

Autoarea tezei de abilitare: Conf.dr. Adina Nicoleta CANDREA

Titlul tezei de abilitare: Abordări multidimensionale specifice marketingului în turism și industria ospitalității: comportamentul consumatorului, practici manageriale sustenabile și brandingul destinațiilor

Domeniul: Marketing

Portofoliul de lucrări științifice relevante

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Conf.dr. Adina Nicoleta CANDREA

Article

A Bibliometric Analysis of Generation Z and Tourism Research: Insights from VOSviewer Mapping

Ioana-Simona Ivasciuc , Adina Nicoleta Candrea , Ana Ispas  and Brenda-Andreea Piuaru

Faculty of Economic Sciences and Business Administration, Transylvania University of Brasov, 500036 Braşov, Romania; adina.candrea@unitbv.ro (A.N.C.); ispasana@unitbv.ro (A.I.); brenda.musa@unitbv.ro (B.-A.P.)

* Correspondence: simona.ivasciuc@unitbv.ro

Abstract: In recent years, Generation Z has had a pivotal influence across global industries, with tourism being significantly impacted. As the first generation fully immersed in digital technology, Generation Z members have travel preferences, behaviours, and values which differ markedly from previous generations, presenting both challenges and opportunities for the tourism sector. This study explores studies on Generation Z in the context of the tourism industry through key research questions, including the primary trends and thematic clusters in the existing literature, the most influential journals and authors, and the temporal evolution of research in this area. To address these questions, this article presents a comprehensive bibliometric analysis of 217 publications on Generation Z and tourism, spanning from 2018 to 2024, sourced from the Web of Science. Using VOSviewer, the analysis maps the main trends, the most influential publications, and the emerging themes, providing insights into how Generation Z is reshaping the tourism landscape. The bibliometric analysis and VOSviewer mapping add a rigorous methodological approach, offering a structured overview of existing research while identifying gaps for further exploration, especially in this emerging field. The study highlights the most published and cited journals, providing a broad contextual view, followed by an in-depth exploration of thematic clusters within Generation Z tourism research. The results indicate that although research on this topic gained attention in 2018, it is still in its early stages, with significant room for expansion. Current studies primarily focus on social media marketing communications for Generation Z, as well as Generation Z tourism experiences and their attitudes and preferences towards tourism, suggesting areas for future exploration.

Keywords: generation Z; tourism; bibliometric analysis; VOSviewer; tourism research trends



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1. Introduction

Success in the tourism industry hinges on the ability to identify and adapt to changes effectively. Among these, generational change stands out as a significant phenomenon, presenting both opportunities and challenges. The differences between generations are reshaping the tourism landscape, forcing businesses and researchers to stay agile and responsive. As Gardiner et al. (2014) highlight, traveller behaviour will vary across generations, making continuous and thorough analysis of these differences essential for anticipating future trends.

The rise of Generation Z, in particular, has introduced substantial shifts across multiple sectors, including tourism. As the first generation to grow up entirely in the digital age, Generation Z brings unique preferences, behaviours, and expectations to travel, setting them apart from their predecessors. Understanding these shifts is crucial for businesses aiming to cater to the evolving demands of this emerging consumer base.

Given the extensive body of research on Generation Z and tourism, it is imperative to synthesize and understand the existing literature comprehensively. Although numerous studies have been conducted (Morrone et al. 2024; Olsson et al. 2020; Orea-Giner and Fusté-Forné 2023; Robinson and Schänzel 2019; Stylos et al. 2021), key aspects of the Generation Z

and tourism relationship remain underexplored. This research seeks to bridge this gap by offering detailed insights into Generation Z and tourism research. This is the purpose of this study. It aims to enhance the understanding of Generation Z within the tourism industry by systematically addressing six research questions. The first research question (RQ1), “Which journals, countries, authors, and institutions have been most influential in shaping research on Generation Z and tourism?”, aims to identify the key contributors and pivotal works that have advanced knowledge in this field. The second research question (RQ2), “How has the academic focus on Generation Z and tourism evolved over time?”, investigates the trends in publication and citation patterns, examining how interest in this topic has grown and shifted over the years. The third research question (RQ3), “What are the primary thematic clusters within the existing literature on Generation Z and tourism?”, seeks to identify the main scholarly themes and areas of focus, offering a structured overview of the intellectual landscape in this emerging field.

The study also aims to identify areas that are underexplored, with the fourth research question (RQ4), “What are the current gaps in Generation Z tourism research?”, and the fifth research question (RQ5), “How might these gaps be addressed in future studies?”. These questions are essential for highlighting the limitations of the existing literature and suggesting directions for future research to expand and deepen the understanding of this topic. Finally, the study considers the broader implications of its findings through the sixth research question (RQ6), “What insights can a bibliometric analysis provide regarding the relationship between Generation Z’s and tourism industry?”. This question links the bibliometric results to both practical applications and theoretical advancements, providing a comprehensive view of how Generation Z is shaping the tourism sector.

To answer these research questions, the study employs a bibliometric analysis using VOSviewer software. This method is essential, as it will enable the identification of thematic concentrations and trends within the existing research, thus highlighting under-researched areas and potentially influencing future research directions. By mapping out the intellectual landscape, the bibliometric analysis provides a structured and quantifiable overview of the connections between Generation Z specifically and tourism, ensuring a comprehensive understanding of the field.

The remainder of this paper is structured as follows: Section 2 reviews the existing literature on Generation Z and tourism and existing bibliometric studies on Generation Z. Section 3 describes the research methodology, including data collection techniques used in this study. Section 4 presents and discusses the findings and their implications. The paper concludes with a summary of the research outcomes, an acknowledgment of its limitations, and suggestions for future research directions.

2. Literature Review

2.1. Generation Z and Tourism

Since the end of World War II, researchers have identified four distinct generational cohorts: the Veterans (also known as the Silent Generation, born between 1928 and 1945), Baby Boomers (1946–1964), Generation X (also referred to as the 13th Generation, born between 1965 and 1980), and Millennials (commonly known as Generation Y, born between 1981 and 1995) (Bernstein and Bhugra 2011). Generation Z comprises individuals born in the year 1996 and after, following Generations X and Y, and is also commonly known as Generation I, the Web Generation, or digital natives (Turner 2015). The members of Generation Z have matured during a period marked by a global financial crisis, terrorism, political turbulence, significant climate challenges, and a worldwide pandemic. Simultaneously, this cohort has navigated an increasingly globalized world, enjoying benefits such as a unified currency throughout the European Union and unrestricted mobility across its member states (Benítez-Márquez et al. 2022). These complex and multifaceted global conditions have profoundly influenced Generation Z’s character and perspective, making them highly adaptable to a rapidly changing global environment (Magano et al. 2020).

Recent studies have provided valuable insights into the unique travel planning behaviours of Generation Z, highlighting their preferences. For example, [Dimitriou and AbouElgheit \(2019\)](#) propose a novel decision-making model specific to Generation Z, which is characterized by a five-stage process that underscores the impact of social recognition and the utilization of mobile and social applications in planning travel. Their model illustrates the depth and complexity of Generation Z's decision-making process, from initial inspiration to post-booking evaluations.

The research by [Stavrianea and Kamenidou \(2021\)](#) provides an analysis of experiential values and online accommodation booking within the context of digital transformation in the tourism sector, specifically focusing on the Greek Generation Z cohort. The findings indicate that providing the Generation Z cohort with added experiential value significantly influences their propensity towards positive future behaviours.

The research literature has explored the diversity within the Generation Z travel market. In this vein, [Nemec Rudež \(2023\)](#) performed a market segmentation analysis focusing on Generation Z's online information-seeking behaviours. By assessing the significance of various digital travel-related information features, two distinct market segments were identified for targeted digital marketing strategies. The predominant segment, labelled "Practical information seekers," prioritizes accessible and secure information, while the smaller segment, termed "Genuine information seekers," values the authenticity of the information.

In the realm of transportation, a study by [Olsson et al. \(2020\)](#) examined the relationship between public transport use, travel satisfaction, and life satisfaction across multiple generations. The findings highlight that while younger generations, including Generation Z, utilize public transport more frequently than older cohorts, they also report lower satisfaction with their travel experiences. Key factors such as security, safety, and value for money are particularly important to them, and improvements in these areas are likely to enhance both their travel and life satisfaction. Furthermore, [İlhan et al. \(2022\)](#) suggested that Generation Z individuals are open to experimenting with new modes of transportation that they have not previously encountered. Also, the research conducted by [D'Arco et al. \(2023\)](#) delves into Generation Z's pro-environmental intentions within the tourism sector, focusing on their choices regarding sustainable transportation.

No studies have been identified that present Generation Z's preferences for a specific type of accommodation. However, the study by [D'Arco et al. \(2023\)](#) addresses a related aspect by investigating the eco-conscious intentions of Generation Z within the tourism industry, specifically focusing on their preferences for eco-friendly accommodations.

Regarding culinary preferences, [García-Carrión et al. \(2023\)](#) conducted an eye-tracking experiment to explore how social media message congruence affects visual attention and information processing among Millennials and Generation Z in culinary tourism. The study revealed that both cohorts process gastronomy-related comments more cognitively when message congruence is low. Notably, Generation Z exhibits greater attention to culinary visuals, indicating their unique engagement patterns with gastronomic content. Also, [İlhan et al. \(2022\)](#) study conclude that Generation Z expresses a keen enthusiasm for traditional cuisines.

[İlhan et al. \(2022\)](#) examine Generation Z's perception of landscapes within tourism destinations, highlighting the significance of genuine interactions with residents and the allure of traditional architecture. Their research indicates that these factors are particularly appealing to Generation Z, suggesting that such characteristics should be strategically incorporated into tourism planning to attract this age group. The primary motivation for their travel is to escape the monotony of daily life, with a strong preference for traveling during their school and youth years. This demographic shows a pronounced interest in cultural, historical, and architectural sites.

Despite the growing body of literature addressing various aspects of Generation Z's behaviour in tourism, there is still much to explore. Studies have examined their unique travel planning preferences, market segmentation, and transport use, but critical gaps

remain. This research provides a comprehensive analysis of the trends, thematic clusters, and key areas of the Generation Z and tourism relationship.

2.2. Bibliometric Studies on Generation Z

The use of bibliometric analysis is increasing (Aria and Cuccurullo 2017) because of its capability to identify trends, map the present state of knowledge, and evaluate the impact of scholarly contributions across various disciplines and perspectives.

There are only a few bibliometric studies on Generation Z. A bibliometric analysis was conducted by Yahya and Mammadzada (2024), offering insights into the trends and patterns of research on marketing to Generation Z. The study indicates a shift towards digital platforms, authenticity, and customized content as key strategies to effectively engage Generation Z. It emphasizes the necessity for marketing approaches to be refined to resonate with the distinctive characteristics and values of this demographic. To elucidate the characteristics of Generation Z in the workforce, Benítez-Márquez et al. (2022) reviewed 102 Web of Science articles focusing on Generation Z employees published between 2009 and 2020. Ortiz-Pimentel et al. (2020) performed a bibliometric analysis on intergenerational studies within business and management journals, analysing various generations including X, Y, and Z, as well as Baby Boomers and the Silent Generation. Their research, conducted using the Web of Science database, revealed a concentration of studies in economically developed regions and identified a significant lack of qualitative research concerning Generation Z. Additionally, Li and Hassan (2023) employed VOSviewer for a bibliometric analysis to map the knowledge structure of Generation Z's purchasing behavior, producing a visual network map.

Despite these contributions, there appears to be a gap in similar studies within the context of tourism marketing and behaviour for Generation Z. Given their growing impact on the tourism industry, it is imperative to conduct bibliometric analyses focusing on the tourism experiences of Generation Z.

3. Methodology

Bibliometric studies are essential for analysing academic content, offering valuable insights into publication trends and citation patterns. By examining these trends, we can gain a deeper understanding of the academic discourse surrounding Generation Z in the tourism sector. Web of Science and Scopus, two widely used and comprehensive databases, are commonly utilized for this type of analysis (van Eck and Waltman 2010). In this study, the research data is collected from the Web of Science database.

The analysis in this study was primarily conducted using two tools: VOSviewer (version 1.6.20) for co-occurrence network analysis and Microsoft Excel for descriptive statistical analysis. VOSviewer, a Java-based software developed by Van Eck and Waltman in 2009, is specifically designed for the visualization and analysis of bibliometric networks. It is particularly effective in mapping co-occurrence networks, allowing for a clear visualization of scientific knowledge structures (van Eck and Waltman 2010).

Figure 1 presents the research stages.

The documents utilized for this review were sourced from the Web of Science (WoS) database as of 10 July 2024. An advanced search algorithm was created using specific keyword variants related to Generation Z and tourism terms ("travel", "tourism", "tourist" and "traveller"). The search string implemented in WoS was:

$$TS = ("Generation Z" OR "Gen Z" OR "Z Generation") AND TS = ("travel" OR "tourism" OR "tourist" OR "traveller").$$

The use of these targeted terms was intended to ensure a consistent research focus across different studies. While these terms are interrelated, they may be employed distinctly within academic literature.

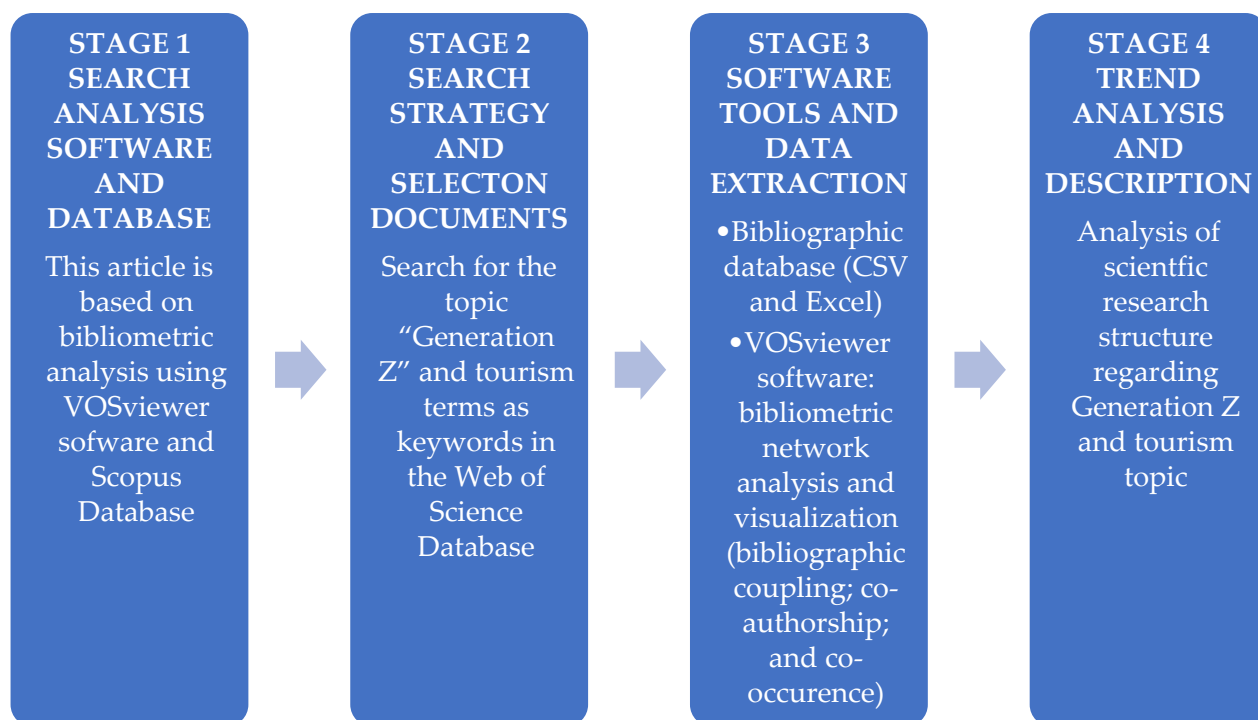


Figure 1. Research stages Source: authors' processing.

4. Results

4.1. Document Type, Subject Categories Overview

To capture a comprehensive range of studies, given the nascent stage of research on Generation Z, no restrictions were placed on publication years (2018–2024), languages, or document types. Most of the documents analysed were articles ($n = 162$: 75.46%), followed by early-access articles ($n = 30$: 13.39%), reviews ($n = 16$: 7.14%), and other types ($n = 9$: 4.01%).

The top three Web of Science subject categories with the highest proportion of documents were "Hospitality, Leisure, Sport & Tourism" ($n = 77$: 33.03%), followed by "Green & Sustainable Science & Technology; Environmental Sciences; Environmental Studies" ($n = 22$: 9.82%) and "Management" ($n = 17$: 7.59%).

4.2. Most Active Journals

Nonetheless, from Figure 2 we can see that the largest number of articles on Generation Z and tourism are published in the journal *Sustainability* ($n = 22$: 9.82%), followed by the *Journal of Tourism Futures* ($n = 12$: 5.36%), *Tourism Review* ($n = 8$: 4.46%), *International Journal of Contemporary Hospitality Management*, *Tourism and Hospitality Management-Croatia*, and *Tourism Management Perspectives* ($n = 5$: 2.23%).

4.3. Country Co-Authorship Analysis

Publications analysing Generation Z's purchasing behaviour originated from 23 different countries. According to Figure 3, the People's Republic of China leads in the number of papers published on Generation Z and tourism, contributing with 38 papers, which constitute 16.96% of the total. This is followed by the United States with 30 papers (13.39%) and Spain with 21 papers (9.38%). Within Europe, Spain emerges as a leader with 21 publications (17.21%), followed by England with 16 publications (13.11%), and Italy with 13 publications (10.66%), indicating significant research interest in these regions on the topic.

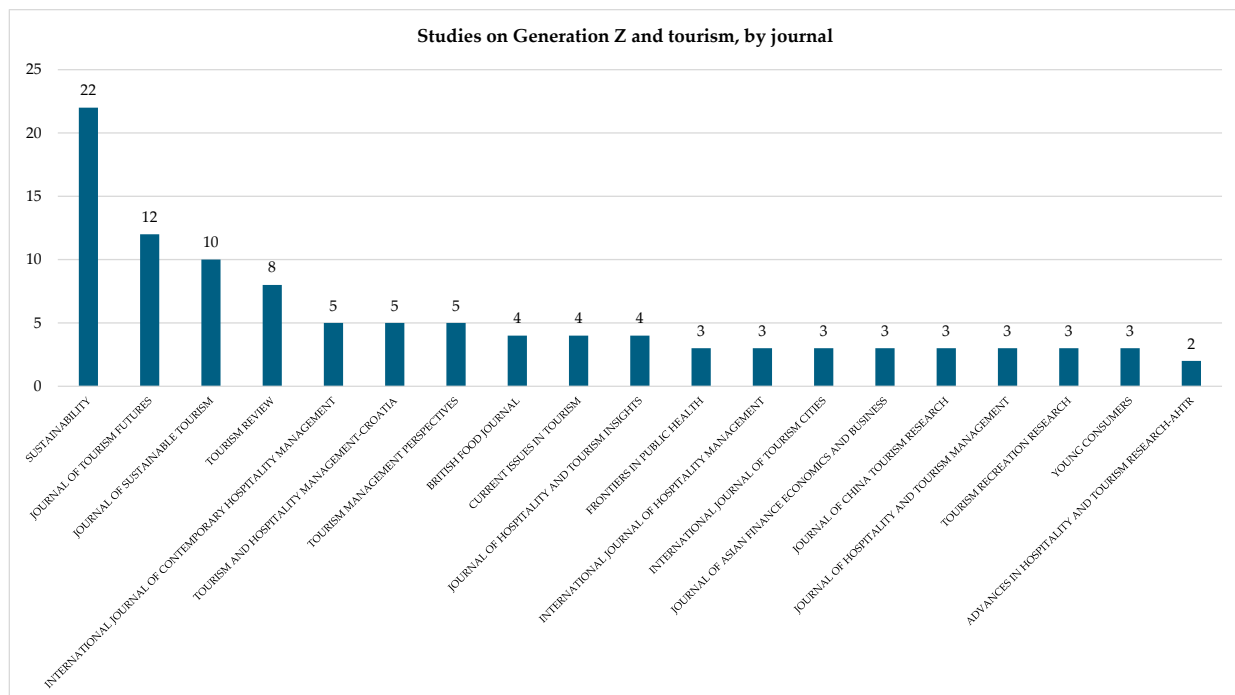


Figure 2. Studies on Generation Z and tourism, by journal. Source: authors' processing in Excel, using Web of Science indexed articles. Source: authors' processing.

