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CYCLING TOURISM DEVELOPMENT IN ISTRIA COUNTY FROM THE PERSPECTIVE OF LOCAL STAKEHOLDERS

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Abstract

Sustainable tourism development in the destination can be strengthened by connecting sports and tourism into a unique form of tourism - sports tourism. Cycling tourism is one of the most popular parts of sports tourism, but the efficient development of cycling tourism implies the involvement of local stakeholders. The main goal of the research presented in the paper was to determine to what extent the local stakeholders in cycling tourism, based on the experience gained so far, consider that cycling tourism contributes to the benefit and sustainable tourism development in Istria County and which elements they considered as the most important to make the development of cycling tourism possible. The results show that continuous collaboration and education and the involvement of the local community are the keys to development of cycling tourism in the destination and that cycling tourism has a positive effect on economic, environmental and socio-cultural sustainability. Also, cycling tourism can influence the reduction of tourism seasonality in tourism destinations. A linear combination of variables - Principal Component Analysis (PCA) was used for data analysis in the combination with Kaiser-Meyer-Olkin (KMO) test and the measurement of the reliability by the Cronbach's alpha coefficient. The results of the study can serve as an informative background on the future planning of cycling tourism in Istria and other similar Mediterranean destinations.

Keywords: cycling tourism, sustainable tourism development, local cycling tourism stakeholders, stakeholders' perspective, Istria County

1. INTRODUCTION

As the UNWTO states, sustainable tourism is "tourism that takes full account of its current and future economic, social, and environmental impacts, addressing the needs of visitors, the industry, the environment, and host communities" (UNEP & UN Tourism, 2005). Guidelines and management practices for the development of sustainable tourism can be adapted to any type of tourism and in all destinations (UNEP & UN Tourism, 2005). However, applying sustainable tourism in practice is often challenging, mostly due to the very predisposition of the tourism sector and tourism products, the disconnection of stakeholders during decision-making, and the lack of synergy between a wide number of stakeholders whose goal will be the development of tourism in the same direction (Berno & Bricker, 2001). In general, the development of tourism in the destination must be in accordance with the concept of sustainable tourism, which usually results in satisfied local communities and satisfied tourists. This philosophy is shared by World tourism organisations, which develop citizens' awareness and encourage tourist destinations to develop sustainable tourism (Haid & Albrecht, 2021; UNEP & UNWTO, 2005).

In the context of solving this challenge, special interest tourism plays an important role. The development of different special interest tourism enables the tourist destination to additionally satisfy the needs and expectations of tourists, thus increasing the destination's competitiveness (Smith, 1994). Smith (1994) states that the structure of the tourism product is complex and that it consists of five elements: the physical plant, service, hospitality, freedom of choice, and involvement. UNWTO defines that "a tourism product is a combination of tangible and intangible elements, such as natural, cultural, and man-made resources, attractions, facilities, services, and activities around a specific centre of interest, which represents the core of the destination marketing mix and creates an overall visitor experience, including emotional aspects for the potential customers" (UNWTO, 2024).

The primary tourism products in the destination influence the tourists' decision on whether to visit a destination or not (Benur & Bramwell, 2015). Primary tourism products depend on the physical, environmental and socio-cultural characteristics of the destination (Jafari, 1979). In the context of sustainability, a sustainable tourism product also depends on the key characteristics of the destination; however, when developing such a product, it is necessary to realise the positive impact and benefits for the environment, local community, and culture (Haid & Albrecht, 2021). In this sense, outdoor tourism is receiving increasing attention from stakeholders on the supply side but also from tourists on the demand side. One of the most popular forms of outdoor tourism is cycling tourism (Gazzola, Pavione, Grechi & Ossola, 2018).

Cycling tourism has a positive effect on the destination and the local population if its development and management are in accordance with the principles of sustainable development (Budeanu, 2005; Kilipiris & Zardava, 2012). For this reason, the increasing popularity of cycling tourism requires the significant engagement of local cycling tourism stakeholders (Piket, Eijgelaar & Peeters, 2013). Looking at the regional level, i.e., the situation in Istria County, as the most developed cycling tourism

destination in the Republic of Croatia, the development of cycling tourism is receiving more and more attention from the public and private sectors. Istria County is recognised by regional tourism stakeholders and tourists from foreign markets as a destination with good conditions for the development of cycling tourism (Brščić, Breščić & Šugar Korda, 2021; Ćućić, Herceg, & Horvatin, 2024; Šobot, Gričar, Šugar, & Bojnec, 2024).

In addition to favourable weather conditions throughout most of the year, Istria has a rich natural, historical, and cultural heritage that is an important additional element for cycling tourists. Moreover, the development of cycling tourism in Istria County is recognised as an essential part of the tourist offer of the destination. Therefore, given the above, and the observed gap in the previous research in the field of cycling tourism, this paper will present the results of the research conducted with local stakeholders in cycling tourism in Istria County. The main goal of this paper was to determine to what extent the local stakeholders in cycling tourism, based on the experience gained so far, consider that cycling tourism contributes to the benefit and sustainable tourism development in Istria County, and, in this sense, to consolidate which elements they consider most important to make the development of cycling tourism in the destination possible.

2. LITERATURE REVIEW

2.1. Local stakeholders in tourism

The tourism sector is a combination of a large number of stakeholders, and only with the support, commitment, and cooperation of stakeholders is it possible to develop sustainable tourism in the destination (Roxas, Rivera & Gutierrez, 2020; Halme, 2001). Tourism management is often challenging precisely in the field of connecting stakeholders and their interaction in the context of implementing the principles and practices of sustainable tourism (Roxas et al., 2020). Authors Duarte Alonso & Nyanjom (2017) identified four groups of local stakeholders according to their roles: tourism advocates, brand developers, reluctant followers, and conservative residents. Also, local stakeholders in the tourism development process can be included formally and informally. In the process of choosing stakeholders, it is necessary to take into account the characteristics of the destination (Byrd, 2007), and stakeholders can be categorised as internal or external (Vrontis, Christofi, Giacosa, & Serravalle, 2022). There are four main groups of stakeholders: tourists, residents, entrepreneurs, and local government officials (Goeldner & Ritchie, 2007). Magaš et al. (2018) indicate three main categories of stakeholders: social level, legal organisation, and professional division.

