

Destination competitiveness and sustainability indicators: Implementation of the European Tourism Indicator System (ETIS) in Serbia

Marija Cimbaljević^{*1}, Milana Pantelić¹, Sanja Kovačić¹, Svetlana Vukosav¹

¹ University of Novi Sad, Faculty of Sciences, Department of Geography, Tourism and Hotel Management, Novi Sad, Serbia

Abstract: Incorporating sustainability into the Destination Management Organization (DMO) policies is important because it is a competitive factor. Additionally, this is due to the requirement for effective planning and the proper management of tourism development. To promote and evaluate the sustainability aspect of tourism destination competitiveness, it is essential to create a system of sustainable tourism indicators and ensure effective stakeholder involvement and communication as a key strategy for the implementation of the indicators. This paper addressed the issues of Serbian tourism stakeholders' awareness and knowledge regarding the importance of the European Tourism Indicator System (ETIS) for the evaluation of sustainability aspect of tourism destination competitiveness. The results indicate that there is a significant knowledge gap regarding the availability of sustainable indicators and collection methods. The authors suggest that significant efforts need to be made to raise awareness of ETIS and its importance for tourism destinations governance, while DMOs need to continuously improve the methods they use to collect key sources of information.

Keywords: European Tourism Indicator System (ETIS), destination competitiveness, sustainable tourism development, stakeholders' involvement

JEL classification: Z32, Z39

Indikatori konkurentnosti i održivosti destinacije: Implementacija Evropskog sistema indikatora turizma u Srbiji

Sažetak: Uključivanje održivosti u politiku destinacijske menadžment organizacije (*Destination Management Organization – DMO*) je važno jer predstavlja konkurentski faktor. Pored toga, podrazumeva i potrebu za efektivnim planiranjem i adekvatnim upravljanjem razvojem turizma. Za promovisanje i evaluaciju aspekta održivosti konkurentnosti turističke destinacije, neophodno je stvoriti sistem indikatora održivog turizma i obezbediti efektivno uključivanje zainteresovanih strana i komunikaciju kao ključnu strategiju za implementaciju indikatora. Ovaj rad se bavi pitanjima svesti i znanja

* marija.cimbaljevic@dgt.uns.ac.rs



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zainteresovanih strana u turizmu Srbije o značaju Evropskog sistema indikatora turizma (*European Tourism Indicator System – ETIS*) u proceni aspekta održivosti konkurentnosti turističke destinacije. Rezultati pokazuju da postoji značajan jaz u znanju u pogledu dostupnosti održivih indikatora i metoda prikupljanja. Autori sugerišu da su potrebni značajni naponi da se podigne svest o Evropskom sistemu indikatora turizma i njegovom značaju za upravljanje turističkim destinacijama, dok destinacijske menadžment organizacije moraju stalno da unapređuju metode pomoću kojih će prikupljati važne izvore informacija.

Ključne reči: Evropski sistem indikatora turizma, konkurentnost destinacije, održivi razvoj turizma, uključenost zainteresovanih strana

JEL klasifikacija: Z32, Z39

1. Introduction

Nowadays, the tourism competitiveness of certain destinations is inevitably linked with destination sustainability, as tourism development can be seen as fully beneficial only in its sustainable form (Ritchie & Crouch, 2000). If not managed sustainably, tourism can cause a plethora of negative effects on local communities, biodiversity and ecosystems (UNWTO, 2017). The majority of EU Policies for tourism highlight the sustainability issue as one of the key aspects of destination successful development. This is why many destinations have tried to develop and implement various systems of sustainable indicators (Fernandez-Tabales et al., 2017; Ocampo et al., 2018; Tshipala et al., 2019), with even the European Commission (2007) calling for such measures. One of the indicator systems that is most widely accepted and implemented in European destinations is the European Tourism Indicator System (ETIS), developed by the European Commission in 2013. After being tested in over 100 countries, the tool was revised in 2016 and now contains 43 indicators (European Commission, 2016). This indicator system relies on the stakeholder engagement in measuring the implementation of tourism-sustainable indicators in destination development, and such an approach is widely encouraged by academia and practitioners (Pérez et al., 2017). The tool was created to support sustainable destination management through monitoring, managing and improving sustainable development (Tudorache et al., 2017).

