessment by EFQM

From graphic interpretation of the derived results, we might conclude that the biggest relative improvement of business excellence after the innovation implementation process is found in P4 Enterprise where QDMS with the most comprehensive extension of domain was applied. The most balanced improvement in business excellence was made in P2 Enterprise which applies QDMS in its basic domain (management of "QMS documentation").

Application solution for self-assessment of companies by EFQM 2013 methodology was thus applied within wider research and development of *innovation management model*.

# 5. Conclusion

Business excellence is an unavoidable condition of long-term existence, growth and development of an enterprise in contemporary business environment, characterised by extremely high dynamism, complexity, heterogeneousness, uncertainty and unpredictability. In such business conditions, managers are forced to continuously find new models of improvement of efficiency and performance of use of available resources (human, intellectual, and material, financial, market, strategic and other). The quality of enterprise business is best confirmed by external stakeholders. However, in order to achieve long-term business excellence, it is important to make self-assessment of business processes and activities. This is aimed at comparing the real with target values of performance of business processes, in order to identify positive or negative deviations and define and take corrective measures to remove negative deviations and stimulate positive deviations. Hence, an inexhaustible need and unappeasable thirst for improvement of efficiency in contemporary business environment become initial triggers in the process of invention of "excellent" models of measuring and managing business performances. Business excellence is an outgrowth of total quality management because it is established on the identical vales. Total quality management and business excellence developed their philosophies on good experience and the practice of successful companies. The perspective of stakeholders is obvious in the model of excellence of European Foundation for Quality Management and National Award for Quality – Malcolm Baldrige. "Business Excellence Model of European Foundation for Quality Management – EFQM" appeared at the moment when "quality" and "total quality" reached their peak in the mind of managers. Advancing towards quality was conditioned by acceptance of ISO 9000, the international standard focused on the systems of quality in business. It was a step further from the system of internal quality.

By comparative analysis of characteristics of various models of business excellence, it can be concluded that no model per se provides answers to all relevant questions on the pathway of long-term success of the enterprise. Only by integrative and complementary application of alternate models of business excellence it is possible to improve internal quality of products and business processes and external quality directed towards the relationships with all stakeholders (Krstić, Pešić, & Anđelković, 2010). However, here the question of possibility of application arises from separate models of business excellence in practice and application of such integrative and holistic model. This normally needs much knowledge, energy, capability, goodwill of not only managers and employees but also of all partners and constituents who are in any way involved in functioning of an enterprise. Besides, the question is what outcome of expense analysis and benefits of application of such model in practice would be. The paper shows the research results of domestic and foreign authors who point that the answer to this question still has to be searched for. In this sense, the role of information-communication technologies is significant. Domanović (2016, 158) points out that "starting from the demands imposed to a contemporary enterprise by strategic and operational management, aimed at successful implementation of the model of business excellence it is necessary to automate systems of management and measurement. The main advantage of the application of software is seen in time saving, which would otherwise be spent on activities which do not add any value. However, implementation and application of software has its price, which includes both the costs of implementation and exploitation together with the compensation for use (license)."

Scientific contribution of this research is found in pointing out both the significance of measuring business excellence and self-assessment of an enterprise in contemporary business environment. Particular business excellence models were mostly treated in the literature, pointing to advantages and disadvantages of their application, but little attention was paid to comparative analysis of various business excellence models as well as possibilities of their integrative application. It is not only significant for the companies that act in contemporary business environment to apply business excellence models, but also to try to use certain models complementary. The results of the research show that it is possible to do self-assessment of excellence based on EFQM model.

Practical contribution of the research is found in the development and application of authorial model of database and application solution for self-assessment based on EFQM model. This is especially important to the enterprise managers, because it allows self-assessment of business activities and processes, to identify deviations of real in comparison to target performances of business processes and define and take measures for improvement of business processes in the future.

However, it is especially important to accentuate the next limitations of the conducted research. First, the paper presents only the review of research related to application of separate models of business excellence, but not comparative analysis of the presented models. Second, the paper discusses only one model of business excellence, EFQM model, which was applied in the analysis of self-assessment of business excellence. Hence, further research could be directed towards empirical research of the effects of alternate models of business excellence on the efficiency of an enterprise, and creation of appropriate software solutions for assessment of excellence based on other business excellence models, such as Balanced Scorecard. The third limiting factor of practical part of research could be found in the sources of data used in analyses. They were primarily obtained from the representatives of owners and management of the observed enterprises. Since they were the bearers of key decisions in the observed enterprises, there is a real risk of partiality of the obtained data, which might be avoided by future expanding the basis of self-assessment sources to all stakeholders of enterprises.

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# TRENDS IN SUSTAINABLE DEVELOPMENT AND ENVIRONMENTAL PROTECTION IN SERBIA AND THE WESTERN BALKANS

#### Abstract

Sustainable development is a process in which constant changes take place between social, economic, and environmental dimensions. This long-run process requires a carefully managed development policy taking into account the complex global challenges facing humanity. Some of the contemporary challenges of sustainable development are for example: raising the level of people's environmental conscience and responsibility, application of economic instruments and innovative solutions to environmental protection problems, etc. Therefore, a sustainable development and environmental protection strategy is necessary. Statistical estimation of achievement of sustainable development goals of the Western Balkan countries in the period from 2012 to 2023 based on the analysis of time series is used in this paper and it is presented using the average annual growth rates. The results showed that the analysed countries recorded collective positive trends in sustainable development and environmental protection, but Serbia achieved the most significant progress and demonstrated significant engagement in this field.

*Keywords*: sustainable development, environmental protection, Agenda 2030, Serbia, Western Balkans.