Destinations that are more successful in implementing the principles of sustainable tourism often differ from less successful destinations according to the degree of management efficiency (Roxas et al., 2020), respectively, on the level of involvement and the roles played by local stakeholders (Amerta, 2017). The support of local tourism stakeholders is crucial for the successful implementation of sustainable development in the destination (Byrd, 2007), and it depends on the way of managing the business environment, relationships, and the promotion of

common interests (Freeman, 1984). In doing so, local stakeholders must know the market well and follow current events, given that tourist demand is very diverse and elastic (Ačimović, 1999). For the successful implementation of planning documents in the context of cycling tourism development, cooperation between stakeholders is crucial (Neun, Takens & Beaudet, 2017). So, from the earliest stage, it is necessary to establish a harmonious relationship in cooperation between public stakeholders, private stakeholders and institutions that focus on some element of cycling tourism (Neun et al., 2017). As Kovačić and Ivek (2022), stated it is also important to understand opinions and perspectives about cycling tourism, as well as the degree of involvement of local stakeholders in cycling tourism development, which implies the support and cooperation of stakeholders in future activities.

2.2. Cycling tourism in destination

Čep & Krajinović (2021) confirm in their research that sport and tourism are activities that are interconnected and dependent on each other. In this sense, Weed (2020) states that the combination of sports and tourism can significantly contribute to results and political initiatives aimed at the general well-being and physical and mental health of the local population, reducing negative impacts in the context of green spaces. However, the development of cycling tourism in a destination requires in-depth knowledge of this special interest tourism, its development methods, and the inclusion of local stakeholders in the business model (Gazzola et al., 2018). The development and popularisation of cycling tourism in the destination, i.e., cycling as a sporting activity, has numerous advantages for cycling tourists who engage in part of sport tourism, as well as for the local population (Aldred, Watson, Lovelace & Woodcock, 2019; Götschi, Tainio, Maizlish, Schwanen, Goodman & Woodcock, 2015). The growth of cycling tourism in the world contributes to the general growth and development of the tourism industry. The increasing popularity of cycling tourism has led to significant investments in cycling infrastructure and the initiation of a series of projects related to the development of part of sport tourism in the destination (Duran, Sevinc & Harman, 2018). Investments in the development of cycling in the destination can be direct or indirect. Given that cycling tourism is also connected with other activities in destinations, sometimes the development of cycling can be influenced by financing other projects (Bodor, 2014). Investing in an attractive cycling tourism infrastructure can positively affect the sustainability of the destination (Malucelli, Giovannini & Nonato, 2015; Gantar, Kočiš & Pehnec, 2012). For example, the results of research conducted by Brščić, Breščić & Šugar Korda (2021) indicate that local cycling tourism stakeholders are most satisfied with cycling tourism in spring and autumn, which can be a good solution for mitigating the seasonality of tourism in tourist destinations whose main tourist season is tied to the summer months. However, to maximise the impact of the investment, it is necessary to involve as many stakeholders as possible. Kilipiris and Zardava (2012) explained the link between stakeholders in tourism and the concept of responsible tourism management from the point of view of tourists, tourism businesses, residents, and the government. When planning tourism, the involvement of the local community is important. As Kovačić and Ivek (2022) concluded in their paper, cooperation between different stakeholders in a destination is

the key to long-term success and the successful achievement of goals that are important for the cycling tourism development. Local stakeholders are considered the core of the tourism product, which defines the current atmosphere that tourists find in the destination. Therefore, it is important to decentralise tourism planning to a certain point to reduce negative impacts and ensure that planning is consistent with the goals of the local community (Simmons, 1994).

3. METHODOLOGY

3.1. Case study background: Istria County, tourism and cycling tourism offer

Istria County is a peninsula in the Adriatic Sea with a total area of 2,820 km^2. Due to its favourable geographical position, Istria represents a bridge between the Central European continental area and the Mediterranean (Istria County).

Considering the proximity of the emission markets, the favourable climate, the preservation of natural and cultural resources, and the rich cultural heritage, Istria County is an important tourism region in the Mediterranean (Istria County). In this sense, Istria County is the most developed tourist region in the Republic of Croatia. During 2022, 4,709,074 arrivals and 29,507,116 overnight stays were realised in Istria. At the Republic of Croatia level, this is the highest number of overnight stays and arrivals compared to other counties (ITB, 2023; CBS, 2023) (Table 1).

Table 1 Arrivals and overnight stays in Istria County compared to the total arrivals and overnight stays in Republic of Croatia during 2022

2022 year	Arrivals	Overnight stays
Istria County*	4,709,074	29,507,116
The Republic of Croatia**	17,774,958	90,040,177
Share (%)	26.5%	32.8%

** CBS, Croatian Bureau of Statistics, https://podaci.dzs.hr/media/qscbu2ww/tur-2022-1-2-dolasci-i-no%C4%87enja-turista-_-dr%C5%BEavni-zavod-za-statistiku.pdf

*Source: *ITB, Istria Tourism Board, Arrivals and Overnight stay in Istria County*

Tourism in Istria is primarily based on coastal tourism, but in recent times, the tourist offer in Istria County has expanded on gastronomy, a large number of events, and outdoor activities in the rural parts of Istria (TZIŽ, 2015). One of the most outstanding outdoor activities is cycling tourism. Among other things, cycling tourism includes the joint action of numerous stakeholders in the destination who are directly or indirectly involved in its development. Cycling tourism in Istria is promoted usually through the Istria Bike website, which contains information that is necessary for cycling tourists in Istria County. On the website, cycling tourists can find cycling paths according to the area in Istria where they want to cycle, according to the difficulty of

the cycling path, the type of surface, and the like. Furthermore, there is a list of other available services that are important for cyclists, accommodation facilities that have their offers adapted to the needs of cyclists, and a list of bike events. The importance of cycling tourism for Istria County is emphasised in some planning or strategic documents at the regional or national level. At the regional level, the following documents are current that highlight the importance of cycling tourism development: Operational Plan for cycling tourism development in Istria County for the period from 2019 to 2025, Study of quality management of cycling tourism development in Istria County, The Development Plan of Istria County for the period from 2022 to 2027, and Master Plan for Tourism Development from 2015 to 2025. Also, at the national level, the Sustainable Tourism Development Strategy of the Republic of Croatia for Istria County designates cycling tourism as the primary product that needs to be developed.

