
ORGANIZATION OF GREEN PROJECTS FOR THE PURPOSE OF PROMOTION AND SATISFACTION OF USERS IN RURAL REGIONS IN SERBIA

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ABSTRACT

The presented study analyzes the impact of green initiatives and new technologies on the tourist experience and user satisfaction in rural areas of western Serbia, focusing on the differences between younger and older populations. Through regression and correlation analysis, it was found that sustainability, green mobility, and the digitalization of services significantly increase the satisfaction of young tourists, while older tourists prefer traditional values such as safety and comfort. The younger population reacts positively to innovations, while the older group seeks stability and practicality. The results suggest that further implementation of sustainable practices and technologies could transform the tourism offering in rural areas, and tailored marketing approaches could effectively address the specific needs of both demographic segments. It is recommended to strengthen the promotion of ecological and technological solutions as the key to future tourism growth in this region.

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Introduction

The social sciences address a wide range of topics within the scope of analyzing how to enhance agriculture and the countryside (Sotiropoulos, 2014). The topic of how to attain the presumed social growth and the main regions, types, directions, and boundaries of social changes and development are implied in any discussion of social development (Šljukić & Šljukić, 2019). It examines subjects that essentially put into question many facets of human civilization and culture. The modernization of agriculture and attempts at sectoral and centralist management and influence on rural development are examples of how rural development, a long-term and intricate process, was unjustly reduced for a long time to a simplified economic-agrarian matrix in both theory and development practice (Shucksmith, 2010). Shortal (2004) argues that the notion that social development is a result of technical development—that is, simplified—as a result of economic growth is one of the factors contributing to the reduction of rural to agricultural development.

However, the reality is also inverse: economic growth and technical-technological advancement are only a few facets of rural development, and social development is a prerequisite for technical-technological development. A limited economic understanding of development (modernization of agriculture, technical and technological advancement, growth of productivity, efficiency, etc.) is less comprehensive than the social ramifications of the interplay of natural, technological, economic, social, and institutional factors (Renting et al., 2008).

Nieto Masot & Gurriá Gascón (2024) claim that the unequal distribution of land and its production, low wages, and persistent underemployment with a constantly declining and less diverse workforce have led to significant emigration and the abandonment of rural communities. For this reason, rural development seeks to both develop the “rural” and promote its value and contributions to society at large. Rural development must rely on internal forces and resources (existing or constructed) in order to avoid dictated and dependent development. These forces and resources, when combined with external ones, should serve as the foundation for sustainable socio-economic growth and development (Ilić et al., 2024a).

A variety of sectoral, global, regional, and local policies that are interrelated and conditional - some of which may even be partially opposed - are necessary to attain these aims; one policy is neither feasible nor adequate (Ilić et al., 2024b; Dašić et al., 2024). The authors of the paper want to look into ways to support the development of rural areas, i.e., rural areas, with a proper assessment of attitudes modern consumers, that is, service users, have. This is because Serbia is rich in natural resources, clean water, healthy air, and, most importantly, a healthy environment, and rural regions are actually less developed.

The aging of the population and increased youth exodus from Serbia pose a threat to the country. By analyzing the perspectives of those younger generations, the paper seeks to shed light on the factors and attitudes of those individuals, making them more likely to

visit and possibly even reside in rural areas. The focus of the research are the villages of the Western part of Serbia, more precisely the villages located in the Zlatibor district (Zlatibor mountain), namely: Mokra Gora, Gostilje, Zlakusa, Kremna, Sirogojno and Radoinja. Statistical crossover of green project characteristics with promotion and user satisfaction variables is the methodology used in this article. Eco-tourism, organic tourism, sustainable energy, green mobility, and the digitization of tourism services are examples of green project factors. Marketing channels, service quality, comfort and safety, and customer loyalty and trust are all factors that affect customer happiness and promotion. The research is more comprehensive because each of the variables has four additional sub-variables that cross over with one another. The author's goal is to investigate the views of service consumers, namely the younger generations, who have an impact on the higher attendance of villages, or rural areas, in this section of the nation.

Literature Review

Since rural areas are the main resource for society and should be characterized positively, research and development in these areas is of crucial importance for all societies. This suggests that rural areas and their resources should be viewed as potentially significant for the entire community (Masot & Gascon, 2021). A thorough understanding of the close relationship between the countryside and the city, the mutual conditions required for their development (as well as the development of society as a whole), their functions, the resources they can complement and the needs they can meet is crucial.