JEL classification: Q58, C10

# ТРЕНДОВИ У ОДРЖИВОМ РАЗВОЈУ И ЗАШТИТИ ЖИВОТНЕ СРЕДИНЕ У СРБИЈИ И ЗАПАДНОМ БАЛКАНУ

#### Апстракт

Одрживи развој је процес у коме се дешавају сталне промене између друштвених, економских и еколошких димензија. Ово је дугорочни процес који захтева пажљиво вођену развојну политику узимајући у обзир сложене глобалне промене са којима се суочава човечанство. Неки од савремених изазова одрживог развоја су на пример: подизање нивоа еколошке свести и одговорности код људи, примена економских инструмената и иновативних решења за заштиту животне средине, итд. Стога је стратегија одрживог развоја и заштите животне средине неопходна. У овом раду коришћена је статистичка процена степена постигнутих циљева одрживог развоја

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земаља западног Балкана у периоду од 2012. до 2023. године на основу анализе временских серија и приказана је коришћењем просечних годишњих стопа раста. Резултати су показали да су анализиране земље оствариле колективне позитивне трендове у остваривању циљева одрживог развоја и да је Србија постигла најзначајнији напредак и показала значајни ангажман у овој области.

**Кључне речи:** одрживи развој, заштита животне средине, Агенда 2030, Србија, Западни Балкан

## 1. Introduction

The adoption of Agenda 2030 marked a historic consensus within the UN. This ambitious development agenda represents a vision crucial for creating prerequisites for a better, more prosperous, safer, and more stable world. International cooperation between countries, especially regionally and sub-regionally, is a necessary condition for the comprehensive implementation of the Sustainable Development (SD) Agenda across all its dimensions - economic, social, and environmental (Krstić et al., 2018). This primarily pertains to our responsibility towards the poorest and most vulnerable groups, the environment, and a fuller conception of human life in which the human rights of all are respected.

The challenge lies in maintaining this vision firmly connected with reality, where every specific activity is linked to the creation of sustainable and resilient societies. By adopting Agenda 2030, Serbia together with all UN member states has altered the traditional understanding of sustainable development. Agenda enriched the balance of social inclusion, economic growth, and environmental protection - the three key elements of the sustainable development concept. First, by adding peace as a necessary precondition to their full and inseparable integration, and second, partnership as a defining type of relationship.

In the first part of the paper, the focus will be on presenting strategic documents containing these goals and future strategic directions for achieving sustainable development in Serbia (Jovanović et al., 2023). Based on this analysis, in the second part of the paper, the focus will be on the sustainable development goals and the extent of their realization in both Serbia and other Western Balkan countries (Radivojević et al., 2018).

For Serbia as a candidate country, this issue is important not only for environmental protection in a narrow sense, but also for other interconnected issues demanding regional cooperation. Drawing upon the analysis of experiences in developed countries, an overview of laws and strategies adopted by our country to address how strategic goals will be achieved, along with explanations of measures introduced for sustainability, will be provided.

### 2. Sustainable Development Roots

In the previous period, environmental issues were side-lined and neglected because they were considered unimportant. But now, awareness about climate change is growing and, in that light, the impact of human activities started to be viewed globally, at state, corporate, and individual levels.

Despite the growing awareness and increased interest in studying these issues, it remains challenging to assess the negative environmental effects or to comprehend the overall natural resources vulnerability to human activities.

Climate issues pose a social and economic challenge, primarily on a global but also on a local level. Rapid development and continual population growth leads to depletion of natural resources. The quest for long-run solutions has led to the sustainable development concept.

This concept represents an integral development with environmental protection enabling the improvement of the quality of life for future generations. "UN defines it as development that meets the needs of the present without compromising the ability of future generations to meet their own needs. It also requires coordinated efforts towards building an inclusive, sustainable, and resilient future for both people and the planet" (Jovanović & Stojković-Zlatanović, 2020).

The key sustainable development elements (economic, social, and environmental) have to be coordinated. These elements are vital for the welfare of individuals and society. It is crucial to emphasize that eradicating poverty is the ultimate sustainable goal. The Millennium Development Goals (MDGs) (United Nations, 2015) focused on urgent issues and represented the global strategic action for reducing poverty, while continuity in this strategic approach is the definition of Sustainable Development Goals (SDGs) (Grainger-Brown & Malekpour, 2019). The key difference between MDGs and SDGs is that MDGs focused on government-led actions, while SDGs work on including new agents, such as businesses, local governments, and civil society (Hajer et al., 2015).

The economic aspects of sustainable development encompass: 1) economic development based on increased employment, productivity, and better-paid jobs, leading to poverty reduction; 2) sustainable economic development founded on encouraging innovation, socially responsible entrepreneurship, and sustainable macroeconomic indicators (investments, indebtedness, balance of trade, etc.); and 3) establishing responsible, efficient, and inclusive institutions, strengthening the rule of law, and combating corruption as prerequisites for sustainable economic development. Consequently, in economic science, a consensus has been established on the position that institutions promoting the rule of law are of fundamental importance for successful long-term economic performance and dynamic economic growth and development.

Because of the dynamic natural and social processes in contemporary conditions, a right reaction of humanity is necessary. This means that sustainable development should not be managed spontaneously but strategically by international organisations, national governments, local authorities, companies, and individuals (Jelisavac-Trošić et al., 2023; Berber et al., 2021; Moon, 2007; Liczmańska-Kopcewicz et al., 2019).

#### 3. SDGs in Serbia according to Agenda 2030 – strategic framework

SDGs are globally represented in Agenda 2030, and each country has adopted 17 goals, adapted them to its specificities, and monitors their achievement annually. These goals are primarily aimed at the reduction of poverty, inequality, and injustice, as well as minimizing the consequences of climate change.

Before Agenda 2030, MDGs were set for a period of 15 years, that is, in 2015 it was finally determined that, despite certain progress, MDGs globally faced shortcomings. After the deadline for MDGs expired, there was a need for swift and thoughtful action to continue achieving the sustainable goals more efficiently - reducing poverty, environmental problems, inequality, and various other global issues. The Government of the Republic of Serbia participated in the drafting of Agenda by including the citizens in the consultations on the development agenda after 2015, through the national campaign 'Serbia We Want,' and by participating of state representatives in global forums, within the global campaign 'The World We Want.' Establishing an institutional framework for monitoring the achievement of SDGs in the country is very important.