However, some problems often occur in monitoring and implementation of the indicators due to a lack of information, an undeveloped monitoring system, or data collection issues (Gasparini & Mariotti, 2021). This is especially the case with less developed countries such as Serbia, as they often lack centralized monitoring systems and analytics for such data collection. Moreover, apart from the lack of available data, a lack of awareness of sustainability issues' importance could prevent successful indicator monitoring. Although monitoring indicators can be very challenging, the need for improved planning and policy related to sustainable destination management is especially important for the tourism competitiveness of such countries. With this in mind, and given the lack of studies of the implementation of ETIS in less developed countries, this study aims to explore the possibilities and awareness of the need to implement such a system in less developed countries such as Serbia. The current study is the first to explore the perceptions of tourism stakeholders in Serbia regarding the importance of ETIS indicators in the evaluation of the sustainability aspect of tourism destination competitiveness. Additionally, the study explores the level of knowledge and information of stakeholders about individual indicators, which could shed some light on the possibilities of ETIS implementation in Serbia and barriers that may occur during that process. Contrary to previous studies on ETIS implementation, this study explores important issues prior to the actual tool implementation, such as the availability of information needed for indicator evaluation and the level of stakeholders' knowledge to evaluate indicators. In this way, less developed countries could identify

possible implementation issues before the actual implementation phase and try to overcome and surpass those challenges prior to the evaluation and monitoring phase. Thus, the paper opens some discussions related to the proving monitoring system of sustainable indicators in developing countries, demonstrating the importance of such a process for destination competitiveness in the example of Serbia.

2. Literature review

In order to establish the guiding principles of sustainable tourism, promote the idea as a whole, and attain competitiveness in the tourism market, it is critical to determine the process of developing indicators that will make sustainable tourism operational (Blancas et al., 2015; European Commission, 2007). Sustainable tourism indicators represent an important instrument in the processes of measuring the impact of sustainable tourism, as well as tourism planning and monitoring processes for the purpose of lowering potential risks in tourist destinations (Matiku et al., 2020). However, for sustainable development to be measured and monitored, the decision-making process itself and development policy must be realistically applicable (Liu, 2003; Tudorache et al., 2017). As certain authors state, indicators can be important in raising awareness of tourism and conveying influence to all stakeholders in order to encourage their involvement in the industry's development and heighten decision-maker's accountability (Moreno Pires et al., 2014). According to UNWTO (2004), the indicators only restructure the destination's existing data in order to better connect it to sustainability issues. They do not add to the amount of information available.

Several approaches have been proposed to establish sustainable tourism indicators. Tanguay et al. (2013) suggested seven selection criteria for developing an indicator system. The system's primary indications must adhere to scientific standards and be pertinent to decision-makers. This means that the fundamental standards of sustainable development should be aligned with the destination's policy objectives and top priorities of the destination. Kristjansdottir et al. (2018) emphasize the importance of creating integrated sustainable tourism indicators aimed at supporting decision-makers and policy in assessing the varied functions of tourism within composite socio-ecological systems.

There is no uniform indicator set that can be used in all situations and circumstances for the construction of sustainable tourism indicators (Ocampo et al., 2018). In recent years, indicators for sustainable tourism have been developed for various applications and geographical areas due to the underlying variations in their unique conditions and requirements (Brătucu et al., 2015; Cannas & Theuma, 2013; Dulyadaweesid & Sirisunhirun, 2018; Huang & Coelho, 2017; Tshipala et al., 2019). The key theme in the literature on sustainable tourism indicators relates to the establishment of indicators to facilitate information gathering (Font et al., 2021; Torres-Delgado & Saarinen, 2014), the context of sustainable tourism policy implementation (Blancas et al., 2011; Fernandez-Tabales et al., 2017; Ocampo et al., 2018; Tshipala et al., 2019), indicators that have the potential as a tool for tourism planning (Brščić et al., 2020; Font et al., 2021; McLoughlin et al., 2018; Núñez-Lara et al., 2015). Further, sustainability indicators have also been developed "through the lens of the local community" (Islam et al., 2021, p. 1658), emphasizing the examination of how sustainability indicators are integrated within the smart paradigm within a smart tourism and smart destination context (Foronda-Robles et al., 2020; Ivars-Baidal et al., 2021). Taking into account sustainable tourism indicators as crucial guidance for community-driven tourism initiatives, all-stakeholder-oriented models were proposed (Chris Choi & Sirakaya, 2006; Matiku et al., 2020).