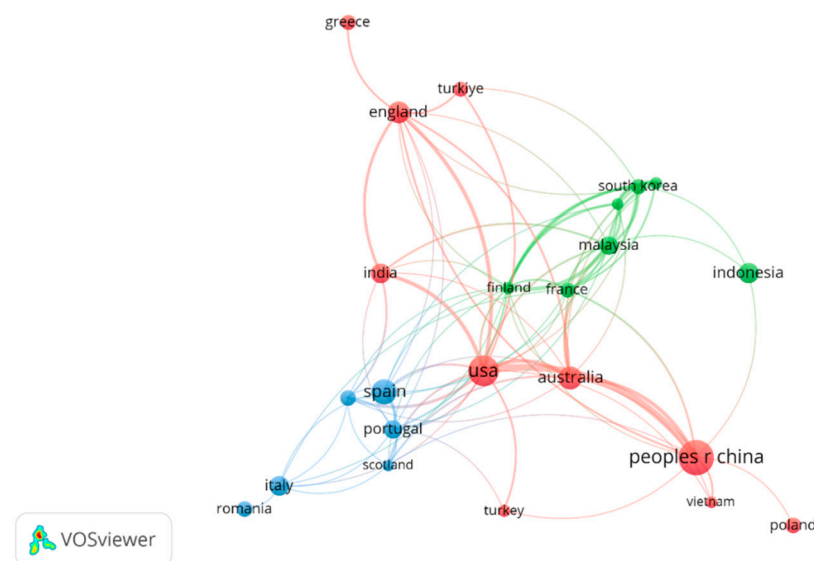


Figure 3. A map of the occurrence of studies on Generation Z and tourism experiences, by country. Source: authors' processing in VOSviewer, using Web of Science indexed articles. Source: authors' processing.

4.4. Most Active Contributors in This Field

To identify the leading contributors in the study of Generation Z and their tourism experiences, publication data were systematically analysed. The analysis focused on pinpointing the most prolific authors and institutions that are shaping the research landscape in this field. This highlights individual researchers and also emphasizes the institutions that serve as hubs of knowledge and innovation. Table 1 presents the top 10 authors, ranked by their total number of publications. These authors are actively contributing to the research on Generation Z and tourism experiences, reflecting their influence and dedication to advancing knowledge in this domain.

Table 1. Top 10 authors, ranked by their total number of publications.

Authors	Record Count
Goh E	5
Hall CM	5
Jiang YY	5
Seyfi S	5
Kamenidou I	4
Okumus F	4
Bara EZ	3
Bollani L	3
Bonadonna A	3

Source: authors' processing.

The outcomes reveal that Goh E, Hall CM, Jiang YY, and Seyfi S are the most prominent contributors, each with five publications regarding Generation Z in the context of the tourism industry. Their work has likely set important precedents for others in the field. Meanwhile, authors such as Kamenidou I and Okumus F, with four publications each, also demonstrate significant involvement in research about Generation Z and tourism.

Additionally, Table 2 highlights the most active institutions contributing to this research domain. These findings offer a comprehensive view of the key contributors and centres of excellence in the field.

Table 2. Top 10 active institutions contributing to this research domain of Generation Z and tourism experiences.

Affiliations	Record Count
STATE UNIVERSITY SYSTEM OF FLORIDA	12
TAYLOR S UNIVERSITY	8
UNIVERSITY OF CENTRAL FLORIDA	8
UNIVERSITY OF OULU	7
EDITH COWAN UNIVERSITY	6
KYUNG HEE UNIVERSITY	6
MACAU UNIVERSITY OF SCIENCE TECHNOLOGY	6
INTERNATIONAL HELLENIC UNIVERSITY	5
LINNAEUS UNIVERSITY	5
UNIVERSIDAD DE MALAGA	5

Source: authors' processing.

The State University System of Florida leads the list with 12 publications on Generation Z and tourism. Other institutions, such as Taylor's University and the University of Central Florida, each with 8 publications, also emerge as key contributors. The presence of institutions from diverse geographical locations—ranging from Finland to Australia—illustrates the global nature of this research area.

4.5. Trends of Publications and Citations

The annual publication count can serve as an indicator of the developmental state of the research area within this study. The publication and citation trends related to Generation Z and tourism are depicted in Figure 4.

Prior to 2018, there is no research published on this theme. There is a steady increase in the number of publications from 2018 to 2022, starting from under 200 publications in 2018 to approximately 600 in 2022. This indicates a growing interest in the field. In 2023, there is a significant decrease in the number of publications.

The trend in citations does not follow the same trajectory as the publications. While the number of publications consistently rises until 2022, the number of citations peaks in 2023, even as the number of publications begins to decline. This might suggest that works published in earlier years have begun to be cited more frequently. This research analysed

the 10 documents with the highest number of citations, the most cited document being “A workforce to be reckoned with: The emerging pivotal Generation Z hospitality workforce” (n = 225) (Goh and Lee 2018). The average number of citations for the 10 documents was 10.83.

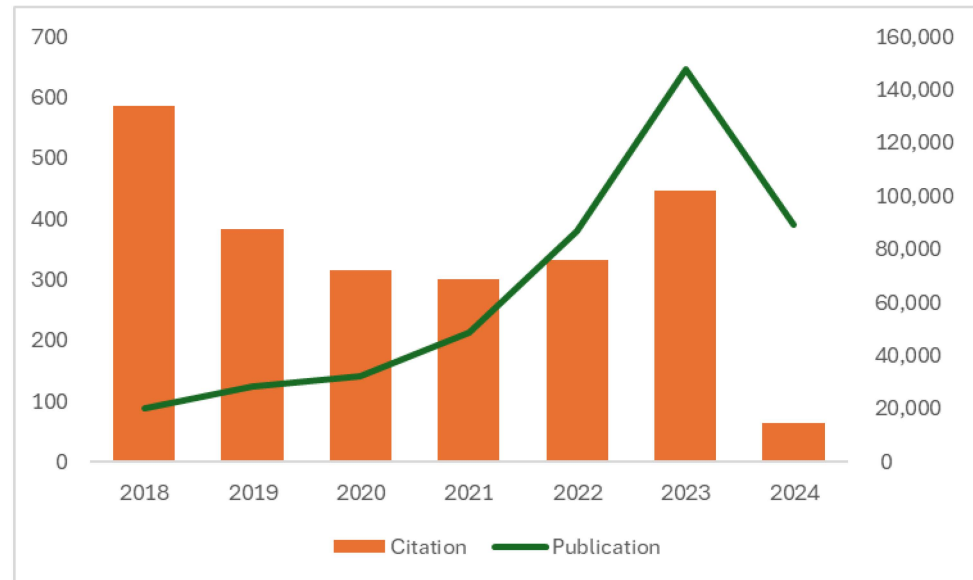


Figure 4. Trends of publications and citations on Generation Z and tourism. Source: authors' processing in Excel, using Web of Science indexed articles.

4.6. Keyword Co-Occurrence Analysis

According to the keyword co-occurrence analysis conducted using VOSviewer (as shown in Figure 5), keywords such as Generation Z, tourism, millennials, social media, experience, model, satisfaction, attitudes, perceptions, travel, and impact, which appear more than 20 times, indicate the main areas of focus in recent research on Generation Z and tourism. These frequently occurring keywords highlight the central themes and topics of interest within this field of study.

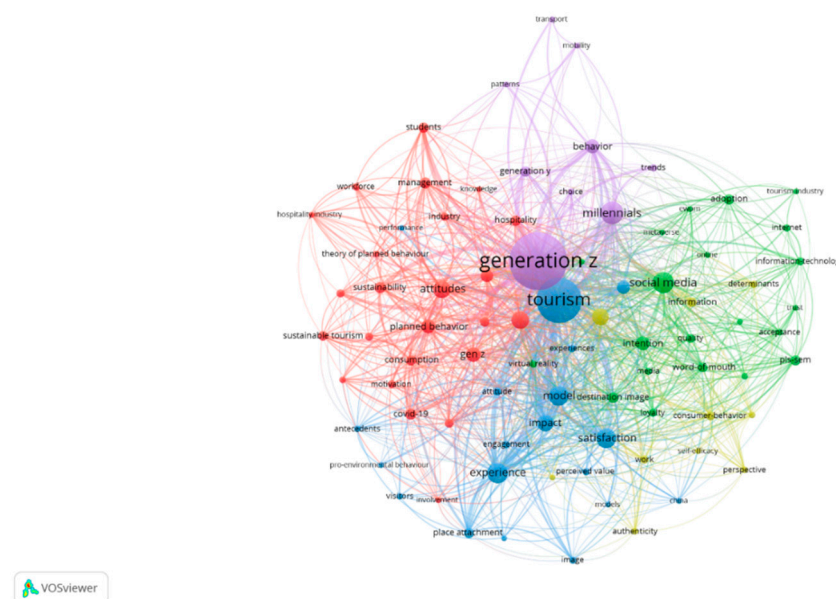


Figure 5. A map of the occurrences and links for terms related to Generation Z and tourism. Source: authors' processing in VOSviewer, using Web of Sciences indexed articles.

Additionally, this study performed a consistency analysis on keywords that appeared more than 5 times, totalling 83 distinct terms. In the visual representation, each node (dot) corresponds to a keyword found in the research articles. The node size generally reflects the frequency of the keyword's occurrence across these articles. As depicted in Figure 5, the scale of the node is directly proportional to the frequency of keyword usage; larger nodes signify a higher degree of focus on those terms.

Using VOSviewer, we mapped the most frequently occurring and co-occurring terms to visually interpret the thematic landscape and connectivity among concepts within the scholarly discourse on Generation Z and tourism. The visual map generated by VOSviewer presented in Figure 5 revealed several distinct clusters of research focus. Each of these clusters represents a nuanced area of interest within the broader field of tourism research.

The clusters (groups of nodes) of different colours signify thematic connections between keywords, suggesting that these terms frequently appear together in the literature. Different colours in the visual representation signify distinct clusters, each corresponding to the specific manner in which the connections are established.

- Cluster 1—Red Cluster—focuses on the psychological and behavioural dimensions of tourism studies, particularly examining underlying motives and responses of Generation Z. It mainly explores “attitudes” (Qiu et al. 2022; Sakdiyakorn et al. 2021; Zaib Abbasi et al. 2023), “perceptions” (Dedeoglu et al. 2023; García-del Junco et al. 2021; Jiménez-García et al. 2023; Nagaj and Žuromskaitė 2023; Rončák et al. 2021), and “planned behavior” (Kharuhayothin et al. 2024; Wu et al. 2024). “Coronavirus Disease 2019” (COVID-19) impact on Generation Z's consumption of tourism products is an important research focus (Kamenidou et al. 2023; Poruțiu et al. 2024).
- Cluster 2—Green Cluster—the main research topic features digital and technological interactions, reflecting Generation Z's engagement with digital platforms. This includes research on “social media” (Dimitriou and AbouElgheit 2019; Ek Styvén and Foster 2018; Lee and Lee 2024) and “information technology” (Tsai et al. 2022).
- Cluster 3—Blue Cluster—is oriented towards experiential and destination-specific aspects, illustrating how Generation Z interacts with and perceives their travel environments. The research mainly studies “experience” (Bogicevic et al. 2024; Chen and Lin 2024; Genc et al. 2023), “place attachment” (Jiang and Hong 2023; Kamenidou et al. 2023), and “perceived value” (Rodrigues et al. 2024; Shen et al. 2024).
- Cluster 4—Yellow Cluster—delves into the dissemination and communication aspects within the tourism field, focusing on how information is shared and consumed. The most important research topics involve “travel” (Lončarić et al. 2013; Zhang et al. 2024), “information” (Aras 2023; Machado Carvalho 2024), and “authenticity” (İlhan et al. 2022; Iványi and Bíró-Szigeti 2020; Lebrun and Bouchet 2024).
- Cluster 5—Purple Cluster—includes studies that compare various generational cohorts within the tourism framework. This includes the comparative discussions of Generation Z and Millennials (Generation Y) (Ek Styvén and Foster 2018; Giachino et al. 2021; Szromek et al. 2019; Yeap et al. 2021; Zhang et al. 2024).

The identified clusters—psychological and behavioural dimensions, digital interactions, experiential tourism, communication and information dynamics, and generational comparisons—form a multifaceted framework that collectively shapes Generation Z's tourism behaviours. While distinct, these clusters are interconnected, influencing each other in nuanced ways (Figure 6).

Generation Z's tourism behaviours are profoundly influenced by their interaction with digital platforms, which shape their attitudes, perceptions, and planned behaviours. Social media serves as both a reflective tool and an amplifying mechanism for their psychological and behavioural dimensions. Peer recommendations and influencer-generated content significantly contribute to the formation of their attitudes towards travel destinations and experiences (Machado Carvalho 2024; Ong et al. 2024; Štimac et al. 2020).

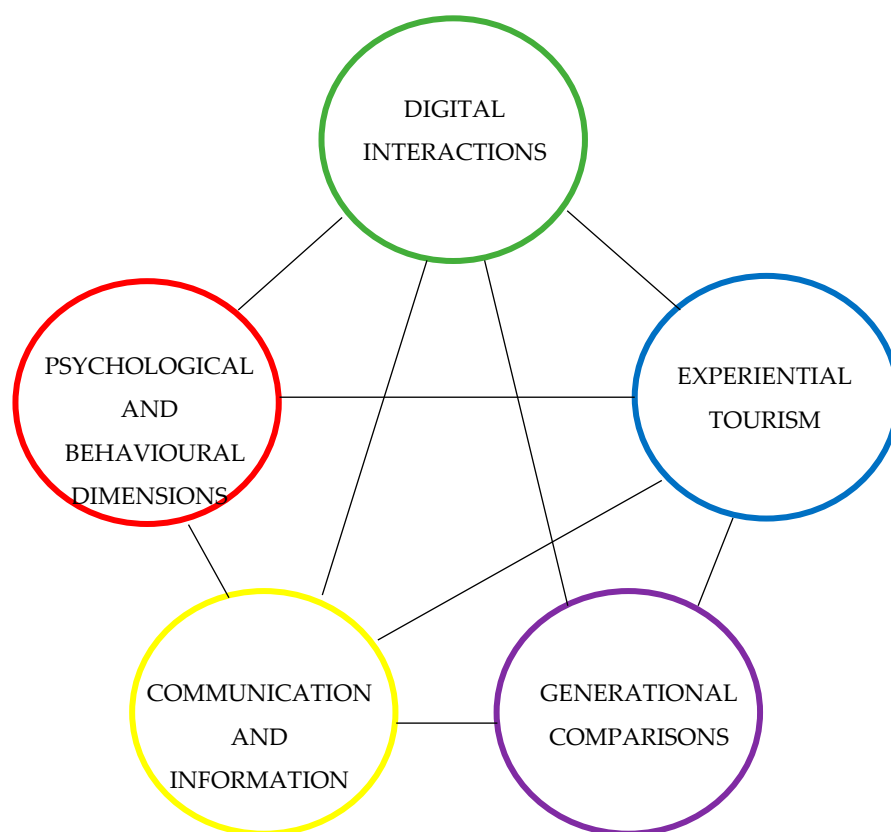


Figure 6. Interconnections between clusters. Source: authors' processing.

Digital platforms play a critical role in both the promotion and sharing of travel experiences. They enable Generation Z to discover, document, and share memorable moments, reinforcing perceived value and fostering emotional connections to destinations (Losada et al. 2022). This emotional satisfaction, coupled with positive perceptions, strengthens psychological bonds, such as place attachment (Lin et al. 2022), which in turn influences future travel choices and encourages destination loyalty (Iványi and Bíró-Szigeti 2020; Lončarić et al. 2013).

Moreover, communication dynamics function as a central element bridging the psychological, digital, and experiential dimensions of tourism. Authentic, well-structured dissemination of information not only shapes perceptions but also ensures that experiences meet or exceed expectations, thereby enhancing satisfaction and the perceived value of travel (Wang and Park 2023).

Comparative studies between Generation Z and Millennials underscore the distinctive emphasis that Generation Z places on technological integration and authenticity within tourism. These generational differences provide a contextual framework for understanding the unique interactions between the clusters, offering a broader perspective on the drivers of Generation Z's tourism behaviours (Fan et al. 2023; Jevtić et al. 2024; Kim et al. 2024; K. Wang 2024).

5. Discussion

5.1. Evolution of Research on Generation Z and Tourism

The bibliometric analysis of research on Generation Z and tourism reveals the evolution of this academic field, highlighting its growth trajectory and thematic diversification. Since 2018, when publications on this topic began to emerge, the number of studies has increased steadily, reflecting a growing academic and industry interest in understanding the travel behaviours and preferences of this generation.

The analysis shows that the majority of documents (75.46%) are research articles, with a smaller proportion consisting of early-access articles, reviews, and other types. The wide range of publication types demonstrates the ongoing exploration of the various dimensions of Generation Z's influence on tourism. In terms of subject categories, "Hospitality, Leisure, Sport & Tourism" leads the field, followed by studies with an emphasis on sustainability and environmental concerns. This distribution suggests that research on Generation Z within tourism is not only focused on traditional tourism behaviours but also incorporates broader issues like environmental consciousness and sustainability, areas that align well with Generation Z's values. The analysis of journal activity shows that *Sustainability* is the leading publication outlet for studies on Generation Z and tourism, followed by other tourism-focused journals like the *Journal of Tourism Futures* and *Tourism Review*. The prominence of sustainability as a theme reflects Generation Z's increasing emphasis on ethical and environmentally responsible travel practices. This interest in sustainable tourism suggests a potential shift in the industry's future, as businesses must adapt to cater to the environmentally conscious travel preferences of Generation Z.