The concept of rural development in EU countries was analyzed by Adamovicz & Zvolinska-Ligaj (2018), together with its relationship to the development of the common agricultural policy and the change of the cohesion strategy. Janković (2020) asserts that the sociological component of research encompasses rural social reality and examines global society as well as pertinent social factors, phenomena, and processes that may impact rural areas.

The focus is on social capital, social networks, and people's involvement in local community social relations. Analyzing the reciprocal influence of pertinent social events and processes is implied by the sociological approach. Simultaneously, this approach is an attempt to offer a theoretical-methodological framework for understanding rural areas' social development, which would provide a more thorough and meaningful explanation of factors that can affect the process of rural development as well as fundamentally significant social phenomena (Bruckmeier & Tovey, 2008). According to Long (1977), the study of social aspects of rural development should be based on the notion that social processes underpin development are widely understood. This is highlighted by the examination of social capital, population participation in local communities, and social networks, including modern aspects as stated by Janković (2020). Stated differently, the social approach is the process of bringing the local population together to accomplish goals that are relevant to the community's growth and the enhancement of the quality of life in the (rural) social space (Ilic, 2019; Pantović et al., 2025). The intricacy of rural development as a multifaceted, long-term process with

numerous dimensions, actors, and interests must be considered in order to approach it appropriately. It is important to view Serbian villages as projects whose execution will benefit not only the local communities but also, more generally, Serbian society as a whole. These projects can be classified as green projects or sustainable development projects since they deal with situations (areas) where it is crucial to maintain pristine natural conditions.

In addition to generating financial gain, their realization improves human well-being and lessens adverse environmental effects (Djukic & Ilic, 2024; Ilic, 2022; Zolak, 2024). In addition to sectoral policies, territorial policies - particularly promotion strategies and regional (and local) rural development policies - can also help Serbia's rural areas grow. This demonstrates the significance of established local self-government, robust social capital, social networks, and local population engagement in community life (Ilic et al., 2022). Due to regional development disparities and the need to delegate some responsibility for rural area development to local self-governments and regions, with prior strengthening of their "capacity" in a decentralized sense, the development of rural regions is crucial in Serbia. For many years, Serbia's agrarian policy has been highly unstable and unable (both financially and otherwise) to meet the demands of the country's domestic agricultural development (Ilić et al., 2020). Rural policies are essentially nonexistent in this regard, or they simply represent a minor addition to the agrarian policy

In order to create territorial policies for the development of Serbia's rural areas, it is important to fortify the idea of rural policy, which, in conjunction with agrarian policy, would coordinate and unite the development efforts of other sectors. The younger population, or future generations of young people who would visit the rural areas more frequently, would be impacted by Serbia's rural areas being strengthened and properly promoted. It is important to examine the views and perspectives of younger generations regarding villages and rural regions in general, as they have their own wants and desires.

Generation Z encompasses the younger population born between the late 1990s and the mid-2010s and is unique in that it grew up in the digital age. From an early age, these young people were exposed to rapid technological advancements, shaping their habits and ways of thinking. The availability of the internet, mobile phones, and various digital platforms allowed them to become "digital natives", with an exceptionally developed ability to use technology. In contrast to previous generations, who first adopted traditional media such as television and print publications, Generation Z focuses more on digital media, especially social networks and video content (Thiele, 2011).

One of the main characteristics of this generation is their distinct skill in quickly accessing and processing information. They are accustomed to constant data exchange and have the ability to rapidly assess the relevance of information. This makes them highly effective in dynamic environments that require quick responses and adaptability to new situations (Brown & Duguid, 2001). Their communication habits and learning styles are drastically different from earlier generations, making them particularly interesting for research in the context of businesses and organizations that demand innovation.

Moreover, Generation Z is marked by a strong desire for individuality and authenticity. In both their personal and professional lives, they seek to express themselves as individuals with unique skills and interests, rather than just as part of a larger collective. When it comes to work, they are more focused on flexibility and the use of technology to increase productivity. Rigid work structures and fixed schedules are unappealing to this generation, who values the ability to work remotely and in environments that foster creativity and innovation (Nicholas & Steyn, 2020).