Table 2 shows the cycling tourism offer, i.e., infrastructure in Istria in 2022. During the year 2022, there were a total of 165 cycling paths in Istria County. Compared with the analysis of the situation in 2020, a growing number of cycling paths is visible. Namely, in 2020, there were a total of 153 cycling paths in Istria County. Furthermore, 143 accommodation facilities of different types and 60 restaurants in Istria have an offer adapted for cycling tourists in 2022. However, as far as accommodation facilities that are adapted to the needs of cycling tourists are concerned, there were 164 accommodation facilities in 2020. A smaller number of accommodation facilities in 2022 can be explained by the COVID-19 pandemic.

Other services are also available, such as 68 bicycle rentals, 15 transportations of bicycles and cyclists, 24 bicycle services, 25 bicycle equipment shops, and six bike-friendly points. The number of services closely related to cycling tourism is growing, comparing 2022 with 2020 (Istra Bike).

Table 2 The cycling tourism offer in Istria County in 2020 and 2022

The cycling tourism offer in Istria County		**Number**	
		2020	2022
Cycling paths	Number of cycling paths	153	165
Accommodation facilities	Istra Bike&Bed	135	117
	Istra Boutique Bike Hotel	14	10
	Bike hotels	15	16
	Restaurants	53	60
Other services closely related to cycling tourism	Bicycle rental	64	68
	Transportation of bicycles and cyclists	12	15
	Bicycle service	23	24
	Bicycle equipment shops	24	25
	Bike-friendly point	6	6

*Holiday homes, villas, apartments

Source: Made by the authors according to the available data on Istra Bike, http://www.istriabike.com, accessed December 20, 2023

The EuroVelo, a project of the European Cyclists' Federation, which aims to connect existing and planned cycling routes located on the territory of the European continent into a European network (ECF, 2022), passes through Istria County. The total length of EuroVelo routes is planned to be slightly more than 93,000 km across Europe, or 87,196 km without double counting the cycling route network. For now, about 64% of the EuroVelo network is ready for cycling (approx. 56,000 km), and it is planned that the remaining 36% (or 31,000 km) will be developed by 2030 (ECF, 2022). Out of a total of 17 EuroVelo cycling routes, EuroVelo 8 (EV8), the Mediterranean cycling route, and EuroVelo 9 (EV9), the Baltic Adriatic route pass through Istria County. The total length of EuroVelo 8 is 5,888 km, and it passes through the coastal area of Istria County with a total length of 291 km. The second route, EuroVelo 9, is 2,050 km long in total, and the passage of EuroVelo 9 in Istria County is planned through the heartland of the Istrian peninsula.

Also, a large number of cycling events are organised in Istria County throughout the year. Bike events, especially recreational ones, in the context of the development of cycling tourism in the destination can be the main drivers and sources of creative initiatives. However, the events must be based on cooperation with the local population, OPGs (family agricultural businesses), restaurateurs, and other stakeholders from the Istrian County area in order to enhance added value to the local community and provide cycling tourists with a unique experience. Cycling events are particularly important in the context of the tourist offer in Istria County outside the main tourist season. Also in Istria County, several international bike events are organised. These are mostly multi-day events that take place in one part of Istria or throughout the entire Istria County. Some of the events gather a significant number of participants, foreign and domestic, recreational and professional. For example, the international marathon Istria Gran Fondo (an officially recognised event under the leadership of the UCI-World Cycling Organisation) brought together about 700 cyclists from 15 countries, more than 300 members of the organisation team, 150 volunteers, and members of various cycling teams outside of the main tourist season in April 2023.

3.2. Data analysis methods

The research presented in the paper was conducted with local cycling tourism stakeholders in Istria County. More specifically, the following stakeholders are included in the research: tourist boards, members of cycling clubs and guides, and renters of accommodation with the label Istra Bike&Bed. A similar methodology has already been tested and implemented within the "Study of quality management of cycling tourism development in Istria County" (Brščić, Breščić & Šugar Korda, 2021). This research began on 7 April 2020 and ended on 5 July 2020, using adapted questions from the European Tourism Indicator System (ETIS) and from the study by Bull & Lovell (2007).

The reason for including the aforementioned stakeholders in the research is their experience with cycling tourism in practice. So, this paper presents local

cycling tourism stakeholders' perspectives on the elements of cycling tourism development in Istria County. Also, the opinions of local stakeholders on the impact of cycling tourism in their destination in the context of sustainable tourism were analysed.