The Public Policy Secretariat, supported by the German Development Cooperation (GIZ), prepared the 'Serbia and 2030 Agenda' report in 2018. This report was an immediate response to the need for mapping the strategic issues in Serbia and contributing to the dialogue and decision-making regarding the prioritized Agenda 2030 in Serbia. The mapping concerning the SDGs in Serbia was conducted in relation to all active strategies and other documents.

The database of the Public Policy Secretariat is a basis for the strategic approach. Additionally, the implementation status of the strategy was indicated. Finally, strategic documents planned for adoption according to the National Program for the Adoption of the European Union Acquis (the second revision from 2016) – NPAA were also designated. For each SDG, a brief overview of the situation in that area in Serbia was provided, using indicators from the UN, along with domestic and international statistical analyses.

Figure 1. Presentation of the coverage of SDGs by strategies in Serbia (2022)



Source: Government of the Republic of Serbia, Public Policy Secretariat, Serbia and Agenda 2030, p. 57.

Figure 1 shows that the weakest coverage of SDGs is observed in the area of environmental protection, while goals 1, 3, 4, 7, 8, and 9 are best covered. These goals relate to the areas of environment and climate (*SDG 7*), economic growth (*SDG 8; SDG 9*), and human resource development (*SDG 1; SDG 3; SDG 4*). The overall coverage of SDGs and sub-goals by Serbia's strategic framework is 62% (Serbia and Agenda 2030, p. 58).

# 4. Assessment of the Achieved SDGs in the Western Balkan

Achieving SDGs based on the SDG Index is necessary to review the position of Serbia compared to the Western Balkan (WB).

Year	Serbia	North Macedonia	Bosnia and Herzegovina	Albania	Montenegro
2012	72.0	69.2	69.1	70.7	67.2
2013	72.9	70.6	70.3	70.6	68.6
2014	73.8	71.0	70.5	69.6	68.6
2015	73.6	70.9	70.7	70.9	68.2
2016	74.8	71.1	71,0	71.1	68.2
2017	75.7	71.6	70.9	73.5	69.6
2018	76.7	73.0	72.4	73.5	69.8
2019	77.5	73,0	73.0	73.7	70.8
2020	77.5	72.5	73.4	73.7	70.7
2021	78.4	73.1	74.1	73.7	71.2
2022	75.9	72.3	74.0	71.6	68.8
2023	77.3	74.0	73.5	72.5	71.4

Table 1. Position of WB according to the SDG Index in the period 2012-2023.

Source: Sachs, J., Lafortune, G., Kroll, C., Fuller, G., Woelm, F. (2023) Sustainable Development Report 2023. Cambridge: Cambridge University Press; Sachs, J.D., Lafortune, G., Fuller, G., Drumm, E. (2023). Implementing the SDG Stimulus. Sustainable Development Report 2023.

Table 1 shows the readiness to fulfil the SDGs for the WB, shown during 12 years in the period from 2012-2023. Based on the degree of achievement of individual goals, specific problems that each country faces on the way to sustainable development can be determined.

	Carbia	North	Bosnia and	Allegaio	Montonoono
	Serbia	Macedonia	Herzegovina	Albama	Montenegro
The average value					
(arithmetic mean)	75.51	71.86	71.91	72.09	69.43

Table 2. Descriptive Statistics for WB

http://www.ekonomika.org.rs

Standard error	0.60	0.20	0.49	0.42	0.20
Standard error	0.00	0.59	0.49	0,45	0.39
Median	75.80	71.95	71.70	72.05	69.20
Mode	77.50	73.00	-	73.70	68.60
Standard deviation	2.07	1.36	1.68	1.50	1.36
Variance	4.30	1.84	2.83	2.26	1.86
Kurtosis coefficient	-1.19	-0.27	-1.44	-1.63	-1.23
Skewness coefficient	-0.31	-0.33	-0.10	-0.20	0.08
Range of value change	6.40	4.80	5.00	4.10	4.20
Minimum	72.00	69.20	69.10	69.60	67.20
Maximum	78.40	74.00	74.10	73.70	71.40
Sum	906.10	862.30	862.90	865.10	833.10
Number of data in series	12	12	12	12	12

Source: Author

Table 2 presents SDG Index descriptive statistics for WB. It includes statistical measures for each listed country: Serbia, North Macedonia, Bosnia and Herzegovina, Albania, and Montenegro. By analysing the data presented in the table, collective progress in the overall SDG Indexes of the WB has been noted. However, none of the states managed to position themselves better than the 36th place on the international level in 2023.





#### Source: Author

Figure 2 shows that at the beginning of the analysed period (2012), Montenegro had the lowest SDG Index (67.2) among WB, while Serbia was the country with the highest index (72.0). Consequently, Montenegro and Serbia occupied the 73rd and 44th place, respectively. When comparing the data from 2012 with the results from 2023, it can be concluded that all WB achieved an increase in their index, with Serbia experiencing the largest increase of 5.3 percentage points, from 72.0 to 77.3, thereby also improving its international position, climbing to 36th place.

North Macedonia also made significant progress of 4.8 percentage points (2012), raising its SDG Index from 69.2 to 74.0 (2023). Thus, North Macedonia improved its international position from the 61st to 47th place.

The third country in terms of the percentage point index growth is Bosnia and Herzegovina, which recorded an increase of 4.4 percentage points, from 69.1 (2012) to 73.5 (2023), improving its rank from 63rd to 54th place.

Albania showed very moderate and the smallest growth among all observed countries. With an increase of 1.8 percentage points (2012), it raised its index from 70.7 to 72.5 (2023). With such low growth, Albania unfortunately distinguished itself as the only country to decline in terms of international position among the observed countries, dropping from 53rd to 60th place.

Although Montenegro showed improvement in the same period, increasing its index by 4.2 percentage points, from 67.2 (2012) to 71.4 (2023), it still lags behind in terms of index score and rank in relation to other WB.

With the highest index and rank, Serbia continues to lead as country with the most significant progress and commitment in achieving SDGs.