Numerous sets of indicators have been created in an effort to apply the concept of sustainable tourism in practice. Also, previous research provided several options for scaling down a

sizably large number of indicators to match a particular situation and measure sustainability. [Blancas et al. \(2018\)](#) used the following six criteria to narrow down the indicator set from the UNWTO framework (presented from 1996 to 2004) to 65 indicators: usability in the decision process, frequency of usage, the relevance of the indicators that are more closely related to the evaluated issue, conceptual coverage to assess every component of sustainability that is thought to be important, temporality, and availability of statistical data. [Lee and Hsieh \(2016\)](#) in Taiwan's wetland reduced the indicators to 141 indicators through the Fuzzy Delphi approach and, based on expert evaluation, divided them into two systems: the ecological and the human system. However, [Torres-Delgado and López Palomeque \(2014\)](#) emphasize that the system offers additional and varied information, compared to what is presented by a single indicator, thus combining these two methods for sustainability measurement can be a good option. Similarly, [Ocampo et al. \(2018\)](#) identify 39 sustainable ecotourism indicators (out of 666) for the Philippine ecotourism sites that represent the interests of the various stakeholders and can be used in a developing country with conditions comparable to those in the Philippines. This approach allows greater flexibility because decision-makers have a simpler approach in situations where an increase or decrease of indicators is required. [Tshipala et al. \(2019\)](#) identified the key indicators for fostering sustainable adventure tourism and categorized them into three fundamental groups: Conserving resources; Reducing pollution; Conserving biodiversity, ecosystems and landscapes. Authors state that it is not enough to develop indicators, moreover, it is important to adopt a sustainable strategy in almost all aspects of development in order to enrich cultural legacy, minimize any unfavorable effects on the environment, and maximize socio-economic advantages for communities.

One of the topics the literature addresses concerns whether the indicators should be comprehensive or tailored to the context, i.e. destination features ([Moreno Pires et al., 2014](#)). In this regard, several viewpoints equally advocate adopting only those indicators required for monitoring the development of tourism, as well as flexibility in the selection of indicators owing to various conditions at the destination. [Rasoolimanesh et al. \(2020\)](#) suggest that both subjective and objective indicators should be explored with the aim of achieving sustainable development. Therefore, it is equally important to examine indicators measuring of tourism income, employment rates, evaluation tools like energy efficiency, biodiversity conservation, etc., in addition to context-based indicators, such as the stakeholder's perception, attitudes or experiences. Another discussion relates to stakeholders in the assessment of indicators. The literature shows that businesses, government and residents are key actors in studies on sustainable tourism indicators, with tourists being the least involved group of stakeholders ([Rasoolimanesh et al., 2020](#)). Certainly, a deeper understanding of the significance of sustainable tourism indicators requires stakeholders' engagement and communication as a key strategy for indicator implementation ([Cannas, 2019](#)). [Font et al. \(2021\)](#) highlight that there is significant variation in the number of sustainable tourism indicators integrated into the statistical systems of different destinations. Economic statistics are typically easy to obtain, whereas the most difficult data to gather are environmental and social impact indicators. In addition to sustainable indicators, there are also smart indicators that develop and improve progressively. They contribute to sustainability indicators in many ways, and what stands out, in particular, is an integration of technology and innovation components, which could encourage green innovation processes and point out the importance of socioeconomic and tourism digitalization ([Ivars Baidal et al., 2021](#)).

In recent years, an increasing number of researchers and institutions emphasize the need for the development of more comprehensive indicators of sustainable tourism, as well as the need to combine available and create a system of indicators that links tourism with ecological, social, and economic issues in the destination ([Pivčević et al., 2020](#)). So far,

organizations such as UNWTO, OECD, European Commission (EC) have contributed to the development of substitute sets of sustainability indicators. Among these indicator frameworks, the European Commission introduced the ETIS in 2013 with the aim of monitoring sustainability, providing valuable tools for policymakers and stakeholders to enhance the management of tourism destinations (European Commission, 2016; Tudorache et al., 2017) and achieve economic benefits (Önder et al., 2017). ETIS points to the importance of evidence-informed planning and highlights the need for indicators that go beyond the capacity and spending of tourists (McLoughlin et al., 2018), therefore its “monitoring results are based on data collection and analysis by the destinations themselves” (European Commission, 2016).

