# TOURISM SUSTAINABILITY OF NATURE PARKS BY OPTIMAL USE AND RESOURCES NETWORKING

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## SUMMARY

### Purpose

Sustainable tourism can be seen as an approach that can provide solutions to the key challenges of tourism (ecological, social, and economic), to achieve the goal of ensuring permanent benefits to all parties involved, from the local community, region and environment in which tourism takes place, to quality assurance products, extraordinary experience, and visitor satisfaction. Therefore, to improve the tourism destination sustainability, it is necessary to optimally use and manage resources and stakeholders in the destination by applying appropriate strategies and tools with the aim of balancing expected benefits and unwanted costs.

It is important to point out that the approach to resource use and management affects not only visitors, but also residents and resources as well. It is assumed that the optimal use, sustainable management, and inclusion of all resources in nature park tourism would have a positive impact on visitor satisfaction, especially among visitors with a positive perception towards sustainable tourism who are assumed to be willing to contribute financially to the improvement of the tourism experience and nature parks sustainability.

The literature review revealed a lack of previous studies that examine visitors as important stakeholders in sustainable tourism (Kastenholz et al., 2018; López-Sánchez & Pulido Fernández, 2016; Shamsub & Lebel, 2012; Moeller et al., 2011; Nicholas & Thapa, 2010; Nepal, 2008; Dolnicar et al., 2008). In particular, there is a lack of studies on visitors' perception of the sustainable resources use importance in tourism (Araújo et al., 2022; Nejati et al., 2015), on which support for sustainable tourism may depend (Kastenholz et al., 2018), and for which also assumes that it is related to an increased level of visitor satisfaction in a protected area (de Oliveira et al., 2020) and where visitor satisfaction can influence their willingness to pay a higher price for sustainable products and the sustainability of the destination (Bigné et al., 2008).

A detailed literature review showed that no studies simultaneously examine the relationships between the previously highlighted concepts in the case of tourism in protected areas from the visitor's perspective, especially at the level of nature parks, which have been neglected in research in relation to national parks. Therefore, it is considered justified to problematize the sustainability of nature park tourism in the context of optimal use and sustainable management and involvement of various resources from the visitor's perspective, both in the context of satisfaction and in the context of behavioural intentions such as willingness to pay to improve the experience and sustainability of nature park tourism.

Regarding the highlighted problem, which was preceded by a detailed theory review and previous research, the subject of the doctoral thesis is to examine and determine the impact of visitors' perception of the importance of sustainable resources use in tourism on their satisfaction with tourism resources and, consequently, on the willingness to pay a higher price for improving the experience and for the sustainability of tourism in nature parks. According to the subject, the main goal of the doctoral thesis is to establish and to examine the validity and reliability of conceptual model for measuring the influence of visitors' positive perception of the importance of sustainable resources use in nature park tourism on their satisfaction with tourism resources, willingness to pay for improving the experience and willingness to pay for the sustainability strengthening of nature park tourism.

**Methodology**

In addition to the theoretical review of the problem and the main constructs of the conceptual model, empirical research was conducted in accordance with the set main and auxiliary goals and the formulated hypotheses, within which primary data were collected using the survey method. The survey was conducted using a structured questionnaire that was created in two forms (electronic and paper format) in Croatian and English, while data collection was carried out online and onsite – at all localities of the selected nature parks. To test the hypotheses, a questionnaire was created according to the previous scientific literature in which the variables of the main constructs were measured using a seven-point Likert scale.

The target group of the empirical research were visitors who visited one of the three selected nature parks in Croatia in the last 12 months, which differ from each other regarding additional international designations (Lonjsko Polje Nature Park, Papuk Nature Park and Žumberak – Samoborsko gorje Nature Park). Given that the research includes visitors who visited nature parks in 2021 (for which the number of visits is known) and in 2022, for which the number of visits is unknown, the population can be viewed as infinite and in this case simple random sampling is used, in accordance with the defined approach of Kothari (2004). Ultimately, data analysis was performed on a sample of 690 respondents.

The analysis of the collected data was carried out using univariate and multivariate statistical analysis methods. Univariate, i.e., descriptive statistical analysis was used to calculate absolute and relative frequencies for sociodemographic characteristics of respondents and characteristics of visits to nature parks, while average values and deviations from average values were calculated for all variables of the main latent constructs. Since an ordinal scale (Likert) was used to measure the main research constructs, non-parametric methods of multivariate statistical analysis were used. First, the method of partial least squares structural equation modelling (PLS-SEM) was applied to test hypotheses related to determining the significance of defined influences between latent constructs in the conceptual model, and the Kruskal-Wallis test was used to test hypotheses related to the examination of significant differences between variables. *MS Office Excel*, *Statistica 13.3* software package and the *SmartPLS 4.0.9* program were used for the statistical analysis of the collected data.