# 5. Evaluation of SDGs in Serbia

According to the latest SD Report (2023), Serbia is the best ranked in the WB region, holding the 36th position out of a total of 166 countries. In the observed region, Montenegro and North Macedonia show the least competence to fulfil the SDGs.



Figure 3. Average performance of SDGs in Serbia according to the SDG index in 2023

Source: Sachs, J., Lafortune, G., Kroll, C., Fuller, G., Woelm, F. (2023) Sustainable Development Report 2023. Cambridge: Cambridge University Press.

Figure 3 shows that in Serbia SDG 14 is not covered at all, and furthermore, SDG 15 is the least achieved. The highest fulfilment is observed for SDG 1, followed by SDG 4. Therefore, the measures taken to reduce poverty and ensure inclusive and quality education have been the most successful, while measures related to degradation of forest, land, and biodiversity conservation have been the least successful.



<sup>••</sup> Trend information unavailable

## Source: Sachs, J., Lafortune, G., Kroll, C., Fuller, G., Woelm, F. (2023) Sustainable Development Report 2023. Cambridge: Cambridge University Press.

According to the latest report from 2023, Serbia has made a significant step towards achieving SDG 6 and SDG 10, while stagnation has been observed in SDG 4, 13, and 16 (Figure 4). Moderate progress is observed in other goals. This means progress has been made in: a) providing sanitation facilities and access to drinking water and b) reducing inequalities between and within countries. On the other hand, stagnation has been noted in the areas of: poverty reduction, education, and reducing mortality rates.

Through the existing strategic framework, the Republic of Serbia has been directed towards achieving sustainable development goals. However, due to the lack of strategies in every sector and the inability to monitor the strategies, it is difficult to assess the degree of realization of these goals in Serbia. For this reason, the goals can be classified into four groups:

- Economic growth (SDGs 8, and 9)
- Human resource improvement (SDGs 1, 2, 3, 4, 5, and 10)
- Environment (SDGs 6, 7, 11, 12, 13, and 15)
- Institutions, finance, and partnership (SDGs 16, and 17).

The first group of goals encompasses sustainable economic progress, employment, better working conditions, sustainable industrialization, development of infrastructure and innovations. Small and medium-sized enterprises (SMEs) are very important for Serbian economy because of the number of companies and employees. To remove barriers to their further development, access to financing resources should be increased. Although there is a positive trend in the labour market in Serbia regarding employment, there is a problem of unemployment in the long run and a high number of unemployed youth and socially vulnerable groups (Kostic, Z. & Radukic, S., 2019).

The second group of SDGs is relevant for human resource development and pertains to poverty reduction, health, and education. In order to reduce poverty, support for the most vulnerable strata of the population, rights to economic resources, access to basic services, management and ownership of the land, support in cases of conflicts and climate disasters, use of new technologies and financial services are promoted, with special consideration given to nonbank financial institutions and microfinance. Vulnerable groups face challenges in achieving this goal. The third group of SDGs encompasses environmental protection and combating climate change. Climate change refers to changes of the average annual temperature and amount of precipitation in our region. Due to negative impacts, an increase in annual temperature of air and a rainfall decrease are expected, which will adversely affect the development of agriculture. Additionally, extreme climate and weather conditions in Serbia have led to significant material damage caused by droughts and floods, leading to undertaking efforts to implement proper preventive measures.

The fourth group of SDGs is based on strengthening institutions, rules, and partnerships. Responsible institutions are necessary to influence the reduction of all forms of violence, combat organised crime, reduce corruption, provide access to information, and protect fundamental freedoms. Progress in the European integration process, where substantive reforms of the public sector are being implemented towards greater transparency and inclusivity. Achieving SDGs of the Agenda 2030 requires partnerships among regional, national, and local levels of governments, the research organisations, society, and the private sector to leverage all available resources (Kostić, Z. & Radukić, S., 2019).

# 6. Adapting to European Environmental Protection Standards

In accordance with the Sofia Declaration on the Green Agenda for WB (Balkan Green Energy News, 2020), Serbia is committed to developing and implementing strategies and action plans aimed at ecological sustainability and transitioning to a green economy. This entails formulating strategies to reduce greenhouse gas emissions, developing integrated climate and energy plans, and action plans for climate change adaptation. Additionally, Serbia will work on strategies for transitioning to a circular economy, including waste management and recycling, as well as plans for the depollution of air, water, and soil. In the agricultural sector, the focus will be on strategies for sustainable food production and organic farming. For the protection of biodiversity, Serbia will develop strategies and plans for the protection and restoration of the Green Agenda and contributing to the goals of the EU in the areas of climate change and SDGs. The Sofia Declaration was also signed by WB. This declaration is part of the Berlin Process that aims to strengthen the partnership and European integration in the region of WB.

Additionally, a very important document that Serbia has committed to produce and follow is the National Energy and Climate Plan (NECP). The NECP is a document that EU member states, including candidates such as Serbia, must develop and implement as part of their obligations towards the energy and climate goals of the European Union. For Serbia, creating the NECP is not only a requirement stemming from its aspirations to join the EU, but also a crucial step towards aligning with the EU's Energy Union framework, which focuses on energy efficiency and security, decarbonisation, creation of internal energy market, increasing of innovation, and improvement of competitiveness. Implementing the NECP in Serbia promises significant benefits, including a more sustainable and efficient energy sector, reduced environmental impact, and increased energy security. It also paves the way for Serbia's integration into the European energy

market and harnessing potential economic and technological advancements. As Serbia is on the verge of achieving its NECP, this marks a turning point in the country's energy and climate policies, laying the groundwork for a greener and more sustainable future.

Regarding developing countries, particularly the poorest and most endangered, assistance from developed countries is necessary, especially financial aid. However, it is precisely these countries, including Serbia to some extent, that need to reduce greenhouse gas emissions to adapt to other countries in Europe.