Although many destinations have expanded the knowledge of ETIS, emphasizing the advantage of the methodology and common framework for European destinations (Law et al., 2017), only a small number of destinations have been able to continue producing ETIS-informed indicators (Font et al., 2021). As stated by Golja and Slivar (2014), some barriers were found in the implementation of this system, such as inadequacy of data, short-term approach to the destination, lack of financial resources and difficulties in involving stakeholders. Anyway, it is established that ETIS is recognized as a significant instrument for impacting destination management and governance, and there is a number of research focused on examining the implementation of ETIS (Cannas & Theuma, 2013; Font et al., 2021; Krajnović et al., 2020; Law et al., 2017; Tudorache et al., 2017).

Torres-Delgado and López Palomeque’s (2014) study focused on the ETIS implementation in Barcelona to evaluate the level of sustainability of 35 tourism locations. Similar to what Golja and Slivar (2014) note, certain shortcomings were observed during implementation, including a lack of information and challenges when interpreting the results for some indicators, difficulties involving various stakeholders given the need for collaboration and data sharing, and the fact that some of the data was outdated and had not been updated. Cannas and Theuma (2013) focus on the implementation of ETIS in Malta. The authors emphasize that the main aspect of ETIS is the elimination of gaps between different stakeholders, engaging them in the process of planning and developing sustainable tourism, including raising awareness of sustainable principles. Two studies undertaken in Braşov (Romania), where a system of sustainable tourism indicators has been developed, could also be added. Brătucu et al. (2015) identified a total of 27 indicators as a part of the ETIS, divided into four categories: social and cultural impact, economic value, destination management, and environmental impact. Tudorache et al. (2017) emphasize that the selection of ETIS indicators is an adaptable procedure that must be tailored to the features of each destination, taking into consideration the needs of interested parties, the availability of useful information and their periodicity. Additional indicators, also tailored to destination’s needs, should be used when some of the available indicators are just insufficient for assessing sustainable development (Tudorache et al., 2017). Moreover, the literature clearly emphasizes the importance of involving all stakeholders in the development and implementation of the indicator system.

3. Methodology

According to previous literature indicators it is important to point out that there is no uniform indicator set that can be used in all situations and circumstances to create of sustainable tourism indicators. This research was conducted according to the ETIS program, which consists of 43 main indicators. The study included a total of 51 tourism stakeholders from various organizations and institutions in the field of tourism in Serbia. The main characteristics of respondents are shown in Table 1.

Table 1: Study sample characteristics

Gender	%	Type of organisation	%
Male	23.5	Tourist Organization	82.4
Female	76.5	Hotel	3.9
Age		Travel Agency	1.9
up to 24	2.0	Nongovernment organization	1.9
25-35	29.0	Development agency	3.9
36 – 45	49.0	Public institution	1.9
over 46	20.0	Regional Development Agency	1.9
Work experience	%	Institution for cultural activities, tourism and librarianship	1.9
up to 5 years	25.5		
5 – 10 years	39.2		
10 – 20 years	33.3		
more than 20 years	2.0		

Source: Authors' research

The data were collected through a survey consisting of two main parts. The first part contained the general sociodemographic characteristics of respondents. The second part included 43 ETIS indicators. First, the respondents were asked to rate on a five-point Likert scale (1-not important at all, 5 - very important) how important each indicator is in the context of measuring the tourism destination competitiveness of Serbia. Afterwards, the respondents were asked to estimate how much data is available for the mentioned indicators at the level of Serbia or individual destinations in Serbia, using the following scale: 1 –they are not available, 2 - I do not know, 3 - they are available at the level of individual municipalities, regions, 4 - they are available at the state level.

The online survey was conducted from June to October 2022. The researchers made a database of the main tourism stakeholders in Serbia, containing around 250 contacts from all regions. The collected data were analysed by Statistical Software for Social Sciences (SPSS) version 23.

4. Results

Representatives of the tourism industry assessed the importance of certain ETIS indicators in the context of measuring Serbia's competitiveness as a tourist destination. Out of the total 43 indicators, 22 indicators (51%) were rated with a mean score of more than 4, which means that respondents believe that the proposed indicators are important or even very important when it comes to measuring Serbia's competitiveness as a tourist destination, 20 indicators were rated with a mean of more than 3, while only one indicator (percentage of tourism companies in which a woman holds the position of managing director, 2.92) was rated with a mean of less than 3, and respondents consider it unimportant when it comes to assessing the competitiveness of a destination. The most important indicators, i.e., those with the highest mean values, stand out: percentage of visitors satisfied with their overall experience in the destination, percentage of repeat/return visitors (within 5 years), daily spending per overnight tourist, the average length of stay of tourists (nights) and a number of tourist nights per month.