For research purposes, a questionnaire was developed based on the research of the authors Gazzola et al. (2018) and Vellecco and Mancino (2010). The original questions were adapted to the topic of the research - cycling tourism. The questionnaire consisted of two parts, and the third part related to the socio-demographic profile of the respondents. A Likert scale was used for a total of 30 statements, with a rating from 1 = I completely disagree to 5 = I completely agree. In this paper, the part of the questionnaire that referred to the question with the possibility of choosing several statements and two open questions was not used. Appendix 1 shows the items contained within the dimension "Elements of cycling tourism development in tourism destinations" and the items contained within the second dimension "The impact of cycling tourism on the destination" but in the context of sustainable tourism. So, for the purpose of this research, an online questionnaire was created in the Microsoft Office 365 system and distributed by e-mail. The e-mail contact list included all tourist boards in Istria County, contacts of accommodation owners who are in the Istra Bike&Bed system and who were available on the Istra Bike website during the research period. The contact list also included the contacts of representatives of cycling clubs in the Istria County according to the list of the Sports Community of Istria County and Istra Bike. Finally, the online questionnaire was sent to a total of 213 email addresses. The research lasted from 25 May 2022 to 5 August 2022. Finally, 81 questionnaires were collected, which means that 38% of respondents from the total number of contacted stakeholders participated in the research. The listed items in Appendix 1 were first analysed using descriptive statistics (mean and standard deviation). After that, with the aim of reducing the number of items and determining whether there is theoretical meaningfulness of the variables used within the factors, a PCA analysis, was carried out. Namely, the previous review of the literature revealed a lack of such research in the literature so far. In most of the research conducted, the target group is cycling tourists, i.e., determining their opinions. Therefore, within the framework of this research, we want to reduce this gap in the existing literature by determining their perspectives on the necessary actions for the future development of cycling tourism and the expected impact of cycling tourism on destinations. Data obtained in the conducted research with local cycling tourism stakeholders was coded in the Excel programme, which was processed using statistical methods in the statistical programme IBM SPSS Statistics (version 21). First, descriptive statistics were used to analyse the socio-demographic profile of the respondents. Given that the number of participants in this research is smaller, the author, De Winter et al. (2009), found in their work that even with a smaller sample, exploratory factor analysis can be carried out. However, they state that researchers in general should not aim for a small number of samples but that a sample size greater than 50 is acceptable for conducting Principal Component Analysis) – PCA and can result in important latent variables. Although there are

different rules, within this work it was decided that factor loadings greater than or equal to 0.5 will be accepted, as advised by Hair et al. (2014). Therefore, the justification for conducting PCA was determined with the help of the Kaiser-Meyer-Olkin (KMO) test statistic, and the measurement of the reliability of the questionnaire was determined with the help of Cronbach's alpha coefficient, whose values range from 0 to 1. In doing so, the option "Cronbach alpha if item deleted" was selected. The reason for choosing this option is the higher final value of Cronbach alpha, but also the goal is to reduce the total number of variables in the research, to make it more suitable and simpler for future research, for researchers and respondents, as stated by the authors Vaske, Beaman & Sponarski, 2017).

To present the current state of tourism and cycling tourism in Istria County, secondary research was carried out using data available on the Istria Bike Destination website, then using data available on the official website of the Croatian Bureau of Statistics and the website of the Istria Tourist Board.

4. RESULTS

The results chapter begins with a presentation of the sociodemographic profile of the respondents (Table 3), i.e., employees of tourist boards, members of cycling clubs and guides, and renters of accommodation with the label Istra Bike&Bed.

Table 3 Socio-demographic profile of respondents

Socio-demographic profile (N = 81)		**Number**	**Share (%)**
Gender	Female	35	43.21%
	Male	46	56.79%
Age	<18	0	0%
	18-30	15	18.52%
	31-40	22	27.16%
	41-50	24	29.63%
	51-60	19	23.46%
	61-70	1	1.23%
	> 70	0	0%
Level of education	Primary school	1	1.23%
	Secondary school	15	18.52%
	Bachelor's degree	21	25.93%
	Master's degree	36	44.44%
	M.Sc./Ph.D.	8	9.88%

Source: Author

In terms of gender, a total of 43.21% females and 56.79% of males participated. The largest number of respondents are in the age group of 41–50 years, that is, 29.63%, followed by the age group of 31–40 (27.16%), and the age group of 51–60 (23.46%). According to the level of education, the highest number of examinees are in the master's degree group (44.44%).

The following is an analysis of the data related to the dimension "Elements of cycling tourism development in tourism destination". So, the respondents expressed their opinions with the help of a Likert scale with 14 elements, which relate to the development of cycling tourism in a tourist destination. First, descriptive statistics were performed, and then PCA.

4.1. Elements of cycling tourism development in tourism destinations

The data below shows the respondents' opinions about the elements of the development of cycling tourism in the tourist destination. The statements are ordered from the highest rating to the lowest. This question in the questionnaire was in the form of a Likert scale (from 1 to 5).

First, the value of Cronbach's alpha coefficient was calculated, along with the appropriateness of the 14 variables used within the dimension "Elements of cycling tourism development in tourism destination" (Table 4).

Table 4 Values of the Cronbach's alpha coefficient of the variables used within the dimension "Elements of cycling tourism development in tourism destinations"

Cronbach's Alpha	Cronbach's alpha based on standardised items	No. of Items
0.795	0.789	14

Source: Author

The dimension "Elements of cycling tourism development in tourism destinations" was measured with 14 variables, and the Cronbach's alpha coefficient is 0.795, that is, it belongs to the acceptable category, according to George and Mallery (2003). Considering the obtained results shown in Table 5, which refer to the elements of cycling tourism development, respondents mostly agree with statement V1_6: "Cycling tourism development includes continuous education of the current cycling tourism staff" (mean = 4.30, SD = 0.715) and with statement V1_8: "Local self-government has a leading role in the development of cycling tourism infrastructure" (mean = 4.30, SD = 0.660). Furthermore, in the context of the development of cycling tourism, respondents least agree with statement V1_2: "During the development of cycling tourism, a strong connection with retailers is important" (mean = 3.88, SD = 0.827) and with statement V1_1: "During the development of cycling tourism in a destination, a strong connection with tour operators is important" (mean = 3.86, SD = 0.802).

Table 5 Descriptive statistic of dimension "Elements of cycling tourism development in tourism destination"

Variable	Definition	Mean	SD
V1_6	Cycling tourism development includes the continuous education of the current cycling tourism staff.	4.30	.715
V1_8	Local self-government has a leading role in the development of cycling tourism infrastructure.	4.30	.660
V1_12	During the cycling tourism development, it is important to include the local population in the planning of current and future activities.	4.22	.742
V1_14	It is important to encourage the local population to participate in decision-making on cycling tourism development.	4.20	.749
V1_7	Attending specialised training for future cycling tourism staff plays a significant role in cycling tourism development.	4.19	.691
V1_5	During the development of cycling tourism, it is important to establish standards of accommodation facilities in the destination that are adapted to cycling tourists.	4.16	.711
V1_11	During the development of cycling tourism, it is important to monitor the satisfaction of the local population with cycling tourism in the destination.	4.14	.666
V1_10	The development of cycling tourism requires the collection and consolidation of information about products and services that are important for cycling tourists in the destination.	4.11	.612
V1_13	During the development of cycling tourism, it is important to conduct research that helps the development of new cycling tourism services in the destination.	4.10	.752
V1_4	The development of cycling tourism requires the use of information systems (the internet).	4.10	.759
V1_9	Travel agencies play a crucial role in the promotion of a cycling destination.	4.06	.796
V1_3	The development of cycling tourism requires the introduction of modern technology, such as bicycle barometers and electric bicycle chargers, etc.	3.93	.934
V1_2	During the development of cycling tourism, a strong connection with retailers is important.	3.88	.827
V1_1	During the development of cycling tourism in a destination, a strong connection with tour operators is important.	3.86	.802