## 7. Conclusion

Every sector of the economy, as well as the economy as a whole, is to some extent responsible for pollution in its surroundings and beyond. Therefore, every country should pursue an active environmental protection policy and finance projects in this area.

Serbia has enacted numerous laws, strategies, action plans, regulations, and guidelines, all aimed at protecting the environment and sustainable development. This is evidenced by cooperation with the UN and partner agencies in achieving SDGs, which is carried out on all levels of government.

Mapping of the strategic issues in Serbia regarding sustainable development goals has been conducted, taking into account all active strategic documents in Serbia. SDGs in the area of environmental protection are the least covered by strategies, while the best covered SDGs are in the area of poverty reduction, improvement of health and education levels, followed by access to affordable and renewable energy, as well as goals contributing to economic growth. The overall coverage of goals and subgoals by strategies in Serbia is 62% (Serbia and Agenda 2030, 2018).

By analysing the WB based on the period from 2012 to 2023, progress has been determined, as well as the greatest engagement in the area of sustainable development by our country. Serbia has achieved the best results in the SDG index compared to Montenegro, North Macedonia, Bosnia and Herzegovina, and Albania.

To evaluate the progress in Serbia in achieving SDGs based on the value of the SDG index in relation to the WB group, according to the latest SD Report (2023), our country is the highest ranked country in WB region and ranks 36th out of a total of 163 countries. Montenegro and Albania have the lowest positions in the region. In addition, Serbia recorded significant results in: a) poverty reduction, b) promoting inclusive and quality education and lifelong learning, c) ensuring sanitary conditions and access to drinking water, d) reducing inequalities between and within states.

On the other hand, regression has been noted in the area of climate change, with stagnation in the area of accessible and renewable energy. One of the main problems is the level of awareness among the people in Serbia. Environmental preservation should be a priority concern for educational organizations, and without raising awareness about the importance of environmental preservation, all other efforts and laws would be pointless.

Environmental protection and sustainable development are part of the development strategy of every economy, so in Serbia, more and more attention being paid to this issue in a responsible and dedicated manner. Environmental protection from the perspective of industrial development has made significant progress in many countries, placing humanity's responsibility for future generations at the forefront. Sustainable development and environmental management entail the need for a high level of adaptability of the economy to emerging situations and strategies, as well as assistance to numerous organizations involved in environmental protection, as well as ecological research to properly define future goals and strategies. All efforts to achieve good results in this field are linked to the opportunities for investment in activities related to environmental protection on all levels. Countries that achieve remarkable levels of GNP and national income are in a better position because they have the ability to allocate more resources for investing in environmental protection compared to those countries that are struggling with insufficient revenue from their own economy. In those countries, problems of ensuring normal living and working conditions are also more pronounced, because the importance and priority of investing in environmental protection are not adequately recognized and placed in the right perspective. Bearing this in mind, it is impossible to achieve optimal level of SDGs without the implementation of appropriate strategies based on scientifically known and verified knowledge in the sustainable development context.

Sustainable development is the only right path leading to the preservation of the economy, on the one side, and the improvement of society and awareness of environmental protection, on the other side. Increasing awareness of sustainable development from experts to individuals would contribute to increasing social welfare.

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# THE ECONOMIC REVITALIZATION OF THE EYALET OF NIŠ FROM 1861 TO 1864

## Abstract

The evolution and revolution of the economic capacities of a community represent the basis of its development. In this regard, the development of modern Niš was initiated by progressive individuals who were at the head of this city back in the Ottoman period. The most significant of them was the great Ottoman reformer Ahmed Midhat Pasha, who during his service as the governor of city and Eyalet of Niš (1861– 1864) used this region as a pilot environment for his innovative socio-economic ideas in order to restore and develop its economic potential. The aim of the paper is to prove that some of those ideas (the Homeland Fund) were not only far-sighted, but also had long-term consequences for Serbian and Ottoman society even after 1878. In order to achieve this goal, a comparative analysis of historical sources and literature of domestic and foreign provenance was carried out, and in the conclusion, the layering of the topic and the need for future dealings with it, both from the aspect of economic and historical science, were emphasized.

*Keywords*: Niš, Ottoman Empire, agriculture, reforms, Midhat Pasha, Homeland Fund (Memeklet sandık)

JEL classification: N93

# ЕКОНОМСКА РЕВИТАЛИЗАЦИЈА НИШКОГ ЕЈАЛЕТА У ПЕРИОДУ ОД 1861. ДО 1864. ГОДИНЕ

#### Апстракт

Еволуција и револуција економских капацитета једне заједнице представљају основу њеног развоја. С тим у вези, развој савременог Ниша иницирали су прогресивни појединци који су још у османском периоду стајали на челу овог града. Најзначајнији од њих био је велики османски реформатор Ахмед Мидхатпаша, који је за време службе управника Ниша и Нишког ејалета (1861–1864) искористио овај град и регион као огледну средину за своје иновативне социоекономске идеје, како би обновио и развио њихов економски потенцијал. Циљ рада је да докаже како су неке од тих идеја (Завичајни фонд) биле не само

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далековиде, већ и са дугорочним последицама по српско и османско друштво чак и након 1878. године. Како би се остварио овај циљ, извршена је компаративна анализа историјских извора и литературе домаће и стране провинијенције, а у закључку наглашавена слојевитост теме и потреба за будућим бављењима њоме, и са аспекта економске и историјске науке.

**Кључне речи:** Ниш, Османско царство, пољопривреда, реформе, Мидхатпаша, Завичајни фонд (Memeklet sandık)

## 1. Introduction

The first half of the 19th century was one of the most dynamic periods in the history of Niš during the Ottoman time. Apart from the direct consequences of the First and Second Serbian Uprisings, the region of Niš was badly affected by a series of local revolts (1833, 1835, 1841), which was caused by the economic condition of the Ottoman state at that time, i.e. a reflection of its bad tax policies and the kleptocracy its provincial administration has fallen into. At that time, Niš was the centre of a large administrative territory (eyalet) that encompassed the southern part of central Serbia and parts of western Bulgaria. The administrative seat of the eyalet was in the city of Niš, while it consisted of the central sandžak of Niš and the sandžaks of Samokov, Ćustendil and Sofia as lower administrative units of eyalet. On the lower administrative level, each sandžak was made of several kazas, hence in the case of sandžak of Niš, it was formed of central kaza Niš, then Leskovac, Kuršumlija, Prokuplje, Pirot and Berkovica (Ranđelović, 2022, 121–122).