The results show that respondents with less than 10 years of professional experience in tourism rate the importance of the indicator slightly higher than respondents whose professional experience in tourism is longer than 10 years. The differences in respondents'

answers are not large and only 17 indicators (39.5%) show some statistical significance, mostly at the $p < 0.05$.

Regarding the availability of data for the above indicators, the respondents believe that for most of the indicators (83.7%), particularly environmental indicators, either no data is available or that they, as representatives of the tourism industry, do not have information on whether it is available. Only for 7 indicators (16.3%) do respondents believe that data is available at the level of individual municipalities/regions or at the national level.

Table 2: Importance of ETIS in measuring Serbia’s competitiveness as a tourist destination and assessment of data availability

	N	Indicators	Importance		Data availability*	
			Mean	Std	Values	%
Destination management	1	Percentage of tourism enterprises/ establishments in the destination using a voluntary verified certification/ labelling for environmental/quality/ sustainability and/or CSR measures	3.96	0.871	1	9.8
					2	64.7
					3	23.5
					4	2.0
	2	Percentage of visitors satisfied with their overall experience in the destination	4.76	0.586	1	9.8
					2	25.5
					3	51.0
					4	13.7
	3	Percentage of repeat/return visitors (within 5 years)	4.63	0.631	1	13.7
					2	43.1
					3	33.3
					4	9.8
Economic value	4	Number of tourist nights per month	4.47	0.731	1	0.0
					2	0.0
					3	37.3
					4	62.7
	5	Number of same-day visitors per month	4.06	0.732	1	7.8
					2	29.4
					3	45.1
					4	17.6
	6	The relative contribution of tourism to the destination’s economy (% GDP)	4.45	0.808	1	0.0
					2	13.7
					3	37.3
					4	49.0
	7	Daily spending per overnight tourist	4.61	0.532	1	9.8
					2	39.2
					3	39.2
					4	11.8
	8	Daily spending per same-day visitors	4.43	0.608	1	11.8
					2	52.9
					3	29.4
					4	5.9
	9	The average length of stay of tourists (nights)	4.49	0.703	1	0.0
					2	7.8
					3	33.3

					4	58.8
	10	The occupancy rate in commercial accommodation per month and the average for the year	4.37	0.720	1	2.0
					2	23.5
					3	33.3
					4	41.2
	11	Direct tourism employment as percentage of total employment in the destination	4.31	0.735	1	0.0
					2	31.4
					3	33.3
					4	35.3
	12	Percentage of seasonal jobs in tourism	4.02	0.787	1	2.0
					2	39.2
					3	47.1
					4	11.8
	13	Percentage of locally produced food, drinks, goods and services sourced by the destination's tourism enterprises	4.45	0.673	1	7.8
					2	37.3
					3	49.0
					4	5.9
Social and cultural impact	14	Number of tourists/visitors per 100 residents	3.94	0.759	1	0.0
					2	25.5
					3	33.3
					4	41.2
	15	Percentage of residents satisfied with tourism in the destination (per month/season)	4.33	0.683	1	7.8
					2	39.2
					3	39.2
					4	13.7
	16	Number of beds available in commercial accommodation establishments per 100 residents	4.31	0.648	1	0.0
					2	21.6
					3	47.1
					4	31.4
	17	Number of second homes per 100 homes	3.63	1.183	1	7.8
					2	43.1
					3	37.3
					4	11.8
	18	Crime rate - Percentage of tourists who register a complaint with the police	4.00	1.000	1	7.8
					2	58.8
					3	19.6
					4	13.7
	19	Percentage of men and women employed in the tourism sector	33.22	1.316	1	5.9
				2	43.1	
				3	29.4	
				4	21.6	
20	Percentage of tourism enterprises where the general manager position is held by a woman	2.92	1.262	1	7.8	
				2	41.2	
				3	37.3	
				4	13.7	
21	Percentage of rooms in commercial accommodation establishments accessible for people with disabilities	4.16	0.809	1	5.9	
				2	39.2	
				3	39.2	