Source: Author

After conducting descriptive statistics, reliability analysis was performed in the SPSS programme; that is, Cronbach's alpha was calculated with the aim of determining the reliability of the scale. When performing the analysis, the option "Cronbach's alpha if item deleted" was selected. After deleting 3 items, the coefficient is 0.823, which suggests that 11 items have a relatively high internal consistency (0.8–0.9 = good internal consistency). Deleted items are V1_4: "The development of cycling tourism requires the use of information systems (the internet)," V1_5: "During the development of cycling tourism, it is important to establish standards of accommodation facilities in the destination that are adapted to cycling tourists" and V1_10: "The development of cycling tourism requires the collection and consolidation of information about products and services that are important for cycling tourists in the destination".

After that, a principal component analysis (PCA), was carried out. PCA was used to relate to 11 elements of cycling tourism development as a special interest tourism according to the respondents' attitudes (Table 6). According to the Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) test, PCA is appropriate for use in relation to this data (KMO = 0.751). Finally, 4 items were eliminated (V1_2, V1_9, V1_13, and V1_14), and two factors appeared, which explained 54.620% of the total variance (table 6).

Two factors were confirmed using the Promax rotation method, which describes the dimension "Elements of cycling tourism development in tourism destinations" according to the answers of the respondents. Items that were cross-referenced, negative, and had values less than 0.5 were deleted. The first factor can be called "education" consisting of four items; factor loadings are between 0.775 and 0.736, explained are 38.611% of the total variance and the total value is 2.703.

The variables within factor 1 are: V1_1: "During the cycling tourism development in a destination, a strong connection with tour operators is important", V1_3: "The development of cycling tourism requires the introduction of modern technology, such as cycling barometers and electric bike chargers, etc", V1_6: "Cycling tourism development includes continuous education of the current cycling tourism staff" and, V1_7: "Attending specialised training for future cycling tourism staff plays a significant role in cycling tourism development".

The items are related to the continuous education of current cycling tourism staff and attending specialised education for future cycling tourism staff. Also, staff training includes the monitoring and introduction of new technology related to cycling tourism and connections with tour operators, which will attract cycling tourists to the destination in various ways, and educated cycling tourism staff can greatly contribute to an innovative approach for every cycling tourist who will come to Istria County.

Table 6 Principal Components Analysis – "Elements of cycling tourism development in tourism destination"

Code	Variable	Factor 1	Factor 2
Factor 1 – Collaboration and Education			
V1_1	During the cycling tourism development in a destination, a strong connection with tour operators is important.	.775	
V1_3	The development of cycling tourism requires the introduction of modern technology, such as bicycle barometers and electric bike chargers, etc.	.573	
V1_6	Cycling tourism development includes continuous education of the current cycling tourism staff.	.742	
V1_7	Attending specialised training for future cycling tourism staff plays a significant role in cycling tourism development.	.736	
Factor 2 - Local Community			
V1_12	During the cycling tourism development, it is important to include the local population in the planning of current and future activities.		.770
V1_8	Local self-government has a leading role in the development of cycling tourism infrastructure.		.767
V1_11	During the development of cycling tourism, it is important to monitor the satisfaction of the local population with cycling tourism in the destination.		.729
Total		2.703	1.121
% of Variance		38.611	16.009
Cumulative %		38.611	54.620
Cronbach's alpha		0.671	0.635

Rotation Method: Promax with Kaiser Normalization.
a. Rotation converged in 3 iterations.

Source: Author Extraction Method: Principal Component Analysis.

As with Factor 1, items that were cross-referenced, negative, and had values less than 0.5 were deleted. Factor 2 can be called "local community" and consists of three items: V1_12: "During the cycling tourism development, it is important to include the local population in the planning of current and future activities", V1_8: "Local self-government has a leading role in the development of cycling tourism infrastructure", V1_11: "During the development of cycling tourism, it is important to monitor the satisfaction of the local population with cycling tourism in the destination", with factor loadings between 0.770 to 0.729, explained as 16.009% of the total variance, and the total value is 1.121.

The following values of the Cronbach's alpha coefficient were obtained; these are 0.671 for Factor 1 and 0.635 for Factor 2 is. The obtained values may point to the need to insert additional variables within these factors, but these are factors that consist of variables that indicate content and theoretical meaning; therefore, they are considered acceptable for future analyses.

4.2. The impact of cycling tourism on tourism destinations

The analysis of the second dimension, "The impact of cycling tourism on tourism destinations," was based on the same methodology as the analysis of the first dimension, namely the calculation of Cronbach's alpha coefficient, descriptive statistics (mean and standard deviation), and the implementation of the multivariate statistical method PCA.

The value of Cronbach's alpha coefficient was calculated, with the appropriateness of the 16 variables used within the second dimension, "The impact of cycling tourism on tourism destinations" (Table 7).

The dimension "The impact of cycling tourism on tourism destinations" was measured with 16 variables, and the Cronbach's alpha coefficient is 0.825, that is, it belongs to the very good set reliability, according to George and Mallery (2003).