Apart from some Roman Catholics and Jews, the most numerous population of the eyalet by far were the Orthodox Slavs, Serbs and Bulgarians. All of them were dominated by the Muslim minority (mostly concentrated in the towns), which the Sharia-ruled Ottoman state privileged in all segments of everyday life. The dual relationship towards all these groups was resolved twice by the Ottoman state by equalizing the rights of its subjects regardless of their confessional and national affiliation, with Gulhanne Hatt-i Sherif (1839) and Hatihumayun (1856). However, both times the progress brought with it the reaction of the conservative Muslim minority, who opposed that (Shaw & Shaw, 1977, 69).

The basis of the conflict between the two parties, the one which aspired to keep the old order and the other who tend to enjoy the emancipation guaranteed by the state, was their economic relationship as well as their political one. This was most obvious in the heterogeneous Ottoman provinces, such as the Eyalet of Niš. The state will succeed in channelling the interests of both parties for the common good only after the appointment of Midhat Pasha as the head of the Eyalet of Niš, who will set the standards for it during his mandate as eyalet governor.

## 2. Niš before the arrival of Midhat Pasha

Decades of instability in the Eyalet of Niš before the arrival of Midhat Pasha were the result of a series of incompetent governors and accumulated economic problems that the state was unable to cope with. Of the latter, the most serious were the corruption of the provincial administration and the impoverishment of the peasants through the land grabbing, from which the Ottoman state suffered chronically since the 18th century.

The land grabbing of the peasants' estates was the imposition of local spahis, agas and beys on the free peasants, offering them in return protection from other powerful Muslims in the area who sought to usurp their estates. In this way, the Muslim-protector, as much by grace as by force, took over peasant land deeds in his own name and thereby created a personal domain for himself. In return he offered protection to the peasants, former owners of the estates, against any attacks from the other Muslims who tend to claim it. The protection was often only fictitious or ineffective. The only novelty in the position of the peasants was that they now became dependent on their new master (čitluk sahibija, gospodar) without any legal integrity and obliged to pay him the increased and fictitious taxes he determined. Exercising their position, Muslim gospodars paid no attention to the restriction which state prescribed regarding upper limit of tax harvesting. They formed themselves as a new elite, enlarging their riches on account of Christian peasants and legalizing it through the influence they had in local councils and craftsmen lounges. This is one of the most common ways in which the land grabbing was conducted in Eyalet of Niš. The process was further accelerated in 1831, when the Sipahi class was abolished. As they were left without land holdings, which were taken over by the state, many of them were hired as various guards, policemen and overseers in the villages and hinterlands of the towns, where they could directly put pressure on the peasants and come to their estates. In the Eyalet of Niš the situation was particularly difficult after 1833, when Muslim beys from the six nahiyas that Prince Miloš annexed to the Principality of Serbia moved here (Stojančević, 1996, 264). Especially resentful of the Serbs for this, those Muslim beys, with the support of local Muslims, spread throughout the Sandžak of Niš, where by the 1840's almost all villages were in the ownership of gospodars (Kostić, 1967, 317).

The position of the peasants in Eyalet of Niš during those decades was extremely difficult. Burdened with taxes to the state and gospodars, they turned to the local authorities for help.<sup>3</sup> However, their intervention most often could be animated only by a bribe, since the administrative staff were going through existential difficulties like the entire Ottoman state apparatus at that time.

The lack of supervision by the central authorities also contributed to the spread of corruption in the provincial administration. Feeling relieved by this, many provincial governors and administrative authorities in 1850ties became real oriental satraps for whom the law did not apply and the consequences did not exist. How bad the situation was in the Eyalet of Niš in this matter will be seen during the stay of the Grand Vizier Mehmed Emin Pasha Kibrizli in Niš (1860). His investigation revealed a whole network of speculators and corruptors, which consisted of numerous former and current heads of various public services, members of councils and lower officials, all headed by the governor of the eyalet, Zeynel Pasha (Ranđelović, 2022, 357). That was the moment when it was decided in Constantinople that competent person should be headed to the Eyalet of Niš to restore the order in this part of the Ottoman Empire. The choice fell on Ahmed Midhat Pasha.

<sup>&</sup>lt;sup>3</sup> However, the situation was somewhat better when in 1839 government abolished the practice of leasing tax collection to private individuals. Private tax collectors used to collect increased taxes from the peasants and thus getting extra profit from it.

#### 3. Midhat Pasha and his economic measures in Eyalet of Niš

Ahmed Midhat Pasha came to the head of Eyalet of Niš (February, 1861) as an already established authority among high Ottoman officials (Randjelovic, 2022, 374). Until that moment he was building a career as an incorruptible clerk, an excellent expert in the flow of documents in state institutions, always on missions throughout the Empire during which he tirelessly exposed corruption affairs and resolved administrative irregularities and delays (Midhat, 1903, 35). The modernization, or more precisely, the westernization of the Ottoman Empire, became the centre of his political interests after 1858, when he visited big metropolises on a trip to Europe and directly saw the extent to which European society and economy were ahead of the Eastern organization of his state (Kamenov, 2023, 123). Inspired by the steam revolution and other industrial novelties, he returned to the Ottoman Empire as a politically reborn man, with plethora of advanced ideas he planned to modify and implement. The appointment to the post of governor of Niš and Eyalet of Niš was an ideal opportunity for that.