					4	15.7
	22	Percentage of commercial accommodation establishments participating in recognized accessibility information schemes	3.76	0.764	1	7.8
					2	49.0
					3	33.3
					4	9.8
	23	Percentage of public transport accessible to people with disabilities and specific access requirements	4.10	0.831	1	5.9
					2	49.0
					3	35.3
					4	9.8
	24	Percentage of tourist attractions accessible to people with disabilities and/or participating in recognized accessibility information schemes	4.22	0.702	1	5.9
					2	37.3
					3	51.0
					4	5.9
	25	Percentage of residents satisfied with the impacts of tourism on the destination's identity	4.14	0.800	1	9.8
					2	43.1
					3	37.3
					4	9.8
	26	Percentage of the destination's events focused on traditional/local culture and heritage	4.24	0.764	1	2.0
					2	33.3
					3	52.9
					4	11.8
Environmental impact	27	Percentage of tourists and same-day visitors using different modes of transport to arrive at the destination (public/private and type)	3.59	0.876	1	3.9
					2	49.0
					3	37.3
					4	9.8
	28	Percentage of visitors using local/soft mobility/public transport services to get around the destination	3.76	0.839	1	9.8
					2	47.1
					3	37.3
					4	5.9
	29	Average travel (km) by tourists and same-day visitors from home to the destination	3.59	1.043	1	15.7
					2	51.0
					3	19.6
					4	13.7
	30	Average carbon footprint of tourists and same-day visitors travelling from home to the destination	3.47	1.065	1	13.7
					2	62.7
					3	19.6
					4	3.9
	31	Percentage of tourism businesses involved in climate change mitigation schemes—such as: CO ₂ offset, low energy systems, etc.—and “adaptation” responses and actions	3.63	0.958	1	11.8
					2	56.9
					3	21.6
					4	9.8
	32	Percentage of tourism accommodation and attraction infrastructure located in “vulnerable zones”	3.67	1.033	1	3.9
				2	64.7	
				3	23.5	
				4	7.8	
33	Waste production per tourist night compared to general population waste production per person (kg)	3.63	0.916	1	13.7	
				2	58.8	
				3	21.6	

					4	5.9
	34	Percentage of tourism businesses separating different types of waste	4.00	0.748	1	9.8
					2	56.9
					3	27.5
					4	5.9
	35	Percentage of total waste recycled per tourist compared to total waste recycled per resident per year	3.51	0.967	1	11.8
					2	60.8
					3	25.5
					4	2.0
	36	Percentage of sewage from the destination treated to at least secondary level prior to discharge	3.63	0.958	1	9.8
					2	64.7
					3	19.6
					4	5.9
	37	Water consumption per tourist night compared to general population water consumption per resident night	3.57	0.878	1	11.8
					2	56.9
					3	23.5
					4	7.8
	38	Percentage of tourism enterprises taking actions to reduce water consumption	3.63	0.848	1	5.9
					2	56.9
					3	29.4
					4	7.8
	39	Percentage of tourism enterprises using recycled water	3.45	0.923	1	13.7
					2	52.9
					3	27.5
					4	5.9
	40	Energy consumption per tourist night compared to general population energy consumption per person night	3.47	1.027	1	13.7
					2	52.9
					3	23.5
					4	9.8
	41	Percentage of tourism enterprises that take actions to reduce energy consumption	3.61	1.002	1	13.7
					2	52.9
					3	21.6
					4	11.8
	42	Percentage of annual amount of energy consumed from renewable sources (Mwh) compared to overall energy consumption at destination level per year	3.55	0.986	1	9.8
					2	52.9
					3	25.5
					4	11.8
	43	Percentage of local enterprises in the tourism sector actively supporting protection, conservation, and management of local biodiversity and landscapes	4.06	0.904	1	5.9
					2	41.2
					3	41.2
					4	11.8

Note: 1 – not available, 2 – not known, 3 – available at the level of individual municipalities and regions, 4 – available at the national level