Table 7 Values of the Cronbach's alpha coefficient of the variables used within the dimension "The impact of cycling tourism on tourism destinations"

Cronbach's Alpha	Cronbach's Alpha Based on Standardised Items	No. of Items
0.825	0.820	16

Source: Author

The research aimed to obtain the local stakeholders' opinions about the "impact of cycling tourism on tourism destinations" in the context of sustainable tourism. The respondents were offered 16 statements to rate from 1 to 5, using a Likert scale. The results of the descriptive statistics are presented in Table 8. Items are arranged according to the ratings of the respondents' opinions.

In the context of sustainability, respondents agree the most with V2_9: "Cycling tourism development affects the reduction of traffic congestion and pollution" (mean = 4.41, SD = 0.685) and with item V2_12: "Cycling tourism development in the destination has a positive effect on the extension of the tourist season to the spring and autumn months" (mean = 4.37, SD = 0.599). On the other hand, they least agree with the statement V2_2: "Cycling tourism has attracted investment in our community" (mean = 3.41, SD =0.946) and with the item V2_1: "Cycling tourism has created new jobs for our community" (mean = 3.42, SD = 0.934) (Table 8).

Table 8 Dimension "The impact of cycling tourism on tourism destinations"

Variable	Definition	Mean	SD
V2_9	Cycling tourism development affects the reduction of traffic congestion and pollution.	4.41	.685
V2_12	Cycling tourism development in the destination has a positive effect on the extension of the tourist season to the spring and autumn months.	4.37	.599
V2_8	Cycling tourism has no negative impact on the cultural identity of our community.	4.35	.744
V2_10	The development of cycling tourism infrastructure in the destination encourages the local population to engage in outdoor activities.	4.26	.608
V2_16	Cycling tourism affects the optimal use of natural resources.	4.17	.667
V2_15	Cycling tourism affects the promotion of ethical responsibility towards the natural environment.	4.16	.697
V2_14	Cycling tourism affects the increase in tourist consumption.	4.15	.691
V2_4	Cycling tourism provides economic benefits to the local population and businesses.	4.09	.745
V2_7	Cycling tourism offers the possibility of a greater cultural exchange between cycling tourists and the local population.	4.09	.809
V2_11	Cycling tourism development strongly affects the image of the destination.	4.04	.558
V2_3	Cycling tourism has a positive impact on the standard of living of the local population.	4.02	.821
V2_5	Cycling tourism has a positive impact on traditional culture.	4.00	.758
V2_6	Cycling tourism has stimulated various cultural activities among the local population at the destination level.	3.88	1.005
V2_13	Cycling tourists realised more nights than other tourists.	3.83	.905
V2_1	Cycling tourism has created new jobs for our community.	3.42	.934
V2_2	Cycling tourism has attracted investment in our community.	3.41	.946

Source: Author

A second reliability analysis was performed, i.e., Cronbach's alpha was calculated, using the option "Cronbach's alpha if item deleted". After deleting two items (V2_12: "Cycling tourism development in the destination has a positive effect on the extension of the tourist season to the spring and autumn months" and V2_8: "Cycling tourism has no negative impact on the cultural identity of our community"), the coefficient is 0.834, which suggests that 14 items have a relatively high internal consistency (0.8 - 0.9 = good internal consistency).

Then, PCA was used for 14 items related to the impact of cycling tourism on tourist destinations (Table 9). The Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) test PCA is appropriate for use in relation to this data (KMO = 0.794). As before, items that were cross-referenced, negative, and had values less than 0.5 were deleted. Finally, 5 items were eliminated (V2_4: "Cycling tourism provides economic benefits to the local population and businesses", V2_11: "Cycling tourism development strongly affects the image of the destination", V2_13: "Cycling tourists realised more nights than other tourists", V2_14: "Cycling tourism affects the increase in tourist consumption" and V2_15: "Cycling tourism affects the promotion of ethical responsibility towards the natural environment") and three factors appeared, which explained 68.794% of the cumulative variance.

Table 9 Principal Component Analysis - The impact of cycling tourism on tourism destination in the context of sustainable tourism

Code	Variable	Factor 1	Factor 2	Factor 3
Factor 1 - Cultural impact				
V2_7	Cycling tourism offers the possibility of a greater cultural exchange between cycling tourists and the local population.	.869		
V2_6	Cycling tourism has stimulated various cultural activities among the local population at the destination level.	.858		
V2_5	Cycling tourism has a positive impact on traditional culture.	.830		
Factor 2 – Economic impact				
V2_2	Cycling tourism has attracted investment in our community.		.959	
V2_1	Cycling tourism has created new jobs for our community.		.925	
V2_3	Cycling tourism has a positive impact on the standard of living of the local population.		.601	
Factor 3 – Environmental impact				
V2_10	The development of cycling tourism infrastructure in the destination encourages the local population to engage in outdoor activities.			.955
V2_9	Cycling tourism development affects the reduction of traffic congestion and pollution.			.615
V2_16	Cycling tourism affects the optimal use of natural resources.			.592
Total		2.828	2.649	2.260
% of Variance		39.176	16.508	13.110
Cumulative %		39.176	55.684	68.794
Cronbach's alpha		0.791	0.819	0.588

"Extraction Method: Principal Component Analysis. Rotation Method: Promax with Kaiser Normalization." Rotation converged in 4 iterations.

Source: Author

Three factors were confirmed using the Promax rotation method, which describes the dimension "The impact of cycling tourism on tourism destinations" according to the answers of the respondents. The first factor can be called "cultural impact" consisting of three items. Factor loadings are between 0.869 to 0.830 explaining 39.176% of the total variance, and the total value is 2.828. Statements within Factor 1 are: V2_7: "Cycling tourism offers the possibility of a greater cultural exchange between cycling tourists and the local population", V2_6: "Cycling tourism has stimulated various cultural activities among the local population at the destination level", and V2_5: "Cycling tourism has a positive impact on traditional culture".

The statements found within the first dimension indicate that the respondents agree that cycling tourism has a positive impact on the culture in the tourist destination, but, in the future, it is necessary to additionally examine the social impact of cycling tourism in the tourist destination. Namely, considering that this paper investigates the impact of cycling tourism in a tourist destination in the context of sustainable tourism, it is important to look at sustainable tourism from all three aspects of sustainability (economic, environmental and socio-cultural).