Materials and methods

The research presented in this paper was conducted from May to August 2024, focusing on users of tourism services in rural areas of western Serbia, specifically in the following villages: Mokra Gora, Gostilje, Zlakusa, Kremna, Sirogojno and Radoinja. A total of 235 respondents participated in the study. The structure of the respondents included 48% male and 52% female participants, as well as 31% younger and 69% older population, with 65% being domestic and 35% foreign tourists.

Data were collected through an online questionnaire. In addition to basic respondent information, the questionnaire was divided into two sections. The first section assessed variables related to green projects and new technologies, including eco-tourism, organic tourism, sustainable energy, green mobility, and the digitalization of tourism services. The eco-tourism variable evaluates how eco-friendly practices, such as environmentally sustainable accommodations and tourist education on nature preservation, are encouraged. The organic tourism variable assesses the promotion of organic products and sustainable agricultural practices through farm visits, events, and educational activities. The sustainable energy variable evaluates the implementation of renewable energy sources in tourist facilities and their benefits for tourists and the community. Green mobility focuses on the development of infrastructure and the promotion of eco-friendly transport options, such as electric bicycles and vehicles. The digitalization of tourism services includes technological solutions like online bookings, virtual tours, and mobile apps that enhance the tourist experience.

The second section of the questionnaire aimed to explore respondents' attitudes toward the promotion of services and satisfaction with the offerings in the analyzed rural areas. The effectiveness of various marketing channels, such as social media, websites, and email campaigns, in promoting the destinations was evaluated through the marketing channels variable. User satisfaction with services, including staff friendliness, facility quality, and service efficiency, was assessed through the service quality variable. The safety and comfort variable evaluated the perception of safety, access to emergency services, and accommodation comfort during the stay. The user trust variable explored how users perceive the brand reputation, transparency of information, and quality of customer support. The customer loyalty variable assessed users' motivation to revisit, the effectiveness of loyalty programs, and their willingness to recommend the destination to others. Respondents rated these variables on a scale of 1 to 7, where they expressed their level of agreement with the statements in the survey, from strong disagreement to full agreement.

The aim of the research is to analyze the impact of green projects and new technologies on the promotion and satisfaction of users in rural areas of Serbia, with a particular focus on younger and older tourist populations. The research will explore how sustainable tourism, organic tourism, sustainable energy, green mobility, and digitalization of tourism services affect the tourist experience, their attitudes toward safety, comfort, service quality, and loyalty to destinations. Additionally, the study will examine the effectiveness of promotion through various marketing channels and its correlation with user satisfaction and trust.

The subject of this research includes green projects and new technologies in tourism, particularly in the context of eco-tourism, organic tourism, sustainable energy, green mobility, and the digitalization of services, as well as their impact on promotion, service quality, safety, comfort, trust and customer loyalty. The research is focused on understanding how these initiatives affect the perceptions and experiences of tourists visiting rural areas of Serbia, considering the differences in responses between younger and older populations.

The research tests the following hypotheses:

- H1: There is a positive correlation between the implementation of green projects and overall tourist satisfaction in rural areas of Serbia.
- H2: There are statistically significant differences in the correlation between the variables of green projects and new technologies and the variables of promotion and user satisfaction, with respect to the younger and older populations.
- H3: The younger tourist population shows a higher level of engagement and satisfaction with the digitalization of tourism services (online bookings, mobile apps) compared to the older population.

The collected data were processed using the IBM SPSS Statistics 25 software. Through this software, descriptive statistics, correlation, and regression analyses were performed. The interpretation of the results served to confirm the hypotheses set out in this research.

Results

Initially, descriptive statistics were performed on the analyzed variables. The descriptive statistics displayed the minimum, maximum, and mean values of the analyzed variables, as well as the deviation from the mean, i.e., the standard deviation. Table 1 presents the abbreviations of the variables that will be used in the subsequent analysis.

The descriptive statistics of the variables related to green projects, new technologies, and promotion and user satisfaction provide an insight into the general attitudes and preferences of the respondents regarding different aspects of tourism. Since all the variables were evaluated on a scale from 1 to 7, the mean values and standard deviations allow us to analyze how the responses behave and whether there is variation in the respondents' opinions.