Source: Authors' research

5. Discussion and conclusions

Most tourism destinations, especially developing countries such as Serbia, have not yet reached the transformational stage, which involves implementing organizational changes in working methods as a result of collecting sustainability indicators. One of the most challenging tasks a destination management organization must complete is using indicators to pinpoint the need for change. Finding key areas where real action is required is frequently difficult and laborious. Therefore, this paper addressed the issues of tourism stakeholders' awareness and knowledge of the importance of individual ETIS indicators in evaluating the sustainability aspect of tourism destination competitiveness. The research findings indicate that the monitoring system for ETIS indicators in Serbia could be quite complex. According to the respondents' feedback in Table 2, a significant portion of stakeholders perceive obtaining data for most indicators as challenging. Consequently, the implementation of ethos indicators could face numerous initial hurdles. This primarily pertains to the collection and dissemination of data at both the local and national levels, including statistical information related to several quantitative indicators, which stakeholders have identified as crucial. These indicators hold significant importance and offer valuable insights for individuals tasked with managing tourist destinations (including the percentage of visitors who express satisfaction with their overall destination experience, percentage of repeat/return visitors (within 5 years), daily spending per overnight tourist, etc). Nonetheless, the results suggest there is potential for enhancement since respondents have a certain level of awareness regarding the significance of sustainable indicators in assessing competitiveness. They are capable of offering valuable recommendations for gathering data that has not been adequately monitored thus far.

The examination of stakeholders' perceptions regarding ETIS use in monitoring and measuring destinations' sustainability sheds light on a number of important issues. First of all, to track tourism in their region, policy makers typically rely on a small set of information, such as number of visitor arrivals, repeated visits, tourism employment and visitor satisfaction scores ([European Commission, 2013](#)), or they have relied on traditional metrics like GDP. According to the stakeholders' opinion, this study revealed that the most important indicators are those related to tourist arrivals data and their satisfaction. However, the whole picture of tourism's effects is not provided by these numbers. Destinations can better understand the situation by gathering data on a variety of topics related to how tourism affects the local economy, community, and environment. These indicators were singled out because the respondents believe their measurement is feasible under the given conditions. When it comes to surveys examining the satisfaction of tourists, they were most often conducted for the purposes of preparation of strategic documents - by the Statistical Office of the Republic of Serbia, but the survey is not conducted periodically ([RZS, 2021](#)). In order to monitor the above-mentioned indicator, it is necessary to conduct research in municipalities and tourism destinations in Serbia according to the proposal of the [European Commission \(2013\)](#). According to Serbian stakeholders, the indicator that shows the percentage of repeated visits is of great importance, but the availability of data is still insufficient. It is crucial to keep monitoring the percentage of repeat visitors. For example, the data from the [RZS \(2021\)](#) show that among the foreign tourists who visited Serbia in 2021, 64% had already visited the country before, while 36% visited Serbia for the first time. Notably, variations in tourist loyalty toward Serbia were anticipated based on the tourists' countries of permanent residence. Visitors from neighboring countries exhibited greater familiarity with Serbia's offerings (only 10% of them were in Serbia for the first time), whereas among tourists from Asia, 79% of all tourists were in Serbia for the first time. The ratio of repeat visitors/returning visitors (Table 2) is very important because returning visitors often provide greater economic benefits.

Besides this, previous studies have revealed some barriers to applying ETIS, such as the difficulty for stakeholders to contribute data, the lack of reliable data, insufficient knowledge required for new field research, and the unavailability of certain indicators. According to stakeholders in Serbia, for most indicators, either data are not available or they think that there is no information on whether they are available. Besides that, another problem regarding the availability of the indicators data relates to environmental data. Although there have been previous studies that address sustainable tourism development and environmental management, particularly in protected areas in Serbia (e.g., [Obradović and Stojanović, 2022](#); [Stojanović et al., 2014](#), [Stojanović et al., 2021](#)), the country is at the very back in these areas in comparison to other countries in the region (WEF, 2022 in [Cimbaljević et al., 2023](#)). The [European Commission \(2013\)](#) notes that it is initially difficult to obtain data for all indicators and suggests collecting data for those indicators for which data can be obtained and then considering, with the involvement of relevant stakeholders in the group, what data could be collected in the future. Namely, Serbia has not yet developed an appropriate system for monitoring tourists in terms of their impact on water consumption, electricity, air pollution or waste generation. Also, there are no available data on how much tourism businesses invest in the protection of the environment and natural resources. First and foremost, there is a need to raise awareness of the importance of environmental indicators for sustainable tourism development in Serbia and for improving its competitive position in the international tourism market. On the other hand, social indicators are singled out that stakeholders believe are less important and for which data do not exist or are more difficult to access. In this category, it is more difficult to obtain statistical data at the local level, and quite often the methodologies differ.