The steady rise in publications from 2018 to 2022 highlights the expanding research interest in this area, with a notable peak in the number of publications in 2022. However, 2023 saw a decrease in new publications, which could indicate a maturation phase in the research field or possibly a shift in focus towards consolidating and building upon existing knowledge. Interestingly, the citation trends peaked in 2023, even as the number of new publications dropped, suggesting that earlier works have gained recognition and are being referenced more frequently.

The keyword co-occurrence analysis reveals several key research themes. Cluster 1 focuses on attitudes, perceptions, and behavioural responses of Generation Z travellers. Cluster 2 emphasizes social media and digital interactions, reflecting the generation's tech-savvy nature. Cluster 3 explores travel experiences and place attachment, highlighting how this group engages with destinations. Cluster 4 examines how travel information is shared and consumed, with a focus on authenticity. Finally, Cluster 5 compares Generation Z with Millennials, exploring generational differences in travel behaviour. These clusters showcase the diverse research interests surrounding Generation Z and tourism.

5.2. Content Analysis of Studies on Generation Z and Tourism

This content analysis examines the contributions of authors in the scientific literature addressing Generation Z's engagement with tourism. The body of work reviewed is interdisciplinary, combining insights from psychology, technology, and cultural studies to provide a holistic understanding of this demographic and its influence on the tourism industry.

Considering this cohort's preferences and motivations, Generation Z travellers prioritize adventure, authenticity, and social interaction in tourism experiences. They seek cultural immersion, local engagement, and gastronomic exploration, often motivated by escapism, perceived value, and culinary interests (Xu and Tavitiyaman 2018). Preferences lean towards seaside and urban destinations, though some favour off-the-beaten-path locations recommended by locals. Accommodation choices reflect economic pragmatism, with a preference for campsites, peer-to-peer accommodation (Airbnb, etc.), and stays with friends or family over luxury resorts (Dimitriou and AbouElgheit 2019).

Studies also identify a hedonistic approach to tourism, characterized by spontaneity, affordability, and cultural engagement (Chen et al. 2022). Gastronomic experiences such as farm-to-table dining, food festivals, and cooking classes foster connections with local communities and support sustainable development (Lebrun and Bouchet 2024). Additionally, Generation Z demonstrates a preference for e-commerce payment systems and staying connected in real time, enhancing travel planning and experiences (Martínez-González and Álvarez-Albelo 2021).

Emerging technologies play a pivotal role in shaping Generation Z's travel preferences, as highlighted in the studied articles. Kılıçarslan et al. (2024) examine the impact of the Metaverse on tourism, particularly in areas such as marketing, customer relationship man-

agement (CRM), and the management of tourist experiences. This research emphasizes the strong connection between Generation Z and virtual events, showcasing the transformative potential of these technologies in redefining travel behaviours. Complementing this, [Liu et al. \(2023\)](#) focus on the influence of social media marketing, highlighting Generation Z's high receptivity to personalized and interactive content. In a similar vein, [Xue et al. \(2024\)](#) underscore the importance of short video content in shaping travel intentions and fostering ecological awareness.

Social media platforms are especially influential in driving Generation Z's tourism behaviours. [Meng and Leung \(2021\)](#) discuss TikTok's ability to shape brand perceptions and travel planning through short-form videos, user-generated content (UGC), and viral trends. YouTube also emerges as a key platform, serving as a source of detailed travel information that combines aspirational storytelling with practical insights ([Alegro and Turnšek 2020](#); [Silaban et al. 2022](#)). Across various platforms, electronic word-of-mouth (eWOM) and UGC provide authentic, relatable perspectives that significantly influence travel decisions ([Čuić Tanković and Vidović 2023](#); [Pop et al. 2022](#); [Tobon and García-Madariaga 2021](#); [Tran and Rudolf 2022](#)). These studies collectively highlight the critical role of social media and emerging digital technologies in shaping the travel choices and behaviours of Generation Z.

The COVID-19 pandemic's effects on travel behaviours is a critical area of study. Research by [Morrone et al. \(2024\)](#) and [Jiménez-García et al. \(2023\)](#) explores how Generation Z's perceptions of risk and safety measures influence their travel decisions. These studies highlight the increased importance of flexibility and hygiene in their preferences, reflecting a shift towards cautious but adaptive travel behaviours.

The interplay between sustainability and Generation Z's travel decisions is another key theme. Researchers have established a connection between pro-environmental values and sustainable travel behaviours, demonstrating Generation Z's emotional commitment to responsible tourism ([Mandić et al. 2024](#); [Pulido-Fernández and López-Sánchez 2016](#); [Seyfi et al. 2023a](#)). However, economic constraints frequently hinder the practical adoption of such sustainable practices. Complementing these findings, [Seyfi et al. \(2023b\)](#) and [Nowacki et al. \(2023\)](#) explore ethical consumerism, highlighting the difficulties Generation Z encounters in aligning their travel choices with ethical principles and the Sustainable Development Goals (SDGs).

Despite this cohort's strong alignment with sustainability, research indicates that sustainable tourism is not yet fully embedded in their travel experiences. While [Haddouche and Salomone \(2018\)](#) and [Cavagnaro et al. \(2018\)](#) find that Generation Z travellers prioritize cultural immersion, local community interaction, and environmental protection, they also note gaps in integrating these values into actual travel practices. This discrepancy is further evidenced by [Georgescu and Herman \(2020\)](#), who reveal that Generation Z's sustainable behaviours are more pronounced at home than when traveling. Even so, the "green image" of a destination significantly influences their decision-making processes ([Nowacki et al. 2023](#)).

5.3. Future of Research Trends on Generation Z and Tourism

Research trends in related fields can be identified by analysing keywords from the past five years ([Li and Hassan 2023](#)). By analysing the keywords related to Generation Z and tourism over the past five years, this study has identified three promising future research directions deserving attention. The first direction is concentrated on the use of social media in tourism by Generation Z. Since 2019, social media has been used as a keyword in the relevant literature 29 times. Social media marketing communications significantly influenced Generation Z because they change their attitudes and behaviours according to the sources they trust, and social media has an important place in their willingness to pay more ([Aras 2023](#)). Academics should deepen research into this theme, particularly exploring how social media shapes Generation Z's decision-making and tourism experiences.

In addition, there is another research direction worthy of attention: Generation Z tourism experiences. "Experience" has appeared 28 times since 2019. It refers to the importance of leveraging nostalgia and understanding the emotional connection that

Generation Z has with tourism products (Chen and Lin 2024). Also, experiential marketing has the power to transform experiences, increasing demand and inspiring word-of-mouth sharing (Bogicevic et al. 2024). Research should delve deeper into Generation Z's tourism experiences, focusing on how immersive and personalized travel affects their satisfaction and loyalty. Academics can also explore how digital technologies such as augmented reality (AR) and virtual reality (VR) enhance these experiences.

A third research direction focuses on Generation Z's attitudes and perceptions, both of which have appeared 23 times in studies over the past five years. Exploring Generation Z's attitudes and perceptions towards emerging forms of tourism, such as virtual tourism (Rodrigues et al. 2024) or rural tourism (Poruțiu et al. 2024), could provide valuable new insights into the preferences of this generation.

6. Conclusions

While Generation Z's impact on tourism is increasingly recognized, there remains a lack of consolidated knowledge that systematically maps the scholarly discourse surrounding this demographic. Understanding the nuances of this group's travel behaviour is crucial not only for the industry's future strategies but also for advancing academic research. This study aims to fill that gap by conducting a bibliometric analysis of the existing literature on Generation Z and tourism. By utilizing VOSviewer for mapping and visualizing bibliometric networks, we provide an in-depth exploration of the key themes, research patterns, and influential contributions within this growing field. The insights drawn from this analysis offer a foundation for further research and practical applications, addressing the unique needs and expectations of Generation Z in the context of global tourism.

The reviewed literature highlights the importance of an integrative approach to understanding Generation Z's dynamics in tourism. Building upon the thematic mapping, this study identifies key contributors and seminal works that have significantly advanced knowledge in the field, addressing RQ1: "Which journals, countries, authors, and institutions have been most influential in shaping research on Generation Z and tourism?" This examination of influential contributions highlights the primary drivers of scholarly discourse and underscores the role of these works in defining and shaping the field. By mapping intellectual networks and identifying key thought leaders, the study establishes a robust foundation for future researchers to expand and refine these areas of inquiry.

In response to the second research question (RQ2): "How has the academic focus on Generation Z and tourism evolved over time?", this study outlines the progression of research priorities over the years. This analysis indicates a maturing research field, transitioning from initial exploratory studies to more nuanced and impactful contributions. The temporal evolution of publications and citations also reflects the increasing integration of Generation Z's unique characteristics—such as their digital engagement, preference for authenticity, and emphasis on meaningful experiences—into broader tourism studies. These trends provide valuable insights for researchers and practitioners, signalling areas of sustained interest and emerging opportunities for future exploration.

By addressing RQ3: "What are the primary thematic clusters within the existing literature on Generation Z and tourism?", the study identified the core scholarly themes in this domain. The thematic clusters include psychological and behavioural dimensions, digital interactions, experiential tourism, communication and information dynamics, and generational comparisons. Together, these clusters form a comprehensive framework that defines and shapes Generation Z's tourism behaviours, offering a structured overview of the intellectual landscape in this emerging field.

Further, the study addressed current gaps in the literature by answering RQ4: "What are the current gaps in Generation Z tourism research?" and RQ5: "How might these gaps be addressed in future studies?" Key gaps identified included the limited exploration of intersections between thematic clusters, such as the interplay between psychological dimensions and digital interactions, as well as the underrepresentation of cultural diversity in shaping tourism behaviours.

Lastly, the study explored the broader implications of the findings by addressing RQ6: “What insights can a bibliometric analysis provide regarding the relationship between Generation Z’s unique characteristics and their influence on the tourism industry?” The research findings offer a cohesive framework of theoretical and practical implications for tourism stakeholders, including scholars, destination managers, and industry practitioners. These insights underscore the importance of aligning strategies with the unique characteristics of Generation Z to enhance their engagement and satisfaction in the tourism sector.

From a theoretical perspective, the study makes significant contributions to the growing body of literature on Generation Z and tourism by identifying key trends and gaps in current research. One critical area highlighted is the limited number of longitudinal studies exploring how Generation Z’s attitudes and behaviours towards tourism evolve over time (Chen et al. 2023; D’Acunto et al. 2024). To address this gap, future research should adopt longitudinal methodologies over extended timeframes, offering a deeper understanding of the temporal changes in Generation Z’s preferences.

From a practical perspective, the study emphasizes several actionable strategies for tourism stakeholders, aiming to bridge the gap between Generation Z’s expectations and the services offered. First, digital engagement strategies must be prioritized, as Generation Z’s tourism behaviours are deeply rooted in their interactions with digital platforms. Stakeholders should focus on creating interactive content, leveraging social media for brand visibility, and integrating seamless digital tools to enhance the overall travel experience.

Second, the provision of personalized and immersive travel experiences is essential for meeting Generation Z’s desire for authenticity and meaningful engagement. Tourism providers should design experiences that foster cultural immersion, local interactions, and activities that align with their quest for social connection and adventure.

Third, stakeholders must address Generation Z’s increasing focus on ethical and environmentally responsible tourism by incorporating eco-friendly practices, ensuring transparency in sustainability initiatives, and offering opportunities for travellers to participate in impactful and responsible travel activities. Such efforts align with this cohort’s values, fostering loyalty and long-term engagement.

Lastly, the importance of generation-specific marketing is emphasized. Distinct campaigns tailored to the characteristics of different cohorts, such as Millennials and Generation Z, can yield better results. For Generation Z, marketing efforts should highlight technology-driven solutions, experiential messaging, and value-based narratives that resonate with their social and environmental consciousness. Despite its theoretical and practical implications, this study has several limitations that could guide future research. First, the data analysed are restricted to literature from the Web of Science database. In this context, the study could be compared to similar bibliometric analyses conducted using different databases, such as Scopus. Also, the study is limited to English-language publications, which may introduce bias in the findings. Second, the majority of the literature is focused on developed countries, with limited representation from emerging markets. Future research could expand by incorporating more diverse data sources and including non-English literature, such as Chinese publications, given that China has the largest Generation Z population, to provide more comprehensive insights.

Furthermore, the reliance on bibliometric methods, though effective for mapping trends and clusters, limits the depth of analysis. Quantitative tools like VOSviewer and databases such as Web of Science overlook the nuanced insights that qualitative or mixed-method approaches could provide into Generation Z’s motivations and behaviours. Future research should incorporate qualitative methodologies, such as content analysis, interviews, surveys, or mixed-method approaches, to capture the rich, context-specific nuances of this demographic.

While VOSviewer is useful for visualizing co-occurrence networks, it offers only a surface-level understanding of research themes. The analysis does not fully explore deeper intersections or theoretical frameworks, reducing its ability to capture the complexity of Generation Z’s engagement with tourism. Future studies could employ advanced

network analysis techniques or delve into case-specific thematic intersections, such as how psychological and digital clusters intersect in shaping experiential tourism.

Additionally, the study heavily emphasizes journal articles, which constituted 75.46% of the analysed documents, while minimally including conference proceedings, policy papers, and case studies. These alternative sources often cover emerging or applied topics critical to understanding innovation and practice in tourism. Future research could integrate diverse document types to capture applied and cutting-edge perspectives, especially from industry reports or grey literature. Moreover, the thematic clusters identified in the study provide a static snapshot of research. While these clusters are valuable, they do not account for the dynamic nature of academic inquiry, where priorities and trends evolve over time. Establishing a longitudinal framework for monitoring trends could provide dynamic insights into how Generation Z's behaviours and preferences evolve in response to technological and societal changes.

Lastly, the study does not address several emerging trends that are becoming increasingly relevant to Generation Z. Topics such as metaverse tourism, blockchain technology, and AI-driven personalization are not presented. Future research should focus on these trends to explore how innovative technologies reshape tourism experiences for this tech-savvy demographic. Comparative studies on the adoption of these technologies across generations could also provide valuable insights.

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Article

Exploring Tourism Experiences: The Vision of Generation Z Versus Artificial Intelligence

Ioana-Simona Ivasciuc ^{*}, Adina Nicoleta Candrea  and Ana Ispas 

Faculty of Economic Sciences and Business Administration, Transilvania University of Brasov,
500068 Braşov, Romania; ispasana@unitbv.ro (A.I.)

* Correspondence: simona.ivasciuc@unitbv.ro

Abstract: Generation Z, known for its digital fluency and distinct consumer behaviors, is an increasingly influential demographic in the tourism industry. As a sustainability-focused generation, their preferences and behaviors are shaping the future of travel. This study explores the tourism experiences of Romanian Generation Z members, focusing on their travel patterns, motivations, information sources, and service preferences. A bibliometric analysis of the existing literature was conducted to identify research trends and gaps in understanding Generation Z's tourism behaviors. Using a mixed-method approach, the study integrates survey data from 399 respondents with AI-generated insights from ChatGPT 4o mini to compare traditional research methods with AI-driven analysis. It examines how AI interprets and predicts travel behaviors, highlighting the reliability and biases inherent in AI models. Key discrepancies between the two methods were found: The survey indicated a preference for car travel and commercial accommodation, while AI predictions favored air travel and private accommodation. Additionally, AI emphasized a growing interest in eco-friendly transportation and connections to natural and cultural environments, offering a broader scope than the survey alone. Both methods revealed a trend toward digital platforms for travel planning, moving away from traditional agencies. The findings suggest that AI can complement traditional research by providing actionable insights, though its limitations emphasize the need for a balanced integration of both methods. This study offers new perspectives on Generation Z's tourism experiences.



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1. Introduction

Considering the experiential nature of tourism, it is unsurprising that customer experience has garnered significant attention from both tourism scholars and industry professionals, leading to a substantial body of research throughout the 21st century (Kim & So, 2022; Veloso & Gomez-Suarez, 2023; Agapito & Sigala, 2024). The tourism industry is continually evolving, driven by shifting consumer preferences and technological advancements that reshape how people experience travel.

Among the most influential demographic groups in this sector is Generation Z, known for their digital fluency, unique consumption habits, sustainability focus, and desire for personalized experiences. As the first generation to have grown up with widespread access to the internet and mobile technology, Generation Z members approach travel differently from previous generations, both in how they gather information and in their preferences for travel services. Examining their tourism practices presents a significant challenge for both academic research and industry professionals in the tourism sector. This study

begins by exploring how Generation Z's tourist experiences can be comprehended. As members of Generation Z transition into adulthood, they are poised to take on leadership roles and become key players in the tourism and travel industries. To prepare for this future, it is important to invest in research that anticipates their needs and behaviors. Infrastructure development remains crucial but there is a growing need to focus on understanding the preferences and expectations of members of Generation Z in shaping their tourism experiences.

Although some studies have explored the tourism experiences and behaviors of Generation Z (Morrone et al., 2024; Orea-Giner & Fusté-Forné, 2023), there is a lack of research specifically focused on the tourism experiences of Romanian Generation Z tourists, an area that remains largely unexplored. To address this gap, the present study employs a bibliometric literature review to systematically analyze the existing research landscape. This approach quantitatively assesses key themes and trends in the academic literature, laying the groundwork for identifying gaps related to Romanian Generation Z's tourism experiences. Notably, existing studies have largely focused on members of Generation Z from developed countries (Haddouche & Salomone, 2018; Ding et al., 2022; Morrone et al., 2024), where tourism is a common and well-established behavior. In contrast, such research in less developed or peripheral countries remains rare (Negrușă & Toader, 2018; Bălteșcu, 2019), highlighting the necessity of gaining a deeper understanding of Romanian Generation Z's tourism experiences. Specifically, this study focuses on Romanian Generation Z's tourism experiences, addressing a critical gap that offers valuable insights for both academic research and industry practices. Therefore, the *first objective of the study* is to examine the tourism experiences of Romanian Generation Z through the application of a survey-based research method. The main analyzed dimensions of respondents' tourism experience include travel patterns and preferences related to transportation options, types of accommodation, culinary interests, entertainment activities, travel motivations, booking and information sources, and the use of technology.

Contemporary environmental challenges—such as crises, climate change, an increased focus on corporate social responsibility, a growing interest in well-being, and the technological revolution—underscore the need to update and enhance theoretical frameworks and methodologies for understanding and managing experiences (Agapito & Sigala, 2024). These shifts create opportunities to explore novel tools for studying experiences, including AI-based tools like ChatGPT. Given the limited research on Romanian members of Generation Z, ChatGPT was employed as an innovative instrument to explore their tourist experiences by leveraging the global academic literature. Consequently, the study's *second objective* was to use artificial intelligence (ChatGPT) to broaden the understanding of Romanian Generation Z's tourism experiences. Therefore, this study investigates whether AI-generated results can serve as a practical alternative to traditional research methods, which are often time-consuming and resource-intensive.

AI is becoming increasingly integrated into daily life, yet its application in tourism research is still underexplored, especially in comparing AI-generated insights with traditional research methods (Mariani et al., 2022; Vaid et al., 2023; Vidhya et al., 2023). This study compares empirical survey data with AI-generated outcomes to assess the potential of AI tools, such as ChatGPT, in understanding tourist behavior. Given the rapid evolution of the tourism industry and the time constraints faced by tourism managers, it is important to evaluate whether AI tools like ChatGPT can provide efficient and actionable insights into consumer behavior. The study explores how AI technologies, such as ChatGPT, can complement traditional research methods in tourism by comparing AI-generated insights with human survey responses. Therefore, the third objective of this study is to conduct a comparative analysis between the survey results obtained from Romanian Generation Z

respondents and ChatGPT-generated data regarding the travel experiences of Generation Z members. This analysis offers valuable insights into the potential of artificial intelligence as an alternative to traditional research methods.