During the three and a half years of his mandate in Niš Midhat Pasha realized a truly remarkable series of successful projects which concerned the educational, social, communal and infrastructural development of the city of Niš. Those projects were: the establishment of a military hospital in the Fortress of Niš, the clearing of streets and the removal of dilapidated huts and canopies from the city's main traffic arteries, the improvement of the city's sewage system with the drainage channels, the encouragement of the continuation of work on the Orthodox Cathedral in Niš, the establishment of the Palilula residential district for the Muslims refugees from Belgrade and the renovation of the Fehti Mosque in this district, the establishment of a secular library in the Fortress of Niš, the establishment of a craft and arts school/orphanage for neglected children of all denominations, etc. (Randjelovic, 2022, 375, 379–394). However, from the very first meetings he had in Niš with the representatives of local communities, it was evident that he would focus special attention on solving the economic situation in this city and province.

When it comes to economy, the situation was as follows: the people in this province owed the state a lot of money in the name of arrears and unpaid taxes. There were many reasons for that. First, the people (to say, the Christian Serbs, who were the dominant majority of farmers) could not go to the markets in the towns and sell their goods, because the roads were very bad, if there were any at all (Midhat, 1903, 35; Andrejević, 1980, 31). Because of this, they could not even get the concrete money that was needed for paying the taxes. For the same reasons the tax collectors could not visit the villages and collect taxes regularly. Many sections were tiring and almost impassable. Moreover, due to bad roads, the city of Niš itself suffered from reduced transit even though it was strategically located in an ideal position on the frequent Constantinople road, the most important economic artery of the Ottoman territories in Europe. So, the big problem in the eyalet was the bad traffic network. However, even if there were ideal conditions for tax collection, the peasants suffered because of their weak payment capability. This happened because of the previously mentioned increased taxes they owed to the gospodars, and in order to manage to pay them, the peasant had to turn to another gospodar and borrow money from him with high interest (Cerkezoğlu & Tansü, 2020, 832). For most of the peasants this was the only way to pay the tax debts to

the Muslim landowner on whose estate they lived and worked. This is how the majority of the peasants of the Eyalet of Niš barely survived, fighting incessantly and in a circle to reduce their previous debts.

Regarding the roads Pasha started working immediately, it was a problem of technical nature. The first thing he did in this matter was to strengthen the routes that connected Niš with the big cities in the neighbourhood, so that the transit of goods and people would increase. Regarding that, lines were drawn to Skopje, Sofia and Vidin. The second phase was the connection of Niš with the head towns of other kazas in the Sandžak of Niš, then Niš and the villages in its hinterland, and, finally, the connection of towns in other kazas of the Sandžak of Niš with the villages surrounding them. (Milićević, 1884, 161-162). In this way, the traffic network which regionally connected Niš with Belgrade, Vidin, Skopje and Jedrene (via Sofia) was renewed and strengthened. The towns in the sandžak of Niš like Pirot, Prokuplje and Leskovac, as well as Vlasina and Vranje in the south, now gravitated more clearly towards Niš. At the same time their hinterlands were more directly connected to them in terms of communication. It is worth mentioning that these projects were not merely the tracing of existing routes, but new routes were cut where it was convenient to reduce distances. At several important strategic places, the bridges were built over large rivers, too. Such was the case with the bridges at Mramor and the village of Čečina on the South Morava River (Milićević, 1884, 162-163). After these undertakings, the traffic on the new roads began to flow and the transport of goods got a new dynamic. However, the benefits of the new roads had to be made visible to ordinary people, not only merchants, so Pasha came up with the idea of creating new jobs. That is why he founded the first company in the Balkans for the transport of goods and passengers in Niš in 1863 (Andrejević, 1995, 10). The company quickly expanded its operations on the roads from Belgrade, Priština, Skopje and Sofia, whereby the strategically convenient location of Niš enabled the cart drivers from this city to easily establish a monopoly in this vast territory.

While the transport-related projects were almost clearly engineering matters, the issue of poor financial condition of the peasants was more complex. Midhat Pasha devoted himself especially to solving it, managing perhaps the greatest achievement in his political career.

## 4. Homeland Fund (Memeklet sandık)

Helping farmers to get out of debt slavery to gospodars and landlords was a sensitive and dangerous problem. A bad policy in this matter could have completely ruined the peasants, the most vital and largest group of residents in the eyalet. That is why the solution had to be precise, give advantages compared to previous loaning practice and be free of weaknesses which could make it short-term.

In provinces such as the Eyalet of Niš at that time loans were given by money changers (saraflar), large merchants and landowners who used to collected the interest of 2, 3 or 4 percent (Rizaj, 1979, 71). Banks, as legal and more stable institutions, were also known in the Ottoman Empire at that time. The first banks in the Ottoman Empire were the Istanbul Bank (1847) and the Ottoman Bank (1856), however, both were founded with foreign capital and quickly went bankrupt (Durer, 1982, 156). As he used to practice, Midhat Pasha analyzed a group of cause-and-effect related problems and found a common solution for them. In this case it was the Homeland Fund (Memeklet sandık).

The Homeland Fund was a combined model of agricultural and credit cooperative. It was used to solve the problem of agricultural land that was neglected over time, so it did not bring income to the state; for farmers, the fund was an institution they could turn to for loans and, through stable operations, to become capital they could count on when they had to overcome famine year or other unpredictable difficulties which might befall their households. In order to achieve all this, Midhat Pasha undertook the following: he formed a team of people who visited the villages and registered the vacant arable land. For the transfer of these plots of land, the villages were motivated by various donations. The same team of people promoted Pasha's project to the villagers and encouraged their involvement in it. In this way, the fund acquired agricultural area that will serve as accumulators of its capital and manpower which will develop it. After that, the land was categorized by quality and the crops that were most suitable for certain plots were determined (Koç, 2004, 412). The state donated seeds, and the peasants who, with a small membership fee, became members of the fund's cooperative, formed groups that will cultivate the plots. As people with their entire families joined the fund, it was determined exactly how much each family would contribute according to the number of members. Regarding the management of the workforce, special attention was paid to the confessional affiliation of the members. The Muslims cultivated the common fields on Fridays, while the Christians did it on Sundays (Randjelović, 2022, 378). Peasants who joined the cooperative were obliged to cultivate the assigned field themselves and harvest or pick goods from it. The gathering was carried out under the supervision of the fund representative. After that, the goods were taken to local markets, where they were sold by auction. The sale was supervised by representatives of the local government and council elders from the village where the goods were brought (Aysu, 2021, 279). The money thus acquired was the capital of the Homeland Fund. When the capital reached the sum of 200 Ottoman gold liras, all the peasants who worked in the cooperative fields were given the right to take short-term loans from it (Oba & Özsoy, 2023, 59). Still, the work on cooperative fields was not a sufficient condition for obtaining a loan. In order for the loan to be approved, the peasants had to provide a guarantee or pledge a mortgage on the land or some other valuable asset. It was also allowed to combine these two methods. A for the loans, the Homeland Fund had a clear politics. The loan period shouldn't be less than 3 and longer than 12 months. Also, the upper limit for loan was 20 Ottoman gold liras. As for the interest, it was quite low. Only 1% per month (Aysu, 2021, 281).