Table 1. Descriptive Statistics of the variables Green Projects and new Technologies and Promotion and User Satisfaction

Variable	Mark	N	Min	Max	Mean	Standard Deviation
Eco-tourism	ZPT1	235	1	7	4,57	1,761
Organic tourism	ZPT2	235	1	7	4,53	1,781
Sustainable energy	ZPT3	235	1	7	4,49	1,610
Green mobility	ZPT4	235	1	7	4,54	1,752
Digitalization of tourist services	ZPT5	235	1	7	4,51	1,886
Marketing channels	PZK1	235	1	7	4,89	1,715
Service quality	PZK2	235	1	7	4,66	1,884
Safety and comfort	PZK3	235	1	7	4,76	1,647
Customer trust	PZK4	235	1	7	5,05	1,751
Customer loyalty	PZK5	235	1	7	5,01	1,872

Source: Author's research

For green projects and new technologies, the mean values of the variables range from 4,49 to 4,57. The highest mean value is found for the variable eco-tourism (4,57), indicating that the respondents have a relatively positive, but not entirely enthusiastic, opinion about ecological practices in tourism. Following this, the variables organic tourism (4,53) and green mobility (4,54) suggest that respondents somewhat agree with the concepts of sustainable tourism in terms of organic farming and eco-friendly transportation options, but there is still room for improvement. The variable sustainable energy (4,49) has the lowest mean value among the analyzed variables in this group, which could suggest that respondents are not entirely convinced about the effectiveness and importance of using renewable energy sources in the tourism industry. The digitalization of tourism services (4,51) also has a mean value indicating that respondents are moderately satisfied with the application of digital tools in the tourism industry, but there are variations in opinions about their effectiveness.

The standard deviations of these variables indicate moderate to high variation in the responses of the respondents. The variable digitalization of tourism services has a high standard deviation of 1,886, suggesting that the respondents' opinions about digitalization are quite varied. Similar levels of variation are seen in the variables organic tourism and green mobility, where standard deviations of 1,781 and 1,752 indicate that respondents have different views and experiences with these practices. The variable sustainable energy has a standard deviation of 1,610, indicating some but less significant differences in respondents' views on this topic.

When considering the variables related to promotion and user satisfaction, the mean values indicate a somewhat higher level of satisfaction. The variables customer trust (5,05) and customer loyalty (5,01) have the highest mean values. Respondents are relatively satisfied with the services provided and demonstrate a good level of trust and loyalty towards the destinations and tourism services, as the mean values of these variables exceed 4,5. The variables service quality (4,66) and safety and comfort (4,76) have moderately positive values, suggesting that most respondents assess the service and safety in tourism as satisfactory, but there is still room for improvement.

The standard deviations for these variables also indicate significant variability in responses. The variable customer loyalty has a standard deviation of 1,872, meaning that opinions on loyalty vary considerably among respondents. Similar values were observed for the variables customer trust (1,751) and service quality (1,884), suggesting that there are differences in opinions here as well. Meanwhile, the variable safety and comfort has a standard deviation of 1,647, which is somewhat lower, but still indicates that not all respondents had the same experience regarding safety and comfort during their visit to the analyzed tourist destinations.

Table 2. Correlation values between the variables of green projects and new technologies and variable promotion and user satisfaction

	ZPT1	ZPT2	ZPT3	ZPT4	ZPT5
PZK1	,451**	,338**	,432**	,472**	,569**
PZK2	,437**	,229**	,534**	,509**	,544**
PZK3	,414**	,274**	,518**	,585**	,542**
PZK4	,359**	,202**	,535**	,543**	,515**
PZK5	,281**	,245**	,540**	,518**	,502**

** . The correlation is significant at the 0.01 level (2-tailed).

Source: Author's research

The strongest correlation among the analyzed variables is between green mobility (ZPT4) and safety and comfort (PZK3), with a correlation value of 0,585. This connection suggests that tourists who rate green mobility, such as electric bicycles and cars, as an important factor in tourism, simultaneously perceive destinations as safe and comfortable. This implies that eco-friendly transportation not only contributes to sustainability but also enhances the tourists' sense of safety and comfort, positively shaping their overall experience.

The next strongest correlation is between the digitalization of tourism services (ZPT5) and marketing channels (PZK1), with a correlation of 0,569. This correlation shows that tourists who use digital tools for bookings and planning often recognize the effectiveness of marketing through social media, websites, and email campaigns, emphasizing the importance of digital presence in promoting tourism services.

Additionally, there is a significant correlation between sustainable energy (ZPT3) and service quality (PZK2), with a correlation value of 0,534. This relationship suggests that tourists who experience the benefits of using renewable energy sources often rate the service quality more positively, indicating that eco-friendly practices can enhance the overall impression of the services offered to tourists.