The second factor can be called "Economic impact" consisting of three items. Factor loadings are between 0.959 to 0.601, explaining 16.508% of the total variance, and the total value is 2.649. Statements within Factor 2 are: V2_2: "Cycling tourism has attracted investment in our community", V2_1: "Cycling tourism has created new jobs for our community", and V2_3: "Cycling tourism has a positive impact on the standard of living of the local population".

The third factor is "environmental impact" consisting also of three items; factor loadings are between 0.955 to 0.592, explaining 13.110% of the total variance, and the total value is 2.260. Statements in Factor 3 are: V2_10: "The development of cycling tourism infrastructure in the destination encourages the local population to engage in outdoor activities", V2_9:" Cycling tourism development affects the reduction of traffic congestion and pollution" and, V2_16: "Cycling tourism affects the optimal use of natural resources".

5. DISCUSSION

According to the perception of the participants in this research—the local cycling tourism stakeholders – cycling tourism is a special interest tourism which, given its characteristics, supports the application of sustainable tourism principles in tourism destinations from an economic, environmental, and socio-cultural perspective. Similarly, authors Brščić, Breščić and Šugar Korda (2021a) found in their paper a positive effect of cycling tourism on the promotion of the tourist destination, but also on the promotion of sports/health. Also, cycling tourism enables users to have a unique/interesting experience in the destination and thereby contributes to the growth of the local economy and the well-being of the local community (Brščić, Breščić and Šugar Korda, 2021a). This is especially important considering that cycling tourism has become an increasingly popular part of sport tourism in recent years. In particular, the growth in popularity of cycling was

observed during the period of the COVID-19 pandemic (Han, Lho, Al-Ansi & Yu, 2020). During the development of cycling tourism in the destination, it is important to take into account the specific characteristics of the region, such as climatic conditions, topography, and infrastructure, as well as the cultural characteristics of the inhabitants (Mundet, Marin & Figueroa, 2022). In this research, the dimensions 'education' and 'local community' were identified as important elements for cycling tourism development in the destination. It is also important to include cycling tourism development in the long-term vision of tourism development in the destination, as well as the inclusion of cycling tourism in architectural and engineering projects in the area of the destination with the aim of developing the necessary infrastructure. Hull and O'Holleran (2014) also confirmed in their research, which included the area of six European cities, the connection between the greater popularity of cycling in destinations that continuously invest in developing cycling infrastructure and that involve public bodies in cycling tourism development.

In that sense, any destination that wants to be competitive in the international tourism market must strive to improve and promote the quality of services and products (Lopez-Toro, Diaz-Munoz & Perez-Moreno, 2010). Quality starts with staff education, with which the participants in this research agree. In the future, the development of cycling tourism should be considered a driver of local development that brings potential economic, social, and environmental benefits to local communities and destinations (Gazzola et al., 2018; Ritchie, Tkaczynski & Faulks, 2010). Therefore, it is necessary that destinations provide cyclists with a sufficient and appropriate amount of quality information on the basis of which they can choose a destination (Kovačić, 2015; Mrnjavac, Kovačić & Topolšek, 2014).

The analysis of this paper focuses also on cycling events with international character and those events held outside the main tourist season in Istria County. In general, detailed planning and implementation of sporting events leads to the organisation of sustainable sports-tourism events with a significant positive impact on the destination (Chersulich Tomino, Perić & Wise, 2020). Such an occasion can be considered a great support for tourism in the destination in terms of creating the destination image, which will be conveyed by sports tourists who participate in the event (Kaplanidou & Vogt, 2007). Cycling tourism that gives tourists the opportunity to be in contact with the natural environment, local population, and culture, stimulate economic activities, and, at the same time, do not harm the environment (Gazzola et al., 2018), also outside the main tourist season. A large number of specialised events (sports events) intended for cyclists contribute to the popularisation and development of this part of sport tourism in the destination, which affects the popularisation of this activity among local stakeholders as well.

Therefore, it is necessary that destinations provide cyclists with a sufficient and appropriate amount of quality information on the basis of which they will choose a destination where they want to spend leisure time and cycling (Kovačić, 2015; Mrnjavac et al., 2014). At the same time, cycling tourism, especially cycling events, can have a positive impact on reducing one of the major problems faced by Mediterranean destinations, which is the seasonality of tourism. As a consequence of the seasonality of tourism, there is a serious negative impact on the environment, excessive construction of

tourist facilities, excessive use of natural resources, problems with waste, and the like (Davenport & Davenport, 2006; Hall, 2001). Responsible planning to extend the season to months outside the main tourist season, i.e., balancing visitor arrivals and overnight stays for all months of the year, has a positive impact on the local community with all three aspects of sustainability.

6. CONCLUSION

Istria County is the tourist destination where cycling tourism is the most developed area in the Republic of Croatia. The natural characteristics of Istria County, such as favourable weather conditions throughout most of the year, a rich cultural and natural heritage, and the proximity of emissive markets, are certainly the reasons why cycling tourism in Istria has become increasingly popular. However, in addition to natural characteristics, the successful development of cycling tourism depends on the cooperation of a large number of stakeholders at all levels of management. This paper presents the results of research whose goal was to determine the perceptions of local cycling tourism stakeholders about the impact of cycling tourism on the destination and the elements that are important for the development of cycling tourism in the destination.

First, participants in this research, that is, the holders of the cycling tourism offer, consider cycling tourism as a part of sport tourism with great potential. Furthermore, after conducting descriptive statistics and PCA, data related to the elements of cycling tourism development in the destination was grouped, as well as items related to the impact of cycling tourism on sustainable development in the destination. In general, it can be said that the local cycling tourism stakeholders consider the education of future and current cycling tourism staff in the destination to be the key to the development of cycling tourism. Secondly, it is important to involve the local self-government and the local community in the planning and development of cycling tourism.