Additionally, when a destination determines to use ETIS to measure its sustainability, it is crucial to involve as many local stakeholders as possible and compile all relevant data in one location to create a comprehensive picture of the destination and tourism development. This can be an effective way to raise awareness of tourism stakeholders about the value of the destination and its engagement in sustainable tourism management, as well as to promote the future initiatives brought by the outcomes of the indicators' measurement. Also, it could be effective strategy to develop a common understanding of sustainable tourism.

Something that the management of the destination should pay attention to when improving the monitoring system of sustainable indicators in developing countries is the time frame for data collection, particularly when it comes to economic and social data, in order to avoid system efficiency reductions. It implies that it is crucial to improve data collection methods and procedures first. The suggested course of action for Serbia is to initially gather data for indicators that are currently obtainable, and subsequently, once a more robust collaboration is established consider the potential collection of data for other indicators. Stakeholders should increase their awareness of the significance of generating additional data for decision-making. Incorporating the list of supplementary indicators that can be adjusted for a specific type of destination could be crucial in measuring and monitoring destination sustainability. It could include some sustainability indicators that are considered under the smart paradigm within a smart tourism and smart destination context. It should certainly be borne in mind that some sustainability measurement indicators are more challenging to include due to their technological nature, but the one that should not control the results can be used. As stated by [Ivars-Baidal et al. \(2021\)](#), to aid in decision-making, these indicators must be highly analytical, reflect systemic relationships, and be interoperable. However, consensus should be reached in defining supplementary indicators. It means it is crucial to establish an objective for measuring sustainability, so that all stakeholders comprehend and agree, regardless of the motives they have. The reliable and verified indicators can help destination managers make the necessary decisions to avoid resource waste and improper use. Verified

indicators as ETIS, can assist developing countries such as Serbia, in becoming competitive and sustainable in tourism development.

In summary, to a certain extent, different stakeholders in Serbia have acquired knowledge about the importance of sustainability indicators, but there is still a significant knowledge gap in terms of data availability and collection methods. Significant efforts are required to raise awareness of ETIS or sustainable tourism indicators in general and its role in tourist destination governance and DMOs must continually improve the methods by which they will gather important sources of information. In addition, it is important to learn to cooperate with other stakeholders, to come to an understanding of what data is reliable, how to interpret it, and what are implications for future activities.

This research served as the foundation for the future involvement of stakeholders in the assessment and tracking of the sustainable tourism development indicator system, aligning with the guidance outlined in ETIS standards. Indicators of sustainability can help stakeholders make wiser decisions and take more effective action in monitoring sustainable development, and then achieving the competitiveness of the tourism destination. As stated in previous research (Moreno Pires et al., 2014; Pérez et al., 2017; Rasoolimanesh et al., 2020) and it can also be observed in the case of Serbia, the active participation of stakeholders represents a very important basis in the assessment of sustainability and the environment management processes, and further in achieving and maintaining a competitive position in the international tourism market.

6. Implications for further research

One of the main limitations of the study concerns the uneven distribution of respondents' backgrounds, with a majority being employed in tourism organizations. A certain number of respondents stated that they are not competent to assess the importance of certain indicators, which clearly implies the importance of the data availability, data sharing, and a deeper understanding of collection methods.

In terms of further research, it is suitable to propose a model of additional indicators that can be put into use in Serbia. This means that in order to measure sustainability and competitiveness, it is useful to propose additional subjective and objective indicators so that there is no excessive variation from one destination to another. In this way, different stakeholders in their destinations can have a deeper understanding of the importance of each indicator within the ETIS and the possibility to adapt a complementary and more comprehensive set of indicators in accordance with the characteristics of the destination. This could also mean including additional indicators specific to a particular destination, e.g., mountainous regions, spas, villages, etc., due to the underlying variations in their unique conditions. Also, in order to implement this goal, conducting a case study would be important in order to avoid stakeholders' perceptions of ETIS as merely a statistical tool, and also to avoid a lack of indicators understanding.

Furthermore, it would be useful to conduct similar research in other developing countries and examine whether there are differences in the perception of the importance of ETIS indicators for measuring sustainability. Later, time comparisons could be made regarding stakeholders' involvement in measuring the implementation of tourism sustainability indicators. It is a prerequisite for implementing good practices in monitoring sustainable policies and destination competitiveness.

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Conflict of interest

The authors declare no conflict of interest.

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