On the other hand, the variables with the lowest correlations include organic tourism (ZPT2) and user trust (PZK4), with a correlation of 0,202, indicating a weaker connection between these two factors. While organic tourism may be recognized as important, it is not directly linked to users' perception of trust in the brand and services, which may suggest that other factors, such as brand reputation and customer support quality, play a key role in building trust.

The next weaker correlation is between organic tourism (ZPT2) and user loyalty (PZK5), with a correlation value of 0,245. This result suggests that, while organic tourism is an interesting segment, it is not strongly connected to users' willingness to return to the same destination or recommend it to others. The correlation between eco-tourism (ZPT1) and user loyalty (PZK5) is 0,281, indicating that, although eco-tourism can increase tourist engagement, it is not strongly linked to their long-term loyalty.

Table 3. Regression model of the impact of independent variables of promotion and user satisfaction on dependent variables of green projects and new technologies (only variables that achieved statistical significance are shown)

Dependent	Independent	β	t	Sig.	R ²	F	Sig.
PZK1	ZPT1	,182	3,084	,002	,422	33,498	,000
	ZPT5	,345	5,351	,000			
PZK2	ZPT1	,180	3,091	,002	,434	35,131	,000
	ZPT3	,258	4,152	,000			
	ZPT5	,255	3,995	,000			
PZK3	ZPT3	,195	3,193	,002	,457	38,504	,000
	ZPT4	,297	4,627	,000			
	ZPT5	,218	3,484	,001			
PZK4	ZPT3	,266	4,213	,000	,415	32,477	,000
	ZPT4	,250	3,766	,000			
	ZPT5	,209	3,222	,001			
PZK5	ZPT3	,302	4,721	,000	,400	30,584	,000
	ZPT4	,231	3,428	,001			
	ZPT5	,213	3,248	,001			

Source: Author's research

Based on the regression analysis, we can identify which independent factors from the field of green projects and new technologies make the most important contribution to the dependent variables related to promotion and user satisfaction. The β values (standardized coefficients), along with the t and sig. values, help to understand the strength and significance of each individual impact.

For marketing channels (PZK1), the most significant contribution comes from ZP5 (digitalization of tourism services), with a coefficient of $\beta = 0,345$ and a t value of 5,351, indicating a very high and statistically significant impact ($p = 0,000$). Additionally, ZP1 (eco-tourism) makes a significant contribution with $\beta = 0,182$ ($t = 3,084$, $p = 0,002$). The overall model explains 42,2% of the variance in the dependent variable PZK1, with an F value of 33,498 ($p = 0,000$), indicating that all the independent factors are significantly related to marketing channels. For service quality (PZK2), the largest contribution comes from ZP3 (sustainable energy), with $\beta = 0,258$ and $t = 4,152$ ($p = 0,000$), demonstrating a strong connection between sustainable energy and the perception of service quality. Also, ZP5 (digitalization of tourism services) and ZP1 (eco-tourism) have similar contributions with $\beta = 0,255$ and $\beta = 0,180$ (t values of 3,995 and 3,091, $p = 0,000$ and $p = 0,002$, respectively). The model for PZK2 explains 43,4% of the variance ($F = 35,131$, $p = 0,000$), indicating that sustainable energy and digitalization have a significant impact on

service quality. For the variable safety and comfort (PZK3), the strongest contribution comes from ZP4 (green mobility) with $\beta = 0,297$ ($t = 4,627$, $p = 0,000$), followed by ZP5 (digitalization of tourism services) with $\beta = 0,218$ ($t = 3,484$, $p = 0,001$). The model for PZK3 explains 45,7% of the variance, suggesting that green mobility and digitalization play an important role in shaping tourists' perception of safety and comfort. When it comes to user trust (PZK4), the most significant contribution comes from ZP3 (sustainable energy) with $\beta = 0,266$ ($t = 4,213$, $p = 0,000$), followed by ZP4 (green mobility) and ZP5 (digitalization of tourism services) with $\beta = 0,250$ and $\beta = 0,209$ (t values of 3,766 and 3,222, $p = 0,000$ and $p = 0,001$, respectively). The overall model for PZK4 explains 41,5% of the variance ($F = 32,477$, $p = 0,000$), indicating a strong influence of these variables on user trust. For user loyalty (PZK5), the largest contribution comes from ZP3 (sustainable energy) with $\beta = 0,302$ ($t = 4,721$, $p = 0,000$), followed by ZP4 (green mobility) with $\beta = 0,231$ ($t = 3,428$, $p = 0,001$), and ZP5 (digitalization of tourism services) with $\beta = 0,213$ ($t = 3,248$, $p = 0,001$). The model for PZK5 explains 40,0% of the variance, with an F value of 30,584 ($p = 0,000$), confirming that sustainable energy, green mobility, and digitalization significantly affect user loyalty.