Local cycling tourism stakeholders mandate that cycling tourism has significant positive impacts on the destination in the context of sustainability. They believe that the development of cycling tourism affects the reduction of traffic congestion and pollution and that cycling tourism does not have a negative impact on the cultural identity of their community. Cycling tourism leads to economic benefits for local residents and businesses. Although their opinion is that the development of cycling tourism has a positive impact on economic sustainability, the respondents have a neutral attitude regarding the impact of cycling tourism on the creation of new jobs. Also, they have a neutral attitude toward the fact that cycling tourism attracts new investments to their community. The economic sustainability of cycling tourism can be a good way for regional economic development, but according to local stakeholders, it is obvious that the level of cycling tourism development in Istria County, which would have a significant economic impact, has not yet been fully reached.

7. FUTURE RESEARCH AND RESEARCH LIMITATIONS

Considering the conclusions of this research, new questions arose that would be good to further investigate in future research. It would be interesting to determine why local stakeholders have a neutral attitude related to some elements of economic sustainability of cycling tourism in their destination, that is, to specialise the research in the direction of the impact of cycling tourism on economic sustainability in the destination. In the future, it would be good to conduct this type of research with an expanded group of respondents, such as local community representatives, local government officials, travel agencies, and tour operators. Also, it would be interesting to conduct research with cycling tourists and determine their opinion on the impact of cycling tourism on the destination, i.e., how the benefits of cycling tourism can be increased from all three aspects of sustainability for the local community. A recommendation for future research is to conduct confirmatory factor analysis.

The limitation of this paper is that the number of participants in the research was relatively small.

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APPENDIX 1

Table 1 Items of the dimensions "Elements of cycling tourism development in tourism destination" and items of the dimension "The impact of cycling tourism on the destination in the context of sustainable tourism"

Variable	Definition
Dimension "Elements of cycling tourism development in tourism destination"	
V1_1	During the cycling tourism development in a destination, a strong connection with tour operators is important.
V1_2	During the development of cycling tourism, a strong connection with retailers is important.
V1_3	The development of cycling tourism requires the introduction of modern technology, such as bicycle barometers and electric bicycle chargers etc.
V1_4	The development of cycling tourism requires the use of information systems (internet).
V1_5	During the development of cycling tourism, it is important to establish standards of accommodation facilities in the destination that are adapted to cycling tourists.
V1_6	Cycling tourism development includes continuous education of the current cycling tourism staff.
V1_7	Attending specialised training for future cycling tourism staff plays a significant role in cycling tourism development.
V1_8	Local self-government has a leading role in the development of cycling tourism infrastructure.
V1_9	Travel agencies play a crucial role in the promotion of a cycling destination.
V1_10	The development of cycling tourism requires the collection and consolidation of information about products and services that are important for cycling tourists in the destination.
V1_11	During the development of cycling tourism, it is important to monitor the satisfaction of the local population with cycling tourism in the destination.
V1_12	During the cycling tourism development, it is important to include the local population in the planning of current and future activities.
V1_13	During the development of cycling tourism, it is important to conduct research that helps the development of new cycling tourism services in the destination.
V1_14	It is important to encourage the local population to participate in decision-making on cycling tourism development.
Variable	**Definition**
Dimension "The impact of cycling tourism on the destination in the context of sustainable tourism"	
V2_1	Cycling tourism has created new jobs for our community.
V2_2	Cycling tourism has attracted investment in our community.

V2_3	Cycling tourism has a positive impact on the standard of living of the local population.
V2_4	Cycling tourism provides economic benefits to the local population and businesses.
V2_5	Cycling tourism has a positive impact on traditional culture.
V2_6	Cycling tourism has stimulated various cultural activities among the local population at the destination level.
V2_7	Cycling tourism offers the possibility of a greater cultural exchange between cycling tourists and the local population.
V2_8	Cycling tourism has no negative impact on the cultural identity of our community.
V2_9	Cycling tourism development affects the reduction of traffic congestion and pollution.
V2_10	The development of cycling tourism infrastructure in the destination encourages the local population to engage in outdoor activities.
V2_11	Cycling tourism development strongly affects the image of the destination.
V2_12	Cycling tourism development in the destination has a positive effect on the extension of the tourist season to the spring and autumn months.
V2_13	Cycling tourists realised more nights than other tourists.
V2_14	Cycling tourism affects the increase in tourist consumption.
V2_15	Cycling tourism affects the promotion of ethical responsibility towards the natural environment.
V2_16	Cycling tourism affects the optimal use of natural resources.

Source: Author

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RAZVOJ CIKLOTURIZMA U ISTARSKOJ ŽUPANIJI IZ PERSPEKTIVE LOKALNIH DIONIKA

Sažetak

Održivi razvoj turizma u destinaciji može se osnažiti povezivanjem sporta i turizma u jedinstveni oblik turizma – sportski turizam. Cikloturizam je jedan od najpopularnijih oblika sportskog turizma, no učinkovit razvoj cikloturizma podrazumijeva uključivanje lokalnih dionika. Glavni cilj istraživanja predstavljenog u radu bio je utvrditi u kojoj mjeri lokalni dionici cikloturizma, na temelju dosadašnjeg iskustva, smatraju da cikloturizam doprinosi dobrobiti i održivom razvoju turizma u Istarskoj županiji te koje elemente smatraju najvažnijim za razvoj cikloturizma u destinaciji. Rezultati pokazuju da su stalna suradnja, edukacija i uključenost lokalne zajednice ključni za razvoj cikloturizma u destinaciji te da cikloturizam ima pozitivan učinak na ekonomsku, okolišnu i sociokulturnu održivost. Također, cikloturizam može utjecati na smanjenje turističke sezonalnosti u turističkim destinacijama. Pri analizi podataka koristi se linearna kombinacija varijabli – Analiza glavnih komponenti (PCA) u kombinaciji s Kaiser-Meyer-Olkin (KMO) testom i mjerenjem pouzdanosti Cronbachovim alfa koeficijentom. U praktične svrhe, rezultati istraživanja mogu poslužiti kao informativna podloga za buduće planiranje cikloturizma u Istri i drugim sličnim mediteranskim destinacijama.

Ključne riječi: cikloturizam, održivi razvoj turizma, lokalni dionici cikloturizma, perspektiva dionika, Istarska županija.

JEL klasifikacija: L83, Z32.