**Findings**

According to the results of descriptive statistics, it was determined that men predominate in the research (62.90%). Further, the most represented age group of respondents is 35 to 50 years old (40.15%), while the dominant level of education of the respondents is bachelor's and master's degree (58.70%). Domestic visitors dominate (96.81%), and most respondents come from urban areas (73,77%), as well as the most represented group of respondents are those with a monthly household income between 1 000 and 2 000 euros (50.29%). Equally, the most common reason for visiting the nature park is enjoying nature and landscape (54.35%), and most visitors primarily (directly) come to the nature park (77%) and mostly organize their visit independently (80.58%), during the weekend (81, 62%), accompanied by friends and/or colleagues (44.64%). Most of them had previously visited the nature park in the range of four to five visits (44.64%), where one-day visits dominate (81.16%). As for the respondents who spent the night (n = 205), most of them spent the night in the nature park area accommodation (63.41%), mostly in private accommodation (40.49%), most often up to three nights. Ultimately, most of the respondents spend up to 50 euros per day (78.7%).

Descriptive statistical analysis of the main constructs identified the lowest average score for the latent construct visitors' willingness to pay a higher price to improve the experience in nature parks ($\bar{x}$ = **4.38), and the highest for the latent construct visitor's perception of the importance of sustainable resources use in nature park tourism ($\bar{x}$ = 5.82)**.

Based on the conducted multivariate analysis and the results, five of the seven tested hypotheses were confirmed using the PLS-SEM method, while one of the two hypotheses was confirmed using the Kruskal-Wallis test. Using the PLS-SEM method, the assumption of the multidimensionality of the construct visitors' willingness to pay a higher price for the sustainability strengthening of nature park tourism (H1) was confirmed, as well as the positive, statistically significant influence of visitors' positive perception of the importance of sustainable resources use in nature park tourism on their satisfaction with tourist resources of nature parks (H2- 1, $\beta$ = 0.525; p = 0.000) and willingness to pay a higher price for the sustainability strengthening of nature park tourism (H2-3, $\beta$ = 0.285; p = 0.000). Equally, the positive, statistically significant influence of visitors' satisfaction with the tourist resources of nature parks on their willingness to pay a higher price to improve the experience in nature parks was confirmed (H3-1, $\beta$ = 0.304; p = 0.000), as well as the influence of visitors' willingness to pay a higher price to improve experience in nature parks on their willingness to pay a higher price for the sustainability strengthening of nature park tourism (H4, $\beta$ = 0.462; p = 0.000).

Applying the Kruskal-Wallis test, the existence of a statistically significant difference in the visitors' willingness to pay a higher price between the dimensions of the sustainability of nature park tourism was confirmed, given their positive perception of the importance of sustainable resources use in nature park tourism (H5-1). The remaining hypotheses were rejected because no direct connection was established between the observed constructs (positive and statistically significant influence) in the model (H2-2 and H3-2) and there is no statistically significant difference between the observed variables (H5-2).

**Originality of the research**

The doctoral thesis achieved the scientific contribution at the conceptual, empirical-methodological and application level. In the context of the conceptual contribution, the peculiarities and previous research of the considered constructs of the conceptual model, as well as the area of sustainable tourism, tourism in protected areas, and the transformation and sustainable use of resources, are systematically presented. The empirical-methodological contribution is manifested in the design and adaptation of the instrument for measurement, evaluation, and presentation of direct and indirect influences between the constructs of the conceptual model using the method of multivariate statistical analysis.

The doctoral thesis contributes to a better understanding of the potential positive effects of visitors on the sustainability of nature park tourism based on the perception of the importance of sustainable resources use, satisfaction with tourist resources, as well as the visitors' willingness to pay a higher price to improve the experience and for the sustainability strengthening of nature park tourism based on sustainable use and management of resources in nature parks. Additionally, guidelines are given for the sustainability strengthening of tourism in nature parks by optimal use and networking of various resources in and around nature parks, as well as recommendations for future research in protected area tourism, especially in nature park tourism. It is concluded that the set goals of the doctoral thesis have been achieved, while at the same time, the basis for future research in the direction of the sustainability strengthening of tourism in destinations with different or similar characteristics has been created.

**Keywords**
sustainable tourism, protected areas, nature parks, resources, visitor perception, tourist experience, visitor satisfaction, willingness to pay.