The structure of this paper is as follows.

Section 2 provides a review of the existing literature on tourism experiences and a more focused approach on Generation Z members and their tourism experience. A bibliometric review was used to analyze publication trends and identify research gaps in Generation Z's tourism experiences, offering a comprehensive overview and highlighting key themes for further exploration. The connection to sustainable tourism was explored through a systematic literature review, which provided deeper insights into the alignment between Generation Z and sustainability in tourism.

Section 3 outlines the research methodology, detailing the sample characteristics and data collection techniques employed in the study.

Section 4 presents the findings and discusses their broader implications. The paper concludes with a summary of the research results, a discussion of its limitations, and recommendations for future research avenues.

2. Literature Review

2.1. Tourism Experiences

Experiences are often described as subjective, intangible, ongoing, and deeply personal in nature (O'Dell, 2007; Cutler & Carmichael, 2010). The concept of "experience" can be understood in two forms: the immediate, lived experience and the reflective, interpreted experience, where meaning is assigned through reflection (Highmore, 2002).

The tourist experience is a complex psychological process, making it difficult to define due to its broad range of components (Jennings, 2006; Selstad, 2007). It is often argued that tourist experiences differ from everyday experiences (Cohen, 1979, 2004; Graburn, 2001; Vogt, 1976). Tourism involves intricate interactions, memories, and emotions tied to specific places (Noy, 2004), with individuals typically seeking either an experience of the place itself or a deeper sense of self within that environment. Experience is defined as "an individual's subjective evaluation and undergoing (i.e., affective, cognitive, and behavioural) of events related to his/her travel activities which begin before (i.e., planning and preparation), during (i.e., at the destination), and after the trip (i.e., recollection)" (Tung & Ritchie, 2011, p. 1369).

In tourism, understanding experiences is essential for enhancing a destination's competitiveness (Kamenidou et al., 2019). Research on tourist experiences draws from diverse methodologies and theoretical frameworks, particularly from social science and marketing/management studies (Vittersø et al., 2000; Cutler & Carmichael, 2010; Uriely, 2005; Volo, 2013; Campos et al., 2018; Sheldon, 2020). Tourism experiences have been conceptualized as interactions in which destinations act as "theatres" and tourists take on the roles of "actors" (Stamboulis & Skayannis, 2003). The tourism industry plays a critical role in creating, orchestrating, and consuming these experiences by shaping locales and presenting cultural elements (Ramesh & Jaunky, 2021; Mohammad Shafiee et al., 2021; Y. Li et al., 2023).

In contrast, some authors (Crespi-Vallbona & Mascarilla-Miró, 2020; Rasoolimanesh et al., 2021) argue that destinations neither inherently attract nor repel visitors, emphasizing the importance of focusing on individuals actively engaged in, or preparing for, tourism activities. Thus, this paper explores the tourism experiences of Romanian Generation Z individuals, providing a framework for analyzing these experiences. It contributes to the existing body of knowledge by offering a holistic perspective and deeper insights into Generation Z's tourism experiences, shifting the focus from the destination to the traveler.

2.2. Generation Z and Tourism Experiences

Generation Z comprises individuals born in or after 1995, with the oldest members currently aged 29 (İlhan et al., 2023). However, the European Travel Commission (2020) defines Generation Z as those born after 1996 (European Travel Commission, 2020). Generation Z, largely the offspring of Generation X, grew up during the rapid technological advancements brought about by the internet, smartphones, laptops, and widespread access to digital media. This generation has also been referred to by various names such as “post-millennials”, “centennials”, “pivotal”, and “digital natives” (Robinson & Schänzel, 2019).

The typical Generation Z individual, often referred to as a digital native (Daukseviciute, 2016), is part of the first generation born into a globally connected, internet-driven world, making technology an integral part of their everyday lives (Cilliers, 2017).

Generation Z exhibits a distinct travel profile, differing from traditional tourism through their choices in travel, accommodation, and their interactions with the environment and local communities (Van De Walle, 2011). Though often labeled as a narcissistic generation focused on self-promotion, such as posting selfies, they demonstrate modesty during tourist experiences (Haddouche & Salomone, 2018). For them, tourism is seen as a break from daily routines, often accompanied by reduced use of social media (Carù & Cova, 2006). Unlike previous generations, cultural content holds less importance for them (Negrușă & Toader, 2018). Key aspects of Generation Z’s tourism behavior, as identified by Mignon (2003) or Băltescu (2019), include last-minute decision-making, a constant search for opportunities, reliance on word-of-mouth recommendations, and a growing preference for low-cost services.

To capture a wide range of studies, considering the emerging nature of research on Generation Z, it is imperative to synthesize and understand the existing literature comprehensively. To identify the research gap in the current literature on tourism experiences, a bibliometric literature review was employed. This method provides a comprehensive and systematic overview of the research field by quantitatively assessing publication trends, co-citation patterns, and key thematic areas.

The documents utilized for this review were sourced from the Web of Science (WoS) database as of 20 September 2024. An advanced search algorithm was created using specific keyword variants related to Generation Z and tourism experience terms. The use of these targeted terms was intended to ensure a consistent research focus across different studies. While these terms are interrelated, they may be employed distinctly within the academic literature. The search string implemented in WoS was as follows:

$TS = ((\text{"Generation Z"} \text{ OR } \text{Gen Z} \text{ OR } \text{"post-millennials"}) \text{ AND } (\text{"tourism experience"} \text{ OR } \text{"travel experience"} \text{ OR } \text{"tourist experience"} \text{ OR } \text{"vacation experience"}))$

To capture a wide range of studies, considering the emerging nature of research on Generation Z, no restrictions were imposed on publication years (2018–2024), languages, or document types. All analyzed documents were articles ($n = 16$). The top five Web of Science subject categories were “Hospitality, Leisure, Sport & Tourism” ($n = 9$, 56.25%), followed by “Agricultural Economics Policy”, “Economics”, “Food Science Technology”, and “Management” (each with $n = 2$, 12.50%).

The publication and citation trends related to Generation Z and tourism experience are depicted in Figure 1, which indicates an increasing trend of both publications and citations in recent years, reflecting a growing academic interest in this research field, with 2023 being a pivotal year in terms of output and impact.

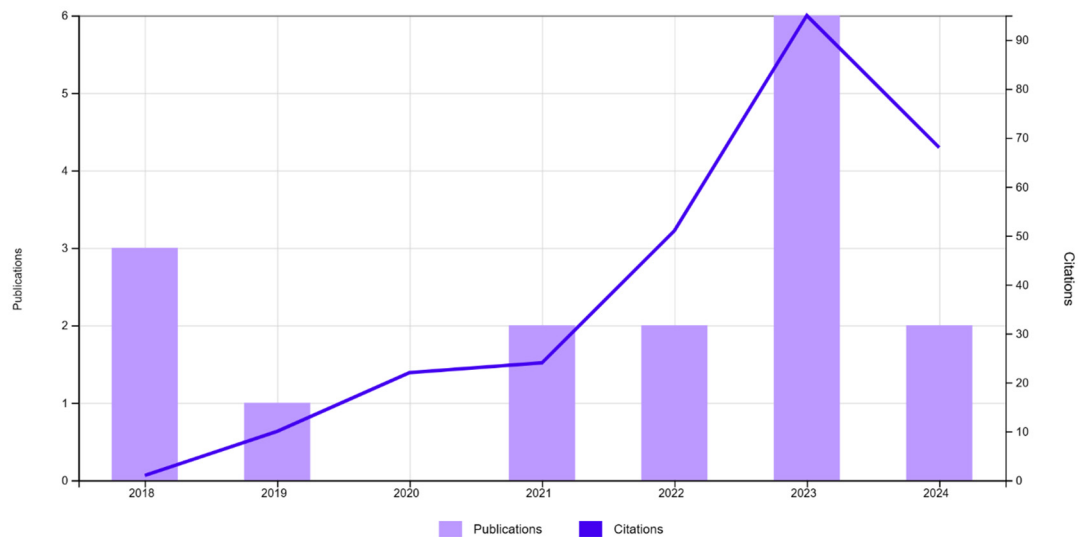


Figure 1. Trends of publications and citations on Generation Z and tourism experience. Source: Authors' processing in Excel, using Web of Science-indexed articles.

A consistency analysis using VOSviewer1.6.20 was conducted on keywords appearing more than three times, identifying eight key terms. VOSviewer, a free Java-based software developed by [van Eck and Waltman \(2010\)](#), is specifically designed for bibliometric analysis, with a strong capability to visualize co-occurrence networks and map scientific research trends ([van Eck & Waltman, 2010](#)). In this analysis, each node represents a keyword from the reviewed articles, with its size proportional to the frequency of occurrence. As shown in Figure 2, larger nodes indicate more frequently used keywords, reflecting areas of greater focus in the literature. By mapping the most common and co-occurring keywords, VOSviewer provided a clear visualization of the thematic structure and the connections between key concepts related to Generation Z and tourism experiences.

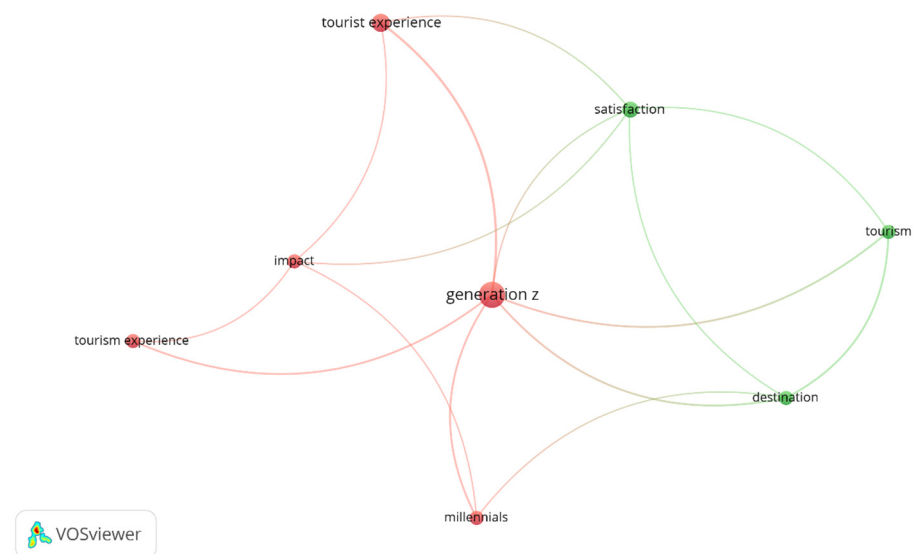


Figure 2. Map of the occurrences and links for terms related to Generation Z and the tourism experience. Source: Authors' processing in VOS viewer, using Web of Science-indexed articles.

The results presented in Figure 2 reveal several gaps that align with broader issues identified in the existing literature. There is a lack of comprehensive studies on how Generation Z perceives and interacts with different types of tourist experiences. Furthermore, the connection between Generation Z and their choice of travel destinations, as well as how

these destinations cater to their preferences, is underdeveloped. Lastly, deeper insights are needed into the specific factors that define a successful tourist experience for Generation Z, particularly the role of technology and digital platforms in shaping these experiences. Existing studies on Generation Z and tourism, such as those by [Haddouche and Salomone \(2018\)](#) and [Morrone et al. \(2024\)](#), primarily focus on broader geographic regions or specific contexts, such as post-pandemic behaviors or social media influence. However, these works lack an in-depth analysis of Romanian Generation Z tourists' distinct characteristics. Moreover, there is a significant gap in understanding the travel patterns, motivations, and service preferences of this demographic, which this study aims to address.

2.3. Generation Z's Travel Behaviors and Sustainability

Generation Z, the most ethnically diverse and technologically advanced generation, is characterized by individualism, materialism, and a strong concern for environmental issues ([Dangmei & Singh, 2016](#)). Members of this generation are deeply connected to the virtual world, which influences their behaviors and choices in many aspects of life, including travel. Their travel behaviors are increasingly shaped by sustainability, and they tend to make decisions that reflect a holistic view of environmental impact.

Generation Z is particularly drawn to eco-friendly transportation options, such as electric vehicles, shared mobility, and trains, which align with sustainable tourism goals ([İlhan et al., 2023](#); [European Travel Commission, 2020](#)). They also seek accommodations that have sustainability certifications, demonstrating their commitment to reducing the environmental footprint of their travel ([Haddouche & Salomone, 2018](#)). Members of this generation's preference for sustainability extends to dining choices as well, as they prioritize organic food and restaurants that implement measures to reduce their carbon footprint. A study by [Chiciudean et al. \(2024\)](#) found that younger consumers consider these factors as key influences on their restaurant decisions. Additionally, they value digital menus and place a higher importance on food quality and freshness over price, further reflecting their sustainable mindset ([Băltescu, 2022](#)).

The integration of technology plays a significant role in the travel behaviors of Generation Z. Smart destinations could leverage technologies such as IoT and AI to provide real-time eco-friendly transport options and sustainable accommodation, directly addressing the sustainability demands of this demographic. These technologies not only help optimize resources but also enhance the visitor experience by promoting responsible tourism practices ([Gretzel et al., 2018](#); [Stylos et al., 2021](#)). The study conducted by [Salam et al. \(2024\)](#) revealed that the most used smart device application during travel is the maps app, emphasizing the importance of navigation and ease of access in travel experiences.

Digital communication also plays a crucial role in shaping Generation Z's travel decisions. [Băltescu and Untaru \(2025\)](#) explored the influence of travel influencers on this generation, highlighting how digital communication, with its zero-waste and efficient nature, supports sustainable practices. They note that Generation Z values information that promotes sustainable behavior, a preference confirmed by other studies as well ([Laužikas & Miliūtė, 2020](#); [Băltescu & Untaru, 2025](#)).

[Dabija et al. \(2019\)](#) further emphasize the importance of sustainability for Generation Z, suggesting that producers must adopt green strategies to cater to this generation's values. Previous research identifies three environmentally conscious food consumer groups within Generation Z, with sustainability activists and believers being the largest, further affirming their eco-friendly orientation ([Su et al., 2019](#)).

3. Methodology

This study follows a multi-step methodology to examine the alignment between Generation Z's tourism experiences and AI-generated outcomes. After the systematic literature review and bibliometric analysis to map existing knowledge, data collection proceeded with two parallel approaches: an online survey of Romanian Generation Z for quantitative data, and AI-generated tourism outcomes for comparison. A comparative analysis identified similarities and differences between human and AI-reported experiences, concluding with an evaluation of AI's ability to replicate or predict Generation Z's preferences. Figure 3 presents a flow diagram which illustrates the research process.

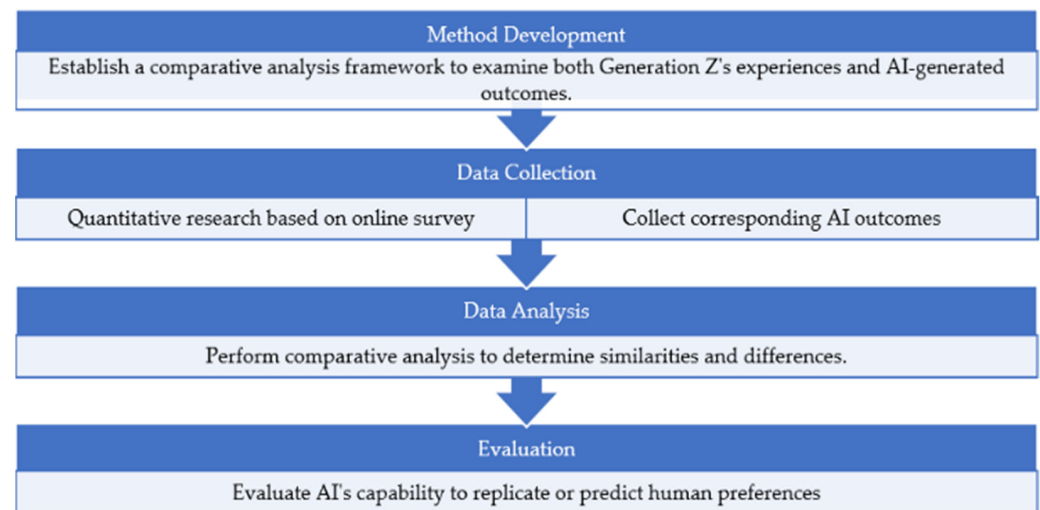


Figure 3. Flow diagram of the research process. Source: Authors' processing in Word.

This study utilized a quantitative survey to explore the tourism experiences of Romanian Generation Z. The structured questionnaire was developed based on the Flash Eurobarometer surveys of 2010, 2016, and 2021 (European Commission, 2010, 2016, 2021), which are widely recognized for their comprehensive approach to examining travel behaviors across Europe. These surveys provided a solid framework for investigating Generation Z's distinct travel patterns in a Romanian context, ensuring consistency and comparability with previous research. Reliability was reinforced by incorporating established scales from the Eurobarometer, which have been rigorously tested and standardized across various cultural contexts. Additionally, internal consistency checks were conducted on the survey responses to further ensure data reliability.

The survey covered key dimensions of the tourism experience, including travel patterns and preferences related to transportation options, types of accommodation, culinary interests, entertainment activities, travel motivations, booking and information sources, and the use of technology. To answer the first objective of the study, analyzing the tourism experiences of Romanian Generation Z, a series of research questions were developed:

- What are the predominant methods through which Generation Z makes travel bookings, and what platforms and technological tools do they use?
- What are the preferred sources of tourist information for Generation Z, and how does digitalization impact their information-seeking behavior?
- What are Generation Z's preferences regarding modes of transportation for travel?
- What are the decisive factors that influence Generation Z's choice of travel destinations?
- What are Generation Z's accommodation preferences?
- What dining options are preferred by Generation Z during travel?
- What types of entertainment and activities are preferred by Generation Z during travel?

The questionnaire's validity was assessed through a pilot test involving 20 participants from the target demographic, which helped refine the survey questions for clarity and relevance.

Data collection was conducted using an online survey platform, which allowed for a broad geographic reach and the efficient gathering of responses. The questionnaire is distributed between 25 July 2024 and 31 August 2024 via email, social media platforms, or WhatsApp messages by researchers to Romanian individuals aged 18–29. Respondents were encouraged to forward the survey to others within the same age group. Potential participants were invited to give their informed consent electronically before completing the survey. Participation was anonymous; therefore, a signature was not required on the consent form. The number of respondents was 399, and their sociodemographic details were unknown.

To answer the second objective of the study, following Bahak et al.'s (2023) methodology of evaluating ChatGPT as a question answering (QA) system, a specific evaluation framework has been implemented. This framework is structured around three primary components: the Prompt Builder, ChatGPT, and the Answer Evaluator. The data structure for a QA dataset typically consists of a set of triples (P, Q, and A), where 'P' is a textual paragraph, 'Q' is a question about this paragraph, and 'A' represents the corresponding answer. For each triple, the paragraph (P_i) and question (Q_i) are input into the Prompt Builder, which then formulates and sends a prompt to ChatGPT to solicit an answer for 'Q' based on 'P'. Subsequently, the response from ChatGPT, along with the correct answer ('A'), is evaluated by the Answer Evaluator using predetermined metrics.