The structure of the Homeland Fund consisted of a body of five people (two Muslims and two non-Muslims). The four of them worked as volunteers and were elected by members' vote. The fund was headed by a fund manager (sandık emini), a professional accountant and the only person who received a salary for his work. Once a year, a committee was formed to investigate the operations of the fund. The board was chaired by the highest local authority, and the members were the fund manager, local officials and prominent citizens. The board's tasks were to consider investments and distribute the realized profits. The latter was particularly important, since over time the Homeland Fund became a serious capital bearer and a significant factor in the public good policy of local authorities. In this regard, one-third of the profits were shared among the members, and two-thirds were used to help build schools, irrigation canals, and improve roads. All operations were limited by the fund's upper limit, so that its capital would not be endangered (Oba & Özsoy, 2023, 59).

Midhat Pasha's plan was that each kaza should have its own Homeland Fund, to which local town folk and peasants would turn. The first Homeland Fund was founded in Pirot in

1863, and already in the autumn that year the first loan was issued from it (Randjelović, 2022, 378). The reason for this was the fact that Pirot had strong tradesmen of ready money and the famous August fair that attracted artisans and merchants from the entire European part of the Ottoman Empire. After Pirot, the Homeland Fund was established in Niš, Leskovac and the rest of sandžak of Niš.

After the great success achieved by the Homeland Fund in the Eyalet of Niš, Midhat Pasha continued to advocate for the establishment of the Homeland Fund in all following positions he held. As the governor of the large Danube vilayet, which included the territory of the sandžak of Niš, Midhat Pasha presented his venture to the Sublime Porte and received its support. Thanks to this, the Homeland Fund was introduced into general use throughout the Ottoman Empire by a special regulation issued on July 25, 1867 (Tuncel, 2018, 203).

As for the operations of the Homeland Fund in the sandžak of Niš, data is scarce. However, it is possible to reconstruct its management in the period after the departure of Midhat Pasha in 1864. As Midhat Pasha, while being a governor of the eyalet, initiated the practice of founding new institutions and taking care of the public good, his successors on the seat in Niš continued with the same practice. Until 1878, that is, after the liberation of Niš and the southern part of central Serbia from the Ottomans, schools were built, public works were carried out, roads were maintained and various civic initiatives were supported in the towns of the sandžak of Niš. On the eve of liberation (1878), the capital of the Homeland Fund in the sandžak of Niš accumulated almost one and a half million grošes (Rizaj, 1979, 72), which is a large sum, especially due to the economic crisis that the Ottoman Empire was going through in the 1870s.

The fate of the Homeland Fund in the Ottoman Empire and the Novi Krajevi after 1878 is quite interesting.<sup>4</sup> Apparently, the new Serbian authorities did not abolish the Homeland Fund as an institution of the previous regime. On the contrary, after the modification Homeland Fund continued to function under the name Petinska kasa (The Fund of Fifths) for some time. In 1890, a proposal was submitted from Vranje to the National Assembly of the Kingdom of Serbia to return the Petinska Kasa into function, which indicates that it had been abolished by this time (Narodna skupština, 1890, 70). However, in 1908 National parliament debated to finance with the Petinska kasa (specifically named as *Menafi sanduk*) the building of a hospital in Zaplanje, County of Niš (Matić, 1998, 151). As a matter of fact, the money taken from this fund was also used for the construction of the lyceum in Niš and the waterworks in Zaplanje (Randjelović, 2022, 378). So, it seems that it lasted for some time.

Like the Ottoman Empire, the Homeland Fund had a hard time going through the economic crisis caused by the wars with Serbia and Russia and the bad consequences of the Congress of Berlin (1878). Until this period, there were already cases of bad management of the fund and selective granting of loans without economic justification and profit. Because of this, in 1883 the fund had to be reorganized into the Public Good Fund (Menafi sandık), however, five years later it had to be restructured again. Under the Land Law (August 15, 1888) the Public Benefit Fund became the Agricultural Bank (Ziraat Bankası), an institution whose primary activities were exclusively investing in agriculture and lending money to farmers (Ortabağ, 2018, 43). It has worked as such till nowadays.

<sup>&</sup>lt;sup>4</sup> Novi Krajevi (New Regions) is the name for the territory of the former sandžak of Niš, i.e. of the southern part of Central Serbia which the Serbs liberated from the Ottomans in the Second Serbian-Turkish War (1877–1878).

#### 5. Conclusion

Looking at Midhat Pasha's achievements in the Eyalet of Niš, especially the economic ones, from today's perspective gives a clear meaning to the socio-political development of this region after 1878. As the Serbian authorities in Novi Krajevi inherited developed economic relations after liberation, and found the city of Niš in a modest but advanced westernization, the only thing left was for the region's economy to develop strategically in the direction inherited from the previous Ottoman regime. With his traffic solutions, economic projects, incentives for agriculture and the recognition of farmers as a particularly important economic factor of the region, Midhat Pasha was a pioneer who contributed the most with his visions.

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