The variables that made the largest individual contributions to the dependent variables are ZP3 (sustainable energy), ZP4 (green mobility), and ZP5 (digitalization of tourism services). These variables have the largest standardized coefficients (β) relative to the other independent variables, indicating their significant impact on dependent variables such as marketing channels, service quality, safety and comfort, user trust, and user loyalty.

A correlation analysis was conducted between the green projects and new technologies variables and the promotion and user satisfaction variables, from the perspective of both younger and older populations as users of tourism services in the analyzed rural areas. The correlation results are shown in Table 4.

Table 4. Correlation values between green projects and new technologies variables and promotion and user satisfaction variables from the perspective of the age population of users

		ZPT1	ZPT2	ZPT3	ZPT4	ZPT5
Younger population	KL1	,405**	,220*	,521**	,418**	,295**
	KL2	,421**	,111	,575**	,317**	,290**
	KL3	,218*	,088	,522*	,311*	,227**
	KL4	,120**	,192	,599**	,362**	,392*
	KL5	,135*	,138	,150**	,352*	,220**
	N	73	73	73	73	73
Older population	KL1	,571**	,394**	,457**	,534**	,589**
	KL2	,457**	,310**	,541**	,537**	,523**
	KL3	,584**	,431**	,545**	,561**	,591**
	KL4	,390**	,292*	,527**	,507**	,483**
	KL5	,337**	,319**	,543**	,475**	,462**
	N	162	162	162	162	162

** . The correlation is significant at the 0,01 level (2-tailed).

*.Correlation is significant at the 0,05 level (2-tailed).

Source: Author's research

The correlation between the analyzed variables for the younger and older populations shows clear differences in perception and engagement regarding green projects and new technologies in tourism. In the younger population, correlations between variables such as sustainable energy, green mobility, and digitalization of tourism services and user satisfaction factors are positive, but not as strong as in the older group. While younger respondents recognize the importance of ecological and digital solutions, they are less likely to directly connect them to their experience and satisfaction during their stay. The correlation between ZP2 (organic tourism) and KL2 (service quality) in the younger population is relatively weak (0,111), suggesting a smaller impact of these factors on their views of service quality in tourism.

On the other hand, the older population shows significantly stronger and more frequent correlations between green initiatives and technological factors with user satisfaction. The correlation between ZP5 (digitalization of tourism services) and KL3 (safety and comfort) is 0,591, indicating that older respondents strongly associate the use of digital tools with a greater sense of safety and comfort during their stay. Additionally, ZP3 (sustainable energy) and KL5 (user loyalty) have a correlation of 0,543, suggesting that older tourists who value sustainable energy practices also exhibit higher loyalty to destinations that implement ecological initiatives. These differences highlight that the older population more frequently recognizes the impact of green and technological innovations on the overall tourism experience, while younger tourists may be less engaged with the ecological and sustainable aspects of tourism, focusing more on factors such as price or the popularity of the destination.

Given these differences, it is clear that marketing strategies should be tailored to the specific characteristics of each group. Younger populations should be provided with a stronger focus on digital tools and technologies that enable a faster and more efficient experience, while older populations should be emphasized on the importance of ecological practices and the benefits these practices bring in terms of safety and comfort.

Discussions

The results of this research provide valuable insight into the connections between the application of green projects, new technologies, and overall tourist satisfaction, as well as the differences in perceptions and engagement between younger and older populations. In accordance with the first hypothesis, the research confirms the existence of positive correlations between the implementation of green initiatives (such as eco-tourism, organic tourism, sustainable energy, green mobility, and digitalization) and overall tourist satisfaction in rural areas of Serbia. Based on the obtained results, it can be concluded that ecological and sustainable initiatives have a significant impact on tourists' perceptions and their satisfaction levels during their stay. The correlation between ZP3 (sustainable energy) and PZK3 (safety and comfort) is 0,585, which suggests that tourists staying in destinations that use renewable energy sources often experience greater safety and comfort, improving their overall impression of the destination and increasing their satisfaction. Similar results were found for other

variables, such as green mobility and the digitalization of tourism services, which also have a positive effect on the overall tourist experience. For example, the use of mobile applications for booking and other digital platforms can contribute to greater efficiency and accessibility of information, boosting tourist engagement and their overall impression of the destination.