The Prompt Builder is tasked with creating appropriate prompts based on the available data, which are then supplied to ChatGPT. The prompts were framed in a way that reflected the specific themes explored in the survey.

QA dataset: "Given the research titled 'Generation Z and Tourism Experiences', what is the answer to the following question based on available online statistics: "+Q+"? Consider the following answer options: "+P".

For example, a prompt asked, "Given the research titled 'Generation Z and Tourism Experiences', what is the answer to the following question based on available online statistics: "What type of transportation do you prefer within a holiday destination?" Consider the following answer options: "Own car, Rented car, Train, Airplane, Bicycle, Hitchhiking, Public transportation (bus, metro, etc.), Taxi, UBER, Electric scooter/bike, Walking, I have no preferences". This was designed to mirror the questions posed in the traditional survey.

In this study, ChatGPT-4 was chosen because it is the most up to date. ChatGPT generated responses by drawing on a diverse range of global studies, articles, and databases, ensuring that the outputs represented a broad spectrum of international insights into Generation Z's tourism behaviors. However, no specific outcomes were generated regarding Romanian Generation Z. To evaluate the consistency between AI-generated insights and traditional survey results and answer the third objective of this study, a direct comparison was conducted across key dimensions of the Generation Z tourism experience. A key aspect of this study is to examine the biases and discrepancies in the results between the two data sources, especially considering AI's reliance on diverse online sources such as blogs, influencers, and trade platforms.

The evaluation metric used for assessing QA systems is exact match, also used in Rajpurkar et al.'s (2016) and Bahak et al.'s (2023) research. This metric calculates the percentage of predicted answers that precisely match any of the correct candidate answers. An answer was classified as an "exact match" if ChatGPT accurately replicated the survey response option that received the most answers within its full response.

In this study, the methods complement each other. The survey data anchor the analysis by offering firsthand insights into the Romanian cohort's behaviors while the AI insights provide a meta-analysis of global trends that are not restricted to Romanian data but are essential for comparing local patterns to international behaviors. This layered approach strengthens the overall findings but also validates the results by cross-checking data from different sources.

The use of a mixed-methods design in this study aligns with a growing trend in social sciences and tourism research to combine quantitative and qualitative methods (Creswell & Clark, 2007; Johnson & Onwuegbuzie, 2004). Tourism research, due to its multi-disciplinary nature, benefits from this approach as it allows for a more comprehensive understanding of complex behaviors like Generation Z's travel preferences (Mackay & Campbell, 2004; Lemelin, 2006). By integrating survey data (quantitative) with AI-generated insights (qualitative), this study provides both localized, specific data and a global perspective, enhancing the overall validity and depth of the findings. Mixed-methods approaches are becoming increasingly common in tourism studies as they offer richer insights into multi-faceted phenomena (Riley & Love, 2000).

4. Results and Discussions

The comparative analysis between survey results and ChatGPT-generated data regarding the travel experiences of Generation Z members offers valuable insights into the potential of artificial intelligence as an alternative to traditional research methods.

ChatGPT's responses were based on 12 online sources, which included industry reports, articles, and research publications (detailed in Table 1). The AI-synthesized data from a diverse range of sectors, including travel technology, economic reports, and consumer behavior studies, provided a broad understanding of global Generation Z tourism experience trends.

The composition of sources used by ChatGPT includes 33.33% blogs, 25% articles based on research, and 41.67% online articles. Analyzing the business fields of these sources, a substantial focus is directed towards travel-related services and technology, which together constitute nearly 75% of all sources. Furthermore, the temporal distribution of these sources is with half dating from 2023 and a forward-looking perspective with 33.3% slated for 2024.

The data encapsulated within the responses from ChatGPT correspond with the content drawn from specified source texts. On average, approximately 2.625 sources were utilized per response. The range of sources varied, with a minimum of one source (question: which of the following attractions is the most important for you when you select a holiday destination?) and a maximum of five sources (question: what are your dining preferences when traveling?).

The comparative analysis reveals that 43.75% of the survey responses aligned with the ChatGPT-generated results, while 56.25% did not match. This significant proportion of matched responses indicates that AI has a considerable capacity to replicate traditional research findings accurately. However, more than half of the responses did not match, highlighting the limitations of relying solely on AI-generated data. Figure 4 presents a visual comparison between survey results and AI-generated results (ChatGPT) regarding Generation Z's travel experiences. Responses are grouped into four main categories: travel patterns and preferences, reasons and motivations for travel, booking and information sources, and technology use. In the following, a detailed analysis of the results is presented.

Table 1. Details about ChatGPT’s sources.

Author	Source	Title	Business Field	Source Type	Year
“Travel and Leisure” magazine	Travel+ Leisure (2024)	How Gen Z Is Changing the Travel Industry—and Where They Plan to Go in 2024	Online magazine	Online article	2024
CEBR	CEBR (2023)	Globetrender—Gen Z and Millennial travel intentions revealed for 2023	Economic consultancy	Article based on research	2023
Flywire	Flywire (2022)	Gen Z & Millennial travelers turn to travel agents to plan luxury trips	Payment solutions	Article based on research	2022
GQ magazine	GQ (2024)	The 2024 world’s most exciting destinations for Gen Z travellers, according to study	Online magazine	Online article	2024
Michael Brito	Brito (2023)	2023 Gen Z Trends, Facts & Statistics & Media Consumption	Digital strategy consulting	Online article	2023
Rezdy	Rezdy (2023)	Generation Z travel trends and how to attract them to your tours & activities	Travel technology	Blog	2023
Roller	Roller (2024)	Gen Z Travel Trends & Statistics in 2023	IT, customer experience	Blog	2024
TELUS International	Telus International (2021)	How Generation Z is changing, and challenging, the future of travel	IT, customer experience	Online article	2021
The Wandering RV	The Wandering RV (2023)	Travel Statistics by Age Group (2023) // Latest Research	RV travel insights	Article based on research	2023
Toast	TOAST (2023)	Tracking the Latest Gen Z Food Trends in 2024	Restaurant management system	Blog	2023
TravelPerk	Travelperk (2024)	30+ Gen Z travel statistics and trends [2024 update]	Corporate travel management	Blog	2024
TripPursuit	Trippursuit (2023)	Gen Z Travel Trends 2023: Rethinking the Future of Tourism?	Travel content platform	Online article	2023

In examining the travel experiences of Generation Z respondents over the past 12 months, quantitative data obtained from the online survey conducted among Romanians revealed that traveling 2–3 times was the most frequent occurrence, noted by 39.10% of respondents. This finding is supported by the ChatGPT-generated analysis, which highlighted the same frequency as the dominant travel pattern for Generation Z. ChatGPT’s response cited findings from sources such as [Roller \(2024\)](#), suggesting Generation Z’s preference for multiple trips annually, often blending leisure with exploration. This consistent observation across both empirical data and synthesized reports suggests the need to accommodate the unique travel preferences and patterns of younger generations.

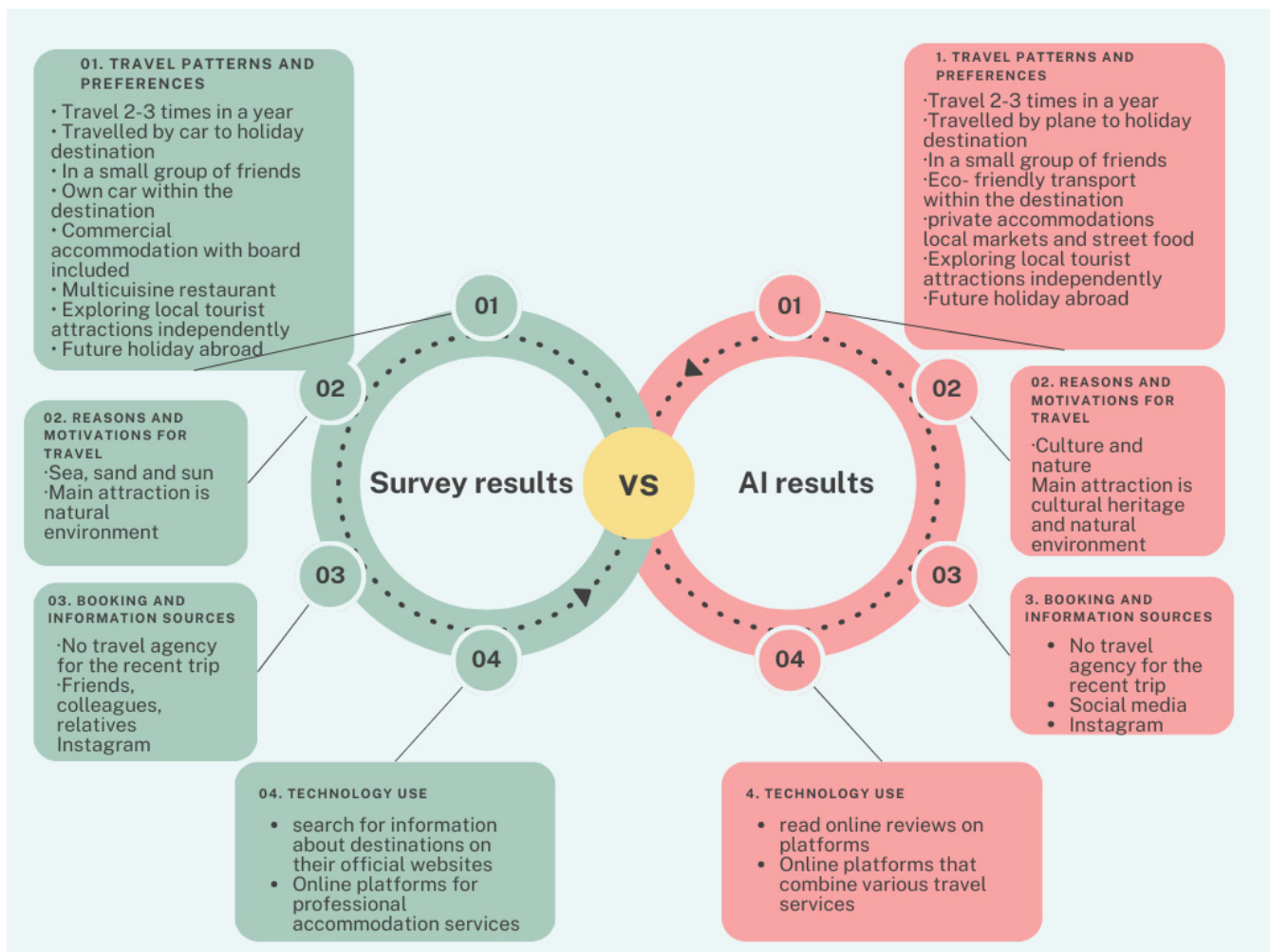


Figure 4. Visual comparison between survey results and AI-generated results (ChatGPT) regarding Generation Z's tourism experience. Source: Authors' processing in Canva, using research results.

In the last 12 months, 6.77% of the sample studied did not travel for tourism purposes. The online survey results revealed that the predominant reason for this lack of travel among Generation Z individuals is financial concerns, with 77.78% of non-travelers citing economic constraints as the primary deterrent. The analysis indicates that other factors such as personal reasons, time constraints, or safety concerns had minimal impact, underscoring economic factors as the central barrier to travel within this group. This finding is corroborated by a ChatGPT-generated analysis, which also highlights the cautious spending habits of many Generation Z individuals, particularly in the face of ongoing economic uncertainties that have continued to shape travel behaviors post-pandemic. This financial prudence is particularly evident in their preference to economize on transportation and other travel costs while still seeking enriching travel experiences when possible (Travelperk, 2024; Trippursuit, 2023; Roller, 2024). This emphasis on financial concerns as a significant barrier to travel among Generation Z is also supported by other studies, indicating a consistent trend across research. Notably, İlhan et al. (2022) highlight that Generation Z often travels with a limited budget, further emphasizing the need for strategies that facilitate effective financial management while traveling.

The most common mode of transportation used by Romanian Generation Z members for reaching their most recent holiday destination was the car, with 55.64% of respondents choosing this option. This finding contradicts the ChatGPT-generated analysis, which claims that the most popular transportation mode is the airplane, with an estimated 60% of

Generation Z travelers preferring air travel. In this study, the survey shows that only 48.87% of respondents traveled by airplane. The significant discrepancy between the actual survey data and the ChatGPT answer highlights a mismatch in the understanding of Generation Z's travel preferences. Moreover, the ChatGPT response discusses a generational trend towards valuing time-efficiency and convenience, commonly associated with air travel, and the pursuit of budget-friendly options via budget airlines (Trippursuit, 2023). This difference likely stems from the sources that ChatGPT relied on, which focused on global trends where air travel is more prevalent among Generation Z in developed countries, particularly for international travel. Romanian respondents, however, may have chosen car travel due to shorter distances, lower costs, and the infrastructure in Romania, which may not always prioritize air travel for domestic trips. This highlights the limitation of AI in accounting for specific regional and economic factors when generating outcomes based on global data.

The survey results and the analysis provided by ChatGPT both point to a significant trend among Generation Z regarding the use of travel agent services. According to the survey data, a vast majority of respondents (351 out of 399), equivalent to about 88%, did not employ the services of a traditional travel agent or agency for their most recent trip. This aligns well with the ChatGPT-generated commentary that the majority of Generation Z prefers using online travel agents (OTAs) for their bookings, managing their travel itineraries independently, relying on online reviews and social media for travel recommendations (Travelperk, 2024; Roller, 2024; Rezdy, 2023). These data underscore a broader trend of moving away from traditional travel booking methods towards more autonomous, technology-driven solutions. Furthermore, both academic research (Stavrianea & Kamenidou, 2022; Nemec Rudež, 2023) and insights from ChatGPT highlight that members of Generation Z prefer to independently manage their travel itineraries and generally use online travel agents (OTAs). This preference is rooted in their comfort with digital technology. Notably, when Generation Z individuals opt for OTA services, it is specifically to arrange luxury travel experiences, driven by their desire for exclusive and highly personalized travel options (Flywire, 2022).

According to İlhan et al. (2022), the primary motivation for this generation's travel is to escape the monotony of daily life. The survey findings provide an understanding of Generation Z's travel motivations compared to ChatGPT's synthesized results, highlighting the diversity within Generation Z's travel preferences. "Sea, sand, and sun" is the most popular choice of Romanian Generation Z respondents (72.18% of the interviewed individuals opted for this travel motivation). This contrasts with the ChatGPT analysis, which emphasizes cultural experiences, nature, and city breaks as the main attractions for Generation Z travelers. According to the survey outcomes, visiting family/friends/relatives and nature-themed trips also scored highly, with 49.62% and 57.89% of the responses, respectively, suggesting a strong inclination towards these categories as well. City breaks and cultural experiences, though valued according to ChatGPT's analysis for their dynamic urban environment and rich local customs (Travelperk, 2024; Trippursuit, 2023), respectively, attracted slightly fewer respondents (49.62% and 46.62%, respectively), aligning partially with the AI's suggested results. The lower priority given to wellness/spa treatments and sports-related activities, with only 13.53% and 17.29% of the responses, respectively, contrasts with the AI's assertion that physical and mental wellness are increasingly important for the members of Generation Z.

The survey data reveal a pronounced preference for natural environments among Generation Z when selecting holiday destinations, with 48.12% of respondents indicating this choice. While the ChatGPT-generated analysis does not perfectly align with the survey results, it still correctly identifies that Generation Z places significant importance on both

cultural heritage and natural environments, synthesizing information from sources such as [Travelperk \(2024\)](#). Cultural heritage is secondary to natural environments in terms of priority for Generation Z respondents, garnering 19.55% of responses. Other attractions such as gastronomy, entertainment facilities, and festivals received even fewer mentions, with 12.78%, 9.02%, and 8.27% of responses, respectively, highlighting that these elements, though relevant, are not as critical in decision-making for holiday destinations among Generation Z.

The survey results indicate a clear preference among Generation Z for traveling in small groups of friends, with 39.85% of respondents favoring this mode of travel. This preference is echoed in the ChatGPT analysis, which notes that traveling in small groups aligns with Generation Z's values of sharing new experiences and exploring together, thereby enhancing the enjoyment and communal aspect of their trips ([Travelperk, 2024](#); [Roller, 2024](#)). Such group travels also allow for more flexible coordination of plans and cost-sharing, making trips more accessible and budget-friendly ([CEBR, 2023](#)).

With 43.61% of the survey respondents being involved in a relationship, traveling with a partner or spouse is also popular, as indicated by 31.58% of responses. ChatGPT results align with this finding. This result may suggest that this demographic also values intimate and shared experiences with significant others. The preference for family travel is noteworthy as well, with 19.55% of respondents indicating this choice. An explanation for this result can be that 28.57% of respondents use their family and/or own sources as the main source of funding for holidays. Very few Generation Z individuals prefer traveling alone, in large groups, or with strangers, as these options garnered significantly lower responses—3.76%, 2.26%, and 0.75%, respectively. Additionally, 9.77% of respondents have no particular preference, indicating a flexibility in travel style within this demographic.

Friends, colleagues, and relatives emerge as the most trusted sources for travel information, gathering 69.17% of responses. This reflects a strong preference for personal recommendations within respondents' social networks. The same preference is somewhat captured in the ChatGPT analysis, though it places more emphasis on social media platforms and content shared within digital networks as primary information sources. Furthermore, only 39.85% of respondents consider social media pages (of accommodation units, transportation, dining, etc.) as an important information source when choosing a holiday destination.

Personal experiences also play a significant role (45.11%) for the surveyed respondents, highlighting Romanian Generation Z's value for authentic and personalized experiences. This aspect is also captured in the scientific literature. The bibliometric analysis conducted by [Yahya and Mammadzada \(2024\)](#) indicates a shift toward authenticity as a key strategy to effectively engage Generation Z.

Online influencers and bloggers, along with travel vlogs, received 30.83% and 27.07% of responses among the survey respondents, respectively, showcasing Generation Z's affinity for content that is visually captivating and interactive. As the ChatGPT answer presents, members of this generation extensively utilize these sources to obtain insights and inspiration for travel, emphasizing their preference for content that provides an intimate and engaging perspective on potential travel experiences ([Roller, 2024](#); [Brito, 2023](#)). In contrast, traditional sources such as printed media, radio, and TV garnered a mere 3.01% of the responses, which confirms Generation Z's strong preference for digital platforms when sourcing travel information ([Tsai et al., 2022](#)). Additionally, the ChatGPT-generated analysis does not mention these traditional sources, highlighting a potential gap in covering the full spectrum of information sources utilized by Generation Z.

The studies by [Lee and Lee \(2024\)](#), [Ch and Abouelgheit \(2019\)](#), and [Styvén and Foster \(2018\)](#) highlight Generation Z's significant engagement with digital platforms, illustrat-

ing how this demographic integrates online environments into their daily activities and decision-making processes. This integration is further evidenced by our survey data showing that Instagram, TikTok, and YouTube are the predominant social media platforms used by Generation Z for researching holiday destinations. The results, in which Instagram led with 77.44% of responses, followed by TikTok at 61.65%, and YouTube at 34.59%, confirm the ChatGPT analysis which identifies these platforms as pivotal in Generation Z's travel research (Roller, 2024). Their strong visual and video content aligns perfectly with Generation Z's preferences for dynamic, visually engaging, and authentic travel information, demonstrating how effectively these platforms meet the unique needs and behaviors of this digitally fluent generation.

The lesser engagement with platforms like Twitter, LinkedIn, and Pinterest, which gathered only 1.50%, 1.50%, and 6.20% of responses, respectively, indicates a much narrower influence in the travel decision-making process for Generation Z, likely due to the less visual nature of content typically shared on these platforms. Furthermore, the fact that 9.02% of respondents did not consult any social media platforms could suggest a segment of Generation Z still relies on other sources beyond digital media for travel research.

The survey results reveal Romanian Generation Z's strong preference for online platforms to book travel and tourism services, with a notable emphasis on platforms for professional accommodation services, which garnered the highest percent of responses at 57.89%. This preference is closely followed by the use of online listings of various private accommodations (47.37% of responses) and platforms that combine multiple travel services like accommodation, car rentals, and flights, which received 38.35% of responses. These results indicate that Generation Z heavily favors the convenience and efficiency provided by digital platforms, aligning with the analysis presented by ChatGPT. However, there seems to be a discrepancy in the primary methods highlighted by ChatGPT, which emphasizes the combined services platforms, and the actual top choice of professional accommodation services according to the survey data as noted in online statistics like the ones provided by [Travelperk \(2024\)](#) and [Roller \(2024\)](#).

Additionally, lesser-used methods such as direct bookings through the websites of hotels or transport companies (18.05%), and more traditional approaches like calling tourism service providers directly (13.53%) or using travel agencies (9.02%), indicate a broader spectrum of preferences within this demographic but still show a strong tilt towards digital solutions. The preference for managing bookings through digital platforms reflects Generation Z's digital-native characteristics, valuing ease of use, accessibility, and the ability to quickly compare prices and options.

Generation Z's heavy reliance on technology for travel planning (see green cluster in the literature review section) is highlighted in the survey data. A total of 66.17% of respondents favor the use of official websites to gather information about destinations. This trend underscores their trust in official and authoritative sources for accurate and reliable travel details. Additionally, the significant use of online review platforms like TripAdvisor and Google Reviews, chosen by 54.89% of respondents, aligns with observations that Generation Z frequently utilizes these sites to make well-informed travel decisions. This behavior aligns with the ChatGPT analysis, which emphasizes members of Generation Z's integration of digital resources for managing all facets of their travel arrangements efficiently.

Furthermore, the survey indicates a robust usage of social networks (61.65% of responses) and digital maps and GPS navigation (37.59% responses), confirming Romanian Generation Z's inclination towards digital tools for discovering new places and seamless navigation, as noted in the ChatGPT analysis. The responses also highlight moderate use of YouTube travel vlogs for inspiration (24.06% of responses).

The usage of travel guides and offline maps (4.51% of responses), travel budget management apps (3.76% of responses), and participation in online travel groups and forums is notably lower (2.26% of responses), indicating that while these platforms are used, they are not the primary source of travel advice for this demographic.

The highest preference of the surveyed respondents is for commercial accommodation with board included, attracting 38.35% of responses, which contrasts with the ChatGPT analysis emphasizing Generation Z's stronger inclination towards private accommodation as mentioned in [The Wandering RV \(2023\)](#) and [Telus International \(2021\)](#) cited sources. This outcome highlighted that 36.84% of respondents prefer private accommodations such as holiday homes or apartments booked directly from the owner. This difference may be attributed to the affordability and availability of private accommodation in certain regions, which are more prevalent in countries where platforms like Airbnb are widely adopted. In Romania, commercial accommodations may be more accessible or familiar, especially for younger travelers with limited experience in navigating alternative lodging options. AI's global data sources may have overemphasized trends from regions where private accommodations are more dominant, failing to capture local market conditions and consumer habits. Smaller but meaningful preferences are evident for staying with friends/relatives (12.78% of responses) and holiday homes owned by themselves or by their family/friends (12.03% of responses), indicating the value placed on personal connections and economical travel options.

A diverse range of dining preferences among Generation Z when traveling was shown in the survey results. The most popular choice is multicuisine restaurants, with 45.86% of responses, indicating a preference for varied and inclusive dining options that are not restricted to a specific cultural or culinary style. This suggests that Generation Z values diversity in their food choices, aligning with a broader interest in global cuisines and flavors. Specialty restaurants also see significant interest with 26.32% of responses.

Fast food ranks highly too, with 23.31% of responses, reflecting the generation's desire for quick and convenient meals, potentially due to busy travel schedules or budget considerations as mentioned in [İlhan et al.'s \(2022\)](#) research. Interestingly, local markets and street food, which are often associated with authentic and immersive cultural experiences, received 15.04% and 17.29% of responses, respectively, somewhat aligning with the ChatGPT analysis that emphasizes Generation Z's inclination towards local and sustainable dining options ([Travelperk, 2024](#); [Trippursuit, 2023](#); [TOAST, 2023](#)).

The overall data about transport preferences suggest that while environmentally friendly options are important, convenience and personal comfort play a crucial role in transportation choices for Generation Z. The survey results demonstrate a varied preference for transportation modes among Generation Z while on holiday, with the most favored option being the use of their own car, selected by 39.10% of respondents. This preference somewhat contrasts with the ChatGPT analysis, which suggests a strong inclination towards environmentally friendly and technologically integrated transportation options ([Travelperk, 2024](#); [Roller, 2024](#)). While public transportation is indeed popular, with 33.08% of respondents indicating a preference for buses and metros, it does not surpass the preference for personal cars. Interestingly, walking is another highly preferred mode, with 30.83% of responses, reflecting Generation Z's desire to explore destinations more intimately, aligning with the ChatGPT analysis's emphasis on a slower, more engaged travel pace.

The survey results reveal a strong inclination among members of Generation Z toward engaging in leisure activities that offer immersive and authentic experiences during their holidays. Notably, the top choices are "Exploring local tourist attractions independently" with 82.71% of responses, "Hiking and walks in nature" with 51.88% of responses, and

“Visiting local markets and shopping” with 51.13% of responses. These activities underscore Generation Z’s preference for actively engaging with the local environment and culture, aligning closely with ChatGPT’s provided analysis (Travelperk, 2024; Roller, 2024; Trippursuit, 2023) and other scientific studies (İlhan et al., 2022). The consistency between the survey results and the generative analysis provides a deep understanding of Generation Z’s travel dynamics and their impact on leisure choices.

As mentioned in ChatGPT’s analysis, Generation Z travelers are showing a strong interest in exploring destinations outside of their home countries. This adventurous group is likely to consider traveling to exciting and culturally rich destinations around the globe (Travel+ Leisure, 2024; GQ, 2024). The survey results also indicate a clear inclination among Generation Z towards international travel for their main holiday in 2024, with a significant preference for destinations within Europe, as shown by 45.11% of responses. Additionally, 17.29% of respondents are considering countries outside of Europe. This contrasts with the 28.57% of respondents who prefer to stay within their own country, highlighting a trend towards seeking new experiences abroad.

The divergence between AI-generated insights and the survey data demonstrates that AI may not fully capture localized or culturally specific travel behaviors. For tourism professionals and marketers, this means that AI tools like ChatGPT should not be relied on exclusively for strategy development, especially in specific country settings. AI tools, which are trained on global content, may overemphasize international trends that are not yet dominant in certain countries. However, rather than viewing AI and traditional research methods (such as surveys) as competing approaches, the present study supports using them as complementary tools. This way, AI may identify emerging global trends or offer broader conceptual framing while the traditional research methods (such as surveys) provide a grounded, context-specific insight, which is critical for accurate decision-making in the tourism industry.

5. Conclusions, Limitations, and Future Research

This study provides a detailed examination of contemporary tourism experience within a specific demographic, Generation Z. The *first operational objective of the study*, aimed to analyze the tourism experiences of Romanian Generation Z, considering quantitative research on Romanian individuals, and provided a comprehensive overview of their tourism experiences. The methodological alignment with the Flash Eurobarometer surveys has enriched the analysis of Generation Z’s tourism experiences by providing an almost standardized framework. This study delved into various dimensions such as travel patterns and preferences, reasons and motivations for travel, booking and information sources, and technology use. This allows the tourism industry to develop more personalized travel products, such as accommodation and transport options that align with Generation Z’s digital fluency and preference for online platforms.

Consequently, the study’s *second objective* was to utilize AI to broaden the understanding of Generation Z’s tourism experiences in a Romanian context, based on worldwide publications. The findings show that AI effectively synthesized international insights, providing a broader context for understanding Generation Z’s tourism experiences. By leveraging global data, AI was able to highlight trends such as the preference for eco-friendly travel, digital engagement, and an increasing reliance on social media for travel planning—patterns that are consistent with international studies on Generation Z. The integration of AI in research can provide a valuable global perspective, particularly for markets like Romania where local studies on Generation Z are limited. For tourism stakeholders, AI-driven analysis offers a scalable way to identify global trends that may influence local markets.

The study's *third objective*, which aimed to evaluate whether AI-generated results could serve as a viable alternative to traditional research methods, has been successfully addressed. The findings indicate that while AI cannot fully replace traditional methods, it offers considerable advantages in terms of efficiency and resource utilization. AI can complement traditional approaches by providing quicker, less resource-intensive insights that still maintain a sufficient level of reliability and validity for robust research outcomes. However, the discrepancies between AI-generated data and survey results highlight the necessity of combining AI-driven insights with localized, traditional research methods. While AI excels at offering a broad overview of global trends, it may miss critical regional, cultural, and economic factors that significantly influence consumer behavior.

For tourism professionals, the practical implication is clear: while AI can quickly identify emerging global trends and generate insights, local research remains important for tailoring tourism services to meet the specific needs and preferences of different demographic groups, such as Romanian Generation Z. A balanced approach, combining both AI and local research, will lead to more accurate, actionable, and contextually relevant strategies for tourism marketing and service design. To improve the relevance of AI-driven recommendations, tourism destination and businesses should invest in fine-tuning AI systems using localized data. For example, training models on Romanian travel preferences or domestic booking trends would yield more accurate and culturally relevant outputs.

Given both AI and survey results indicate a shift toward digital platforms for trip planning, tourism providers should optimize their presence across mobile apps, social media, and intelligent chatbots, ensuring accessibility and real-time responsiveness. Moreover, tourism professionals should develop skills to understand and critically evaluate AI-generated content, recognizing its limitations and contextual relevance before applying it in strategic decision-making.

AI tools like ChatGPT could play a significant role in the development of smart tourism systems, making destinations more efficient, sustainable, and responsive to visitor needs. In such systems, AI can support data collection, predictive modeling, and resource management by analyzing large volumes of information in real time. By integrating AI insights into smart destination management, cities and regions can enhance tourist experiences. For Generation Z, AI-powered tools could enable personalized travel experiences, offering tailored recommendations based on preferences and behaviors. Additionally, AI can contribute to the sustainability of tourism by identifying visitor behavior trends that align with the goals of tourism destinations, helping to ensure that development is both efficient and environmentally responsible.

This study is distinguished by several *innovative aspects*. Primarily, it employs a bibliometric analysis to explore the relationship between Generation Z and tourism experience, utilizing the VOSviewer software—a tool that, while previously applied to tourism research (Szpilko, 2017; Estevão et al., 2017), has not been used in this particular context before. To the best of our knowledge, this is the first instance where the VOSviewer software has been used to conduct a bibliometric analysis specifically focusing on the tourism experiences of Generation Z.

Second, the novelty of this academic study lies in its complex and integrated approach to the Generation Z tourism experience within the tourism industry. The novel aspect is the holistic approach of the study, which does not limit itself to analyzing a single aspect of tourist experience. By examining the experiences of Generation Z individuals on a wide range of activities, including bookings, information seeking, transportation, accommodation, dining, and entertainment, the research enables a deep and nuanced understanding of the specific tourist behaviors of this cohort.

A third innovative dimension of the study is the direct comparison of the experience dimensions of the surveyed Generation Z individuals with the outcomes generated by AI. Integrating AI to anticipate the preferences of this generation represents significant progress, which not only tests the efficiency of artificial intelligence in understanding the needs of young consumers but also provides a solid foundation for assessing the limits and expanding the potential of AI in the tourism sector.

The research encounters several *limitations*, chiefly tied to the scope and methodology employed. A significant constraint is the reliance on a solely Romanian Generation Z demographic, which may not provide a comprehensive view of global Generation Z tourism behaviors and could limit the generalizability of the findings. Additionally, the comparison between AI-generated data and traditional survey results, while innovative, may not fully capture the nuanced understanding that face-to-face or qualitative research methods offer. Also, a limitation of the study is that discrepancies may emerge due to the fact that our interviews were conducted with young Romanians, whereas the AI analysis was based on global online sources related to Generation Z. Furthermore, the fast-paced evolution of AI technologies means that findings could quickly become outdated.

One of the primary challenges in using AI tools like ChatGPT in tourism research is their reliance on existing online content, which can introduce significant biases. The inner workings of AI models are often opaque, making their insights hard to trace, unlike traditional, transparent research methods. Tourism is experiential, involving emotions and senses that AI cannot access, and its outputs are approximations based on patterns, not genuine understanding of traveler motivations or satisfaction.

Furthermore, AI models trained on internet data often favor content from high-status sources such as influencers, luxury travel blogs, and mainstream media outlets, which tend to cater to a high-income audience. This results in AI-generated insights that may over-represent the preferences and behaviors of higher socioeconomic groups, while underrepresenting those of lower-income or less-traveled individuals. This bias affects the generalizability of AI-generated insights. For tourism professionals and researchers, understanding these biases is important to avoid relying on skewed data when making decisions about tourism policies, smart destination designs, or sustainable tourism strategies. As highlighted in [P. Li et al. \(2024\)](#), while AI tools can provide valuable insights, their results must be taken with caution, especially when used in fields like tourism, where there is significant cultural and regional variation. In this study, AI emphasized international travel and eco-tourism trends that did not align with the actual preferences of Romanian Generation Z. This suggests AI may lack the cultural sensitivity needed for localized tourism research.

Although AI presents innovative opportunities for tourism research, its limitations highlight the importance of integrating it thoughtfully alongside traditional methods ([Skavronskaya et al., 2023](#)). A balanced approach—combining empirical data with AI-generated insights—offers a more comprehensive and ethically sound foundation for understanding modern tourism behaviors.

Building on the findings and limitations identified in this study, several avenues for future research emerge that can further enhance the understanding of Generation Z's tourism behavior and the role of AI in tourism research. Experimental studies can assess how AI-generated tourism recommendations perform, such as testing traveler response to AI-suggested itineraries. Longitudinal studies could track how AI integration in tools like travel assistants impacts decision-making and travel habits across generations. Future research should focus on combining AI analysis with traditional methods to enhance the scope and depth of tourism insights.

Building on the research by [D'Arco et al. \(2023\)](#), which explores Generation Z's pro-environmental intentions within the tourism sector, and the recent survey data that emphasize Generation Z's preference for natural environments in their travel choices, a promising direction for future research could focus on the impact of environmental awareness campaigns on Generation Z's travel behaviors. Future studies could explore how effective various communication strategies are in enhancing Generation Z's commitment to eco-friendly travel practices, such as choosing destinations based on sustainability ratings or supporting local conservation efforts. Additionally, researchers could examine the role of social media and digital content in shaping Generation Z's perceptions and decisions related to eco-conscious travel.

Based on the insights gathered from the survey indicating a strong preference among Generation Z for traveling with partners or spouses, and significant preferences for family travel, a productive direction for future research could involve examining the social dynamics and interpersonal relationships that influence travel decisions within this demographic. Researchers could explore how relationship status or family structures impact travel preferences and decision-making processes. Moreover, a comparative analysis between Generation Z and other age groups regarding travel preferences and funding sources could provide a broader perspective on evolving travel trends and economic factors across different generations.

The results indicating Generation Z's strong preference for personal recommendations from friends, colleagues, and relatives, with a remarkable 69.17% of responses, suggest a foundational trust in direct social connections when choosing holiday destinations. It would be insightful to study how personal recommendations complement or compete with digital sources in influencing travel decisions within this demographic.

Future studies could also focus on the interplay between online content and real-world experiences, given that only 39.85% of respondents view social media pages of accommodation, transportation, and dining as important, compared to a higher preference for personal experiences (45.11%). Investigating how Generation Z integrates online reviews and social media content with personal experiences could offer deeper insights into their decision-making processes.

The significant role of online influencers and bloggers, observed through the preferences for visually engaging and interactive content, reflects an opportunity to examine the credibility and influence of these sources more closely. Research could assess the trustworthiness of digital influencers compared to traditional sources, which continue to decline in influence among this demographic, as seen with the low response rate (3.01%) for traditional media.

A future research direction could explore the specific attributes of content on these platforms that most effectively influence travel decisions, given the clear preference of Generation Z for visually driven social media platforms like Instagram, TikTok, and YouTube in selecting holiday destinations. This study could analyze aspects such as the impact of visual aesthetics, narrative style, the authenticity of content, and the credibility of content creators on the travel planning process. Another promising area for research could involve a comparative analysis of the effectiveness of travel marketing strategies across different social media platforms.

Conducting a comparative analysis of accommodation preferences across different generations, including Millennials, Gen X, and Baby Boomers, to identify changing trends and predict future shifts in the tourism industry is another future direction of research.

Exploring how sustainability concerns influence Generation Z's choice of dining establishments offers a promising direction for future research. Future studies could focus

on their preferences for locally sourced ingredients and plant-based options to determine how these preferences impact their dining selections.

Another valuable research direction involves exploring the impact of urban design and walkability on destination choices among Generation Z travelers. Investigating how features of urban environments, such as walkability and accessibility, influence their preferences for certain destinations could provide insights into urban planning and tourism strategies.

Finally, a future research direction could examine how digital tools and platforms facilitate Generation Z's discovery and planning of immersive activities, such as hiking and local exploration. Understanding the role of these digital resources in enhancing their travel experiences could help in developing more effective and engaging travel planning tools tailored to this tech-savvy generation.

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Article

Profiling Visitors to Romanian Ecotourism Destinations

Cristinel Petrișor Constantin ^{1,*}, Vasile Papuc-Damașcan ², Andrei Blumer ², Ruxandra-Gabriela Albu ¹, Titus Suciu ¹, Adina Nicoleta Candrea ¹ and Ana Ispas ¹

¹ Faculty of Economic Sciences and Business Administration, Transilvania University of Brașov, 500036 Brașov, Romania; ruxandra.albu@unitbv.ro (R.-G.A.); titus.suciu@unitbv.ro (T.S.); adina.candrea@unitbv.ro (A.N.C.); ispasana@unitbv.ro (A.I.)

² Association of Ecotourism in Romania, 500051 Brașov, Romania; bogdan.papuc@gmail.com (V.P.-D.); andrei.blumer@gmail.com (A.B.)

* Correspondence: cristinel.constantin@unitbv.ro; Tel.: +40-0727-39-2380

Abstract: Visitors' increasing interest in nature-based and cultural tourism, especially in the context of ecotourism destinations, has generated a heated debate in tourism literature. Some authors consider that ecotourism should be approached through a niche strategy rather than through mass marketing. Therefore, identifying the main characteristics of visitors to ecotourism destinations is very important in setting management and marketing strategies adapted to their specific needs. The present paper aims to identify the profile of visitors to Romanian ecotourism destinations, considering the ecotourism potential of this country and the scarcity of empirical studies on these types of destinations. To reach this aim, a survey was conducted in four Romanian ecotourism destinations. By computing the data collected from a sample of 1157 visitors, four visitor segments have been identified based on a single characteristic (visit purpose). Crosstabulation and Chi-square analysis were used in order to identify the profiles of these segments. The results reveal that most of respondents are nature travellers, followed by culture travellers. The findings may be used by ecotourism destination managers in order to target specific market segments and establish proper management and marketing strategies.

Keywords: ecotourism destination; visitor segmentation; visitor profile; nature traveller; culture traveller; leisure traveller; eclectic traveller; sustainable development; marketing and management strategies



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1. Introduction

Given the growing interest worldwide in ecotourism, based on natural and cultural resources, it is in these special areas that the challenges of marketing are the greatest. Ecotourism sites have moved away from mass marketing, toward target marketing: identifying market segments, selecting one or more of them, and developing tailored products and programs [1]. A challenging task for ecotourism marketers is to study the changing nature of tourism consumers [2]. Marketing activities should target identified appropriate markets only, rather than the generic mass market. Therefore, research needs to be undertaken to provide a systematic basis for policy and planning where the information content in marketing should be matched to market segments [3].

Profiling visitors to tourism destinations is particularly important for tourism marketers. Profiling is one of the phases in market segmentation [4]. Segmentation and market targeting are the best strategies for recognising potential tourist behaviours [5] in different types of tourism destinations. Understanding visitor profiles helps to identify target markets, craft meaningful messages, and develop products and resources in such a way that they meet particular demands [6]. Visitor profile and behaviour is a critical determining factor that influences the management approach for achieving multiple aspirational goals such as high visitor satisfaction and site sustainability [7].

Researchers have profiled visitors from various ecotourism areas—North America (e.g., [8]), South America (e.g., [9]), Africa (e.g., [10]), Asia (e.g., [11]), Australia (e.g., [7]), Eu-

rope (e.g., [12])—using variables such as age, education and income [7,8,11], nationality [10], motivations [9,13], on-site activities [13], accommodation preferences [10], information sources [7], etc. However, little research [14,15] has been published on the Romanian ecotourism market to understand the characteristics of visitors to ecotourism areas from in this country, particularly of domestic tourists.

Romania has a unique natural heritage that offers an excellent chance of transforming the country into a special attraction for both the international and domestic ecotourism market. It has some of the largest areas with virgin forests still remaining in Europe and the large majority of European brown bears, wolves, and globally outstanding flora and fauna [16]. In the last decade, ecotourism in Romania has evolved from isolated ecotourism programs proposed by local/national tour operators to integrated ecotourism destinations, which are developed through strategic partnerships (between local authorities, local communities, business owners) and promoted through the efforts of local or national (eco) tourism associations [17].

Nevertheless, the profile of visitors to ecotourism destinations from Romania has not been studied, as far as we know. In this respect, our study seeks to fill this gap given that identifying some segments of visitors could be helpful for planning, managing, and marketing a tourist destination. The information about the typology and profile of visitors allows ecotourism destination managers to approach their different motivations and experiences in order to understand which types of visitors are more likely to be found in different stages of tourist areas' development. Moreover, when problems arise in terms of sustainability, especially in certain types of destinations (e.g., protected areas), it is necessary to outline a typology of visitors in order to manage the access flows in the destination. The tourist facilities and other resources should also be tailored to the visitors' typology and profile. Starting from these considerations, the following objectives have been established for our research: (O1) to identify the demographic and travel characteristics of visitors to the main ecotourism destinations from Romania; (O2) to define the segments of visitors to these destinations according to their visit purpose; (O3) to compare the repetitive visiting behaviour to the ecotourism destinations of the identified segments; (O4) to profile these segments as regards their dominant demographic characteristics.

In order to reach the above mentioned objectives, a survey was conducted in four ecotourism destinations from Romania. The questionnaire design and data collection process were conducted by the Association of Ecotourism in Romania (AER), with the aim of offering the information support for developing and professionalising the management of ecotourism destinations in Romania. The present study only used the questions meant to accomplish the objectives regarding the identification of visitors' profile in the studied ecotourism destinations. The data collected were analysed using univariate and bivariate methods to summarize the responses, and the Chi-square test was used in order to highlight the statistical significance of the differences between the encountered visitors groups. The findings emphasize four visitors segments determined on an "a priori segmentation" approach: nature, culture, leisure, and eclectic travellers. They have different dominant and travel characteristics highlighted in the conclusion section.

2. Literature Review

According to a definition provided by the Global Ecotourism Network (GEN), "ecotourism is responsible travel to natural areas that conserves the environment, sustains the wellbeing of the local people, and creates knowledge and understanding through interpretation and education of all involved (visitors, staff and the visited)" [18]. In this respect, ecotourists are interested in exploring both natural attractions and cultural or historical sites [19]. They have a genuine interest in environmental responsibility in tourism and support the green tourism suppliers [20]. According to the findings highlighted in the specialty literature, ecotourists are mainly interested in relatively undisturbed ecosystems and want to learn more about natural phenomena with the aim of contributing to the sustainable development of natural sites [21]. The following activities are mentioned among

the most popular: photography and landscape painting, studying the flora and fauna, cultural sightseeing, and special guided hikes [22]. Such activities and motivations could be considered as segmentation criteria in ecotourism [23].

The abovementioned characteristics of ecotourism are mainly related to the protected areas, which are considered “clearly defined geographical spaces, recognised, dedicated and managed through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values” [24]. The main objectives are to develop sustainable tourism based on the minimization of negative impact and the maximization of positive impact at the social, cultural, ecologic, and economic levels [25,26].

Along with the natural attractions, the cultural resources are considered very important due to their contribution to the social coherence of the communities [27]. Thus, the cultural tourism activities stimulate the preservation of the natural and cultural heritage [28]. Finally, both nature and culture motivations of ecotourism activities may contribute to the sustainable development of the local community [29].

As regards the profile of visitors to ecotourism destinations around the world, the main findings in the literature are presented in Table 1.

Table 1. Previous studies about visitors’ profile and motivations from several world destinations (America, Australia, New Zealand, Asia, Europa, and Africa).

Authors	Destination/Country	The Survey Sample	Variables	Visitors’ Profile
America, Australia, and New Zealand				
Deng and Li [30]	A rural area in the Appalachian Region, USA	Nature-based tourists (NBTs), non-local visitors.	Motivation to observe and learn about nature.	- High-level NBT: mostly females, older, well-educated, and affluent. - Repeaters: More dedicated to nature than first timers. - Those who travelled with kids were more likely to be NBTs at the low level. - Nature segment: visitors who had high scores for nature-related motivations.
Carvache-Franco, Segarra-Oñab, and Carrascosa-López [23]	Machalilla National Park, Ecuador	Foreign and national ecotourists who visited the Machalilla National Park between August and September of 2018.	Motivation for ecotourism.	- Multiple motives segment: not interested in sunshine and beaches, but place greater value on other activities: authentic rural experiences, heritage, nature, learning local dances and languages, birdwatching and fishing. - Reward and escape segment: interested in fun, exploration of the unknown, and escape from routine. - Softer ecotourists: multi-purpose trips, short trips, physically passive, larger groups, services expected, emphasis on interpretation.
Weaver and Lawton [7]	Lamington National Park, Australia	Individuals who had stayed at least one night in either of two well-known ecolodges in Lamington National Park, Australia.	Opinions about ecotourism, general environmental and social attitudes, and motivations for visiting ecotourism destinations.	- Harder ecotourists: specialized trips, long trips, physically active, small groups. - Structured ecotourists: multi-purpose trips, short trips, physically active, larger groups. - Harder ecotourists are younger than structured ecotourists, they are more likely to have attained a university degree (61.5 vs. 46.5%).
Cleaver and Muller [31]	Canada, Australia, New Zealand, and the United States (the CANZUS countries)	Baby boomers.	Lifestyle characteristics, attitudes, reason for holiday travel, and behavioural patterns with regard to ecotourism related holiday activities.	Equivalent lifestyle segments in the four CANZUS baby boomer populations: United States Actualizers 15%: 95% have at least some university, 68% in white-collar jobs, highest median income. Canada Autonomous rebels 25%: higher levels of education, professionals with higher incomes, assertive about egalitarian ideals in society, strong concern for the environment, experiential hedonists, love the unexpected and spontaneous. New Zealand (Consumer Research Group, 1996) Educated liberals 18%: very highly educated, professionals who like the big city, above average income, concerned with social issues, support environmental issues, seek activities that stimulate intellect, like travelling and exploring new places. Australia Socially aware 18%: highly educated, holding the top jobs, not money worries, tend to be wealth managers, green and progressive in attitudes, avid arts goers, experiential tourists.

Table 1. Cont.

Authors	Destination/Country	The Survey Sample	Variables	Visitors' Profile
Asia				
Gu et al. [32]	Changbai Mountain Biosphere Reserve (CMBR), China	Domestic visitors to the CMBR.	Visit motivations.	– Nature travellers: mostly interested in experiencing nature, one-third of them being 45 or older, and about half of them were either in the highest or lowest income groups. – Cultural landscape tourists: expressed a similar interest in natural landscapes, attracted by the cultural environment of the CMBR. – Three-fourths were 34 or younger, being the most educated group overall, with 76% having at least a university degree. – Food and shopping enthusiasts: significantly higher interest in food and shopping, almost three-fifths were from 25 to 44 years of age and more than a quarter were company staff. – Eclectic adventurers: expressing a broad range of motivations for visiting the area, from an educational perspective, closely paralleled food and shopping enthusiasts at all levels, extremely low percentage of scientific and technical workers (3.2%).
Sheena, Mariapan, and Aziz [33]	Kinabalu Park, Sabah, Borneo, Malaysia	The domestic Malaysian ecotourists.	Ecotourists' trip characteristics; their expectations towards services and preferences for arranged travel.	– Hard ecotourists (40%): autonomous in their travel arrangements. – Structured ecotourists (27.5%). – Soft ecotourists (33.3%), who expected services during their trip and made arrangements via travel agents.
Europe				
Hornoiu, Pădurean, Nica, and Maha [22]	Natural Parks in Romania (Apuseni, Retezat, Piatra Craiului, Vânători-Neamț and Maramureș Mountains).	Young people—consumption habits specific to protected natural areas.	Identifying the forms and especially the preference for tourism activities.	The young tourist chooses, in order of preference: ecotourism, nature tourism, rural tourism, cultural tourism, and adventure tourism. Additionally, the consumer's preferred tourism activities are, in decreasing order, photography, landscape painting, studying the flora and fauna, cultural sightseeing, and hiking. Most of the respondents (53.8%) are in the 35–54 age group, most of them married (56.9%) and college graduates (76.9%). Seventy-nine percent of the respondents had some knowledge about the eco-villages. The majority of people (84.5%) who had some degree of knowledge were between 35–54 years old. Country: Turkey (53.6%), Europe (34.3%), and Northern America (12.1%). A large proportion of tourists are British (40.6%), aged between 37 and 45 years old (30.2%) or older than 55 (30.4%), with secondary (43.6%) or college education degrees (43.4%). Landscape (58.1%) and proximity (33.9%) were the main determinants of beach choice Two distinct groups of tourists: prefer traditional beach recreations (89.8%) or prefer other activities, such as walking on the beach (10.2%). Dominant profile: female, 36 and 55 years old, having university degree. 64% of respondents were revisiting the Charmouth coastal area, and 45% had visited natural areas 10 or more times in the past. Travel motivations: "relaxing and having fun with family/friends" (56%), "enjoying the beauty of nature" (23%), "learning about fossils" (15%), and "doing physical exercise/leisure activities" (6%). Two segments: tourists with "high environmental attitude" or with "low environmental attitude". Six clusters were identified: angling sailors: university degrees, between 25 and 34 years old, living mostly in smaller towns non-angling sailors: living in larger cities cyclists: young people (18–24 years old) living in large cities anglers: live in villages and small towns water re-creationists passive tourists: university degrees, 35–44 years old. Education: 43.2% have a graduate degree, and 40.2% have a higher degree. Age: range between 26 and 40 years old 62.2% of respondents were married, 29.7% were single. Additionally, 75.7% of the respondents were women and 24.3% men.
Adalilar et al. [34]	Ten ecological farms in the Aegean Region, Turkey	Domestic and foreign consumers in Turkey regarding eco-villages.	Consumer perceptions, attitudes, and preferences regarding eco-villages.	
Oom do Valle, Pintassilgo, Matias, and André [35]	Algarve, a typical sun and beach destination Portugal	Tourists older than 15 years old, only one person from each family.	Tourist attitudes towards an accommodation tax for environmental protection in the Algarve.	
Kim and Weiler [36]	Charmouth coastal area, South West of England, Great Britain	English-speaking day visitors aged 18 and over.	Visitors' attitudes towards an environmentally responsible tourist behaviour.	
Derek, Woźniak, and Kulczyk [37]	The Great Masurian Lakes, Poland	Domestic visitors in nine towns or villages throughout the area, particularly interesting for sailors.	Typology of tourists visiting a nature-based destination.	
Juravle et al. [38]	Bucovina, Romania	40 individuals using the messenger of a social network.	The destination image of Bucovina among the Romanian tourists.	

Table 1. Cont.

Authors	Destination/Country	The Survey Sample	Variables	Visitors' Profile
Africa				
Saayman and Slabbert [39]	The Kruger National Park/South Africa	Local and non-local visitors.	Demographic, socio-economic, geographic, and psychographic profile.	Demographic profile: in both years, the respondents are mostly married, Afrikaans speaking tourists who travel in groups of approximately three people and have a professional occupation. Socio-economic profile: most of the tourists were well educated. Geographic profile: tourists who visited this park were mainly South Africans who reside in the Gauteng province. Psychographic profile: more than 50% of the tourists in both surveys indicated that they had visited one of the national parks on average three times per year. - Statistically significant relationship between education and being an ecotourist. - The number of ecotourists in the age group of 18–24 years was approximately 6% higher than normal tourists. - As for the age group of 35+ years, it also indicated a positive representation of ecotourists that exceeded normal tourists by approximately 12%. - Female 37.4% and male 24.8% indicated as being ecotourists. - The self-employed occupational group is highly significant in influencing one to become an ecotourist.
Nheta, Madzunya, and Tshipala [40]	The Capricorn District Municipality/South Africa	The study population consisted of tourists and visitors found within the Capricorn District Municipality.	Relationship between age, occupation, gender, income, household status, education, and ecotourism behaviour.	Ecotourist profile: 74.6% of the sampled respondents were between 21 and 40 years old with a mean age of 31.1 years; 70.0% were male, while 29.1% were female; more than half of the respondents (58.6%) were single, and 41.4% were married. About 82.6% of the ecotourists had household sizes of 1 to 5 members. In terms of education, 50.6% of them had a bachelor's degree/higher national diploma. Most ecotourists (61.1%) had professional/management occupation, while 38.9% were students. 92% of the ecotourists were Nigerians, about 4.8% were Britons, 2.1% were Americans, and 1.1% were French. Around 32.0% of the respondents were members of environmental non-governmental organisations (NGOs) and 82.0% of the travellers visited the area several times, which is an indicator that they are experienced ecotourists. Profile of the tourists: single (66%); female (58%); had finished either a first degree (56%) or postgraduate education (21%). Places of origin: Europe (59%), North America (20%), Africa (9%), Asia (7%), Scandinavia (6%), and Oceania (0.3%). The major reasons for visiting Kakum National Park can be summarized into four general categories: adventure, education, escape and relaxation, or sociability.
Ogunjinmi [41]	Nigeria	The population for the study was the ecotourists to the parks as at the time of the study (October 2008 to May 2009 and October 2009 to May 2010).	Gender, marital status, income, household, religion, loyalty, nationality, members of environmental non-governmental organisations (NGOs), profiles, trip characteristics, motivations of ecotourists.	
Amuquandoh [42]	Ghana	Visitors in Kakum National Park Ghana. Target population: visitors above 18 years old.	Education, gender, nationality, religion, motivations, and places of origin.	

According to the studied literature, visitors' motivations were significantly different depending on the continent that they travelled to. Some visitors chose America as a destination because they wanted to observe nature and learn about it, to have authentic rural experiences, to learn local dances and languages, for birdwatching and fishing, to have fun, to explore the unknown and to escape from their daily routine. Visitors to Asian ecotourism destinations were looking to have natural and cultural environmental experiences, to integrate in their travel experience distinctive elements such as food and shopping, and were willing to forget the usual comfort of tourism services. Visitors who wanted multi-purpose and specialized trips visited Australia. Europe has the best destinations for photography, landscape painting, studying the flora and fauna, cultural sightseeing, and special guided hikes. The visitors who chose destinations in Africa were interested in adventure, education, escape from their daily routine, relaxation, and socialization with the local people.

The study of Nheta et al. [40] has shown a statistically significant relationship between education and being an ecotourist for the visitors that made a trip to the Capricorn District (South Africa). Another interesting finding was that the younger tourists who decided to visit Romania had chosen some activities included in the travel package, such as practicing ecotourism, nature tourism, rural tourism, cultural tourism, and adventure tourism [22].

Wight [43] discovered that from 70 of the variables included in the studies carried out in order to understand what motivates tourists to go on a trip, only 25 referred to the intrinsic motivations regarding the destination's characteristics. So, visitors are more likely to choose a destination that reflects their preferences, matching their individual perceptions about the destination. In fact, there is an obvious lack of understanding (there is no clear theoretical approach in order to understand the tourists' motivations, as mentioned by Fodness [44]) as to why visitors decide to visit a tourism destination, especially when they claim that they are interested in nature-based experiences.

3. The Presentation of the Ecotourism Destinations Included in the Research

The Romanian National Tourism Authority [45] define the ecotourism destination as a tourism destination that respects the following principles: (1) the destination projects a responsible marketing image; (2) businesses with a sustainable management predominate in the destination; (3) there is a real support for local communities within the destination; (4) tourists and locals are made aware of and informed about the natural characteristics of the destination; (5) clear nature conservation measures are implemented within the destination.

The ecotourism destination includes at least a protected area and the local communities around or within it, including the protected area administrator in the management of the whole destination. The management of the destination focuses on tourism products, small-scale infrastructure development, and marketing having sustainability and nature conservation as core values. The nature conservation objectives of the protected area are integrated in the overall tourism management plan of the destination. Therefore, the ecotourism destination is a model of local sustainable development based on ecotourism [46].

The above definition is in line with Buhalis [47], who define a tourism destination as "that area clearly delimited from a geographical point of view, perceived by tourists as a distinct/independent entity and which has a unitary legislative and political framework". It can vary in size from whole continents to countries, provinces, and resorts [48].

In 2012, the Ministry of Regional Development and Tourism of Romania, in partnerships with the National Institute for Research and Development in Tourism (INCDT) and the Association of Ecotourism in Romania (AER), developed the framework for evaluating and certifying ecotourism destinations in Romania [16]. This initiative is based on the recommendation of the World Tourism Organization to use the European Ecotourism Labelling Standards (EETLS) [49], developed and refined in the frame of several EU funded projects as part of the [50]. By adopting this framework, destinations that meet the criteria are awarded with the title of "ecotourism destinations", and they will be included in the national tourism promotion campaigns, targeting the domestic and foreign markets [46]. There are ten ecotourism destinations developed and promoted by AER in Romania. The present study focuses on four of them that were selected because they can ensure accurate data collection. As they are located in different geographical areas of the country (see Figure 1), they were considered appropriate for the purpose of this research. The ecotourism destinations included in the research are presented in red, as follows.

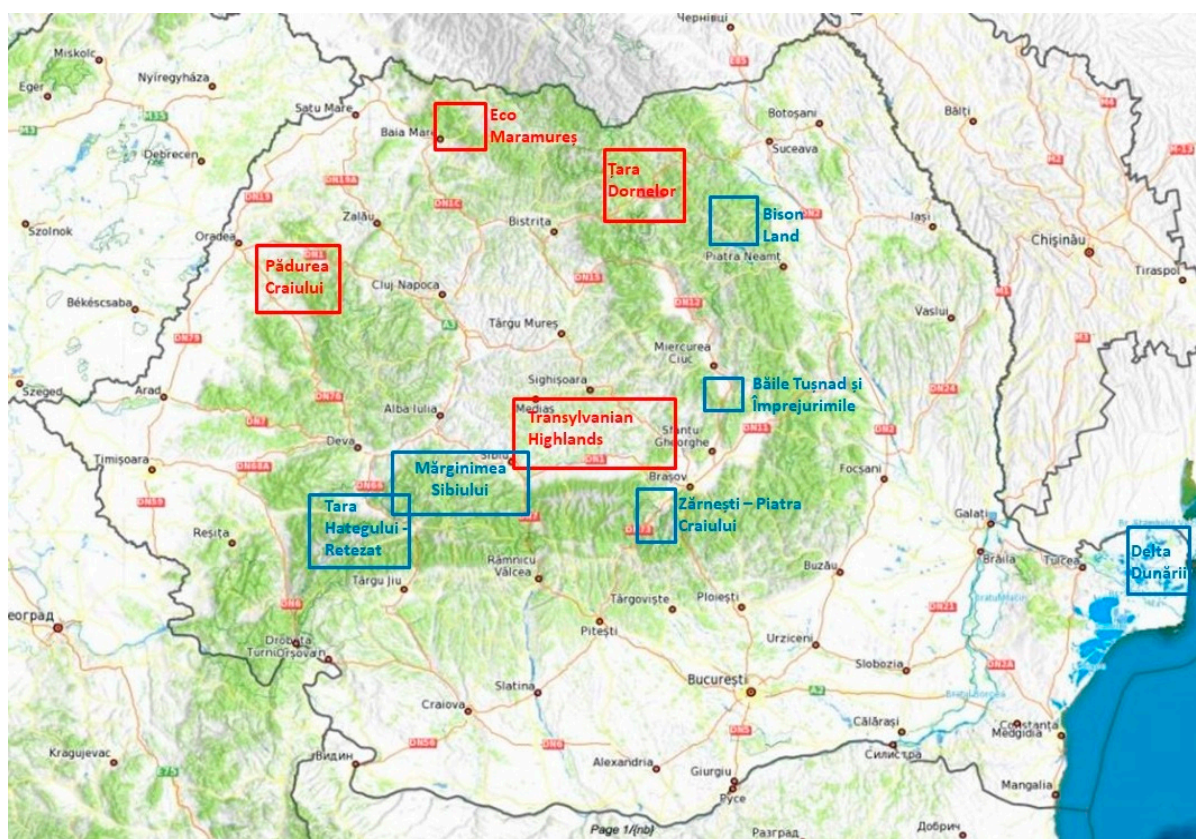


Figure 1. The geographical distribution of the Romanian ecotourism destinations. Source: [46].

Pădurea Craiului

The destination is situated in the Western Carpathians, with large areas of Karst landscape: caves, gorges, and plateaus. The profile of the destination is a mix of nature-based and cultural activities, with a focus on families and children as its market segment. The proximity of two large Romanian cities makes it mostly a one-day destination, so the efforts of the destination management organization are on developing infrastructure and attractions in order to convince its visitors to extend their stay. Because of this, the accommodation infrastructure is poorly developed, with only 33 accommodations and 729 beds.

Transylvanian Highlands

Located in the centre of the country, it overlaps with the second largest Natura 2000 site in Romania. This area in southern Transylvania is known for its Saxon cultural heritage, and the identified unique selling proposition is the last medieval landscape of Europe. Although the destination is known mainly due to cultural attractions (fortified churches, preserved medieval villages, fortresses and mansions, traditional cultural landscape), the destination also has a rich natural heritage represented by avifauna, meadows of high conservation value, meadows with secular oaks, etc., and an impressive cycling infrastructure with more than 500 km of trails. It is the largest of the four destinations included in the study, and it offers 82 registered accommodation units with a total of 1421 beds.

Eco Maramureș

This is a small destination situated in Maramureș county, in the north of Romania. The area is known for the wood carving civilization; therefore, it has a wide range of cultural attractions and activities. It differentiates from the rest of Maramureș by including nature-based activities and infrastructure (hiking and cycling trails, thematic trails, and others), and it is promoted under the image of the “green heart of historic Maramureș”. Although it is a small area, the accommodation capacity totals 1805 beds in 134 units.

Țara Dornelor

The destination is in the north of the country and partially overlaps the Călimani National Park. The uniqueness characteristic is given by the well-preserved volcanic landscape and the active character of the destination, the area being excellent for a varied range of nature-based activities. This area has a long-standing tradition in Romanian tourism, especially due to the Vatra Dornei spa resort, which acts as a service hub for the destination. This fact is also reflected in the accommodation capacity at the destination level, which totals 4692 places in 227 accommodation units.

4. Research Methodology

The present research is part of the efforts made by AER to develop and to professionalize the network of ecotourism destinations in Romania, with the support of the Romanian-American Foundation, the Romanian Partnership Foundation, and the Swiss-Romanian Cooperation Programme. AER coordinates and offers technical tourism assistance to a network of local NGOs that act as destination management organizations. The aim of the research was to gather valuable data regarding visitors' and destination profile that will then help the management teams in planning their management and marketing activities.

The data were gathered over a period of an entire year and consisted of direct interviews with visitors, based on a questionnaire. The data contain a range of closed questions aimed at reaching the goals of the abovementioned research. The measurement scales used for questions design are mainly nominal and 5-level Likert scales at equal distances. Nevertheless, for the purpose of this article, only eight categorical variables have been considered (see Table 2).

Table 2. The variables used in the research.

Variable	Response Categories
Age	Under 18 years; 18–29 years; 30–50 years; 51–65 years; over 65 years
Monthly income *	Under EUR 215; EUR 215–430; EUR 431–645; EUR 646–1077; over EUR 1077
Education	Lower-secondary education; upper and post-secondary education; higher education
Occupation	Active people (employee, self-employed); retired; inactive people (students, without occupation, etc.)
Country of residence education	Romania; other countries
Visit purpose	Nature purpose; culture purpose; leisure purpose; other activities
Visit frequency	First visit; many times per year; once a year; every few years
Ecotourism destination	Eco Maramureș; Țara Dornelor; Pădurea Craiului; Transylvanian Highlands

* The income levels were expressed in the Romanian currency and converted into EUR.

The methodology of data collection included identifying the interview spots in each destination, as well as the days in which the interviews were performed. There were randomly chosen days within the season, as well as during the off-season, during the week and the weekend. In order to prevent data alteration, the application of the questionnaires was avoided in accommodation units or on the occasion of events. The main aim of this methodology was to identify the characteristics of the visitors that visit the ecotourism destinations in different seasons and during the entire week period.

The questionnaires were applied with the help of voluntary interview operators who were previously trained within a session of face-to-face teaching. The data gathering was accomplished using an application developed for Android smartphones. It was able to store data directly into an online database that could then be exported in Excel format, which allowed the researchers to check for inconsistencies between answers. It also facilitated the data transfer and processing into other data processing system (such as SPSS). At the same time, the app stamped each questionnaire with the GPS coordinates, where it was filled in. This proved that each volunteer collected the data at the designated locations, which ensured the validity of the data.

The data were collected from a sample of 1157 visitors from the above mentioned ecotourism destinations: 363 people (31.4%) from Eco Maramureş, 237 people (20.5%) from Țara Dornelor, 355 people (30.7%) from Pădurea Craiului, and 202 people (17.5%) from the Transylvanian Highlands. The data from Excel files were taken into the SPSS system and processed by using univariate and bivariate analyses. The statistical significance of the differences between the segments of visitors was tested with the Chi-square test. The aim of these analyses is to find answers to the following research question: “Which are the profiles of the main segments of visitors in the studied ecotourism destinations?” A number of eight categorical variables were considered in this research. They are related to the demographic and travel characteristics of the visitors. The variables and their response categories are presented in Table 2.

A segmentation based on the a priori approach from a single characteristic has been computed [30]. Four segments were identified according to the answers given by respondents to a question, which contains a single-choice list of motivations to visit the destination: skiing, ice climbing, rafting, hiking, ziplining, mountain biking, flora and fauna observation, culture and traditions, visit painted churches, relaxing in the guesthouse courtyard, visit friends and relatives, secondary residence, health treatment, team building, or other activities. These segments were labelled as follows: nature travellers; culture travellers; leisure travellers, and eclectic travellers. The labels were established in line with other research and adapted to the present context [23,32,51].

By applying bivariate analyses, the profile of visitors in the analysed Romanian ecotourism destinations was designed. The results were computed from the valid cases of every question by excluding missing answers. Furthermore, the profiles of the four mentioned segments according to the purpose of the visit have been computed. The differences between the subgroups resulted according to the demographic and travel characteristics could be considered statistically significant, as in all cases, the p-value is lower than 0.05. Finally, the dominant profile of each segment was summarized in an intuitive graphical representation and discussed in relationship with the relevant literature.

5. Results

Taking into account the first objective of the research to identify the demographic and travel characteristics of visitors to the main ecotourism destinations in Romania (O1), the results based on the responses to the questionnaire are presented in Table 3. Most of the interviewed subjects are active people (77.5%), with a medium income (32.7%) and higher education (70.8%), aged between 30–50 years old (56.2%). As regards the country of residence, the majority of visitors are Romanians (79.9%), while international visitors represent 20.1% of the total sample. As to the ratio of visitors according to their country of residence, the structure is similar to the official statistics about the visitors’ provenance in the main tourist destinations of Romania (80% domestic, 20% international) [52].

Table 3. The profile of visitors to Romanian ecotourism destinations.

Characteristics		%
Age	Under 18 years	1.6%
	18–29 years	20.5%
	30–50 years	56.2%
	51–65 years	17.8%
	Over 65 years	3.9%
Monthly income	Under EUR 215	5.2%
	EUR 215–430	19.9%
	EUR 431–645	32.7%
	EUR 646–1077	23.0%
	Over EUR 1077	19.2%

Table 3. *Cont.*

Characteristics	%
Education	
Lower-secondary education	1.7%
Upper and post-secondary education	27.5%
Higher education	70.8%
Occupation	
Active people	77.5%
Retired	12.8%
Inactive people (students, without occupation, etc.)	9.7%
Country of residence	
Romania	79.9%
Other country	20.1%

The visitors in the abovementioned sample were segmented into four categories according to their travel purpose (O2). In this respect, four visitor segments were computed: nature travellers (41.7%), culture travellers (29.5%), leisure travellers (15.0%), and eclectic travellers (13.8%). Nature travellers are active people that visit the ecotourism destinations in order to do sports (skiing, ice climbing, rafting, hiking, ziplining, mountain biking, etc.) or to observe flora and fauna. Culture travellers are mainly interested in learning more about culture and traditions and in visiting painted churches or other heritage-based attractions. Leisure travellers are oriented towards soft activities such as relaxing in the guesthouse courtyard or at their secondary residence, visiting friends or relatives, etc. Eclectic travellers are mainly in transit or visit the destinations with various other purposes, which are not included in the above mentioned categories.

The third research objective (O3) was to identify the repetitive visiting behaviour to the ecotourism destinations of the identified segments. The results presented in Table 4 reveal that most of the respondents (45.3%) are at their first visit in the four ecotourism destinations. Another 22.8% visit the destination many times per year, 16.8% once a year, and 15.1% every few years. Taking into consideration this behaviour in relation to the visit purpose, it is observed that by excluding the first visit travellers, who represent most of the respondents in all categories, nature travellers visit the destination many times per year (29.4%), culture travellers visit the destination mainly every few years (12.6%), leisure travellers revisit the destination mainly once a year (25.6%), while eclectic visitors usually go many times per year (34.4%).

Table 4. The relationship between visit frequency and visit purpose % within columns total.

Visit Frequency in Destination	Nature Travellers	Culture Travellers	Leisure Travellers	Eclectic Travellers	Chi-Square	p-Value
First visit	39.6%	66.8%	32.0%	31.2%	123.08	0.00
Many times per year	29.4%	10.3%	18.6%	34.4%		
Once a year	17.9%	10.3%	25.6%	17.8%		
Every few years	13.1%	12.6%	23.8%	16.6%		
Total	100.0%	100.0%	100.0%	100.0%		

The differences in behaviour patterns between the groups resulting from the main purpose of their visit are statistically significant in relation to the visit frequency given to the results of the Chi-square test for bivariate analysis (Chi square = 123.08, p value = 0.00). In conclusion, the visit purpose determines tourists' return to the analysed ecotourism destinations.

As to the profile of the different visitor segments regarding their dominant demographic characteristics (O4), significant relationships were also found between the travel purpose and the main demographic characteristics. The Chi-square test for bivariate analysis returned p -values smaller than 0.05 for all cross tabulations included in Table 5.

Table 5. The profiles of the visitors segments according to the demographic characteristics % within rows total.

Characteristics	Nature Travellers	Culture Travellers	Leisure Travellers	Eclectic Travellers	Chi-Square	<i>p</i> -Value
Age						
Under 18 years	61.1%	11.1%	11.1%	16.7%	79.039	0.00
18–29 years	51.9%	23.4%	9.8%	14.9%		
30–50 years	44.0%	28.8%	12.6%	14.6%		
51–65 years	26.5%	38.7%	27.9%	6.9%		
Over 65 years	17.8%	44.4%	22.2%	15.6%		
Monthly income						
Under EUR 215	64.9%	13.5%	16.2%	5.4%	51.32	0.00
EUR 215–430	45.1%	16.2%	26.1%	12.7%		
EUR 431–645	53.6%	20.2%	18.0%	8.2%		
EUR 646–1077	47.0%	32.3%	12.2%	8.5%		
Over EUR 1077	36.5%	43.8%	13.9%	5.8%		
Education						
Lower-secondary education	50.0%	16.7%	22.2%	11.1%	84.29	0.00
Upper and post-secondary education		17.3%	24.4%	23.7%		
Higher education		34.2%	12.2%	8.8%		
Occupation						
Active people	43.8%	29.5%	13.8%	12.9%	50.52	0.00
Retired	21.0%	42.0%	26.6%	10.5%		
Inactive people	56.9%	17.4%	10.1%	15.6%		
Country of residence						
Romania	45.2%	23.3%	17.2%	14.3%	93.60	0.00
Other countries	27.8%	55.7%	7.0%	9.6%		
Ecotourism destination						
Eco Maramureș	14.3%	48.8%	14.3%	22.6%	668.42	0.00
Țara Dornelor	44.3%	13.5%	39.2%	3.0%		
Pădurea Craiului	82.0%		3.1%	14.9%		
Transylvanian Highlands	16.8%	65.3%	8.9%	8.9%		

The results presented in Table 5 are computed in percentages calculated by reporting the absolute frequencies to the totals of table rows in order to obtain comparable figures. In Table 5, we can observe that the majority of people aged below 50 years old visit the ecotourism destination for nature purposes, while people over 50 years visit it for culture purposes. Regarding the dominant characteristics of the analysed segments, the nature travellers are young people (aged under 30 years old), culture travellers are mainly 65+ years old, leisure travellers are between 51–65 years old, and eclectic travellers are under 18 and over 65 years old.

As regards the income, most of the respondents with low and middle incomes (up to EUR 1077) travel for nature purposes, while those with high incomes have mainly culture purposes. The dominant income categories for the named segments are: very low income

(under EUR 215) for nature travellers, high income (over EUR 1077) for culture travellers, and low income (EUR 215–430) for leisure and eclectic travellers.

From an education point of view, most of the respondents in all categories visit the destination for nature purposes, but the dominant characteristic for nature travellers is lower-secondary education, for culture travellers, it is higher education, and upper-secondary for leisure and eclectic travellers. According to the occupation, most of active and inactive people travel for nature purposes, while the retired persons for culture purposes. Inactive people are the dominant group for nature and eclectic travellers and retired people for cultural and leisure travellers. Finally, as regards the country of residence, Romanians prefer nature activities, being the dominant group in this segment, and foreign visitors prefer cultural activities.

Even if the ecotourism destination in which data were collected is not a characteristic of the visitors, the results of cross-tabulation analysis reveal interesting aspects about the main activities sought out by visitors. Thus, in Pădurea Craiului and Țara Dornelor, most visitors go for nature purposes, while in Eco Maramureș and the Transylvanian Highlands, they go for culture purposes. The majority of leisure travellers were found in Țara Dornelor, and the most eclectic travellers were in the Eco Maramureș destination.

6. Discussions, Conclusions, and Implications

People visit various tourism destinations in order to fulfil their objectives, to satisfy their needs and curiosities, to be included in a specific social group, and so on. When it comes to choosing a destination, a series of interactions between perceptions of that destination and the personal reasons of the trip occur. The value of an ecotourism destination consists in the meaning that it gives to the visitors, and this can vary from the engagement with the nature to interactions with other people.

The main purpose of this study was to identify the profile of visitors to four ecotourism destinations from Romania, considering the ecotourism potential of this country and the fact that there are very few empirical studies regarding these ecotourism destinations. Starting from the visitors' segmentations based on the main purpose of their visit and continuing with the analysis of other socio-demographical and travel characteristics, we are convinced that this profile is useful for destination marketers and managers. We also consider that maintaining under control the number of visitors and targeting some narrow segments could contribute to a sustainable development of the studied ecotourism destinations.

The research findings provided us with valuable information about the profiles of the visitors to the four studied ecotourism destinations from Romania. The profiles of the four segments of visitors, according to the main visit purpose, are presented in Figure 2. They are based on the dominant characteristic obtained for every demographic variable. For managerial reasons, other characteristics have been selected when the differences from the dominant group are considered quite small. As from a statistical perspective the differences are globally significant, the abovementioned associations were made on logical judgment in order to help the decision makers in the segmentation process based on these profiles.

The research