The second hypothesis, which relates to the existence of statistically significant differences in correlations between green projects and new technologies in promotion and user satisfaction from the perspective of younger and older populations, was also confirmed. The research showed that the older population exhibits significantly stronger correlations between green initiatives and user satisfaction compared to the younger population. The correlation between the variables ZP5 (digitalization of tourism services) and KL5 (user loyalty) for the older population is 0,543, while for the younger population, this value is lower. This finding indicates that older tourists are more likely to recognize the value of technological innovations as key factors contributing to their satisfaction and loyalty. Given their experience, the older population is more willing to acknowledge the usefulness of digitalization and its impact on the quality of tourism services, such as online reservations and easier access to information. On the other hand, younger populations tend to focus more on other aspects of the tourism experience, as reflected in the weaker connection between green initiatives and satisfaction factors. While younger tourists recognize the importance of sustainability, they often place less emphasis on ecological initiatives compared to older populations, confirming the thesis that their preferences and motivations for engagement in tourism are more closely tied to digital technologies.

The third hypothesis, which claims that the younger population of tourists demonstrates a higher degree of engagement and satisfaction with the digitalization of tourism services, especially through tools like online reservations and mobile applications, was also confirmed. Younger tourists show a greater degree of engagement with digital tools and value the efficiency and accessibility of information online, as seen in the high correlation between ZP5 (digitalization of tourism services) and PZK1 (marketing channels) in the younger population (0,569). This finding confirms that younger tourists have a higher level of technological literacy and are more willing to use digital tools to enhance their tourism experience, such as mobile phone apps and online reservation platforms. In comparison with the older population, who is less engaged in using digital technologies, younger tourists place digital presence and online interaction at the center of their tourism engagement. The lower correlations in the older population suggest that the use of digital tools is less prevalent among them, and their satisfaction is more closely linked to traditional elements of the tourism experience, such as ecological initiatives and sustainable approaches.

The obtained results highlight a clear need for a differentiated approach in promoting tourism services, taking into account demographic differences in engagement and preferences among tourists. Younger tourists value digital technologies and service efficiency more, while older tourists show a greater inclination to value ecological

initiatives and sustainability as key factors for their satisfaction. These differences emphasize the importance of adapting marketing and promotional strategies to ensure engagement and satisfaction for all groups of tourists.

Conclusions

The results of this research clearly show that there is a significant connection between the application of green projects and overall tourist satisfaction in rural areas of Serbia. Ecological initiatives and new technologies positively impact the tourist experience, with the older population showing a greater tendency to recognize the value of these factors in their satisfaction, while the younger population values the digitalization of tourism services more. This research confirms the existence of statistically significant differences between the younger and older populations in their perception and engagement with green projects and new technologies. Therefore, for the future development of tourism in rural areas of Serbia, it is necessary to focus promotion and marketing strategies to account for the specific needs and preferences of different demographic groups.

This research has several limitations. First, it was conducted in rural areas of Serbia, which may limit the applicability of the results to urban areas or other countries with different tourism practices. Another challenge is the sample size, which may affect the statistical power of the research. Additionally, the collected responses from participants may be subject to subjective biases, which could influence the accuracy of the results. The study did not consider specific types of green projects, so a more detailed analysis of individual factors could provide further insights.

Future research could focus on several key directions. It is recommended to expand the research to urban areas and international populations to observe regional and cultural differences in the perception of green initiatives and new technologies. Furthermore, a more detailed analysis of specific green projects, such as sustainable energy or ecological services, could help identify the factors that most influence tourist satisfaction. The research could also be extended to examine marketing strategies and the impact of various communication channels (digital vs. traditional) on the engagement of younger and older populations. Future research directions could focus on developing specific strategies to improve tourist engagement through digital tools, especially among younger tourists, and on the role of sustainability education in enhancing the tourist experience.

Conflict of interests

The authors declare no conflict of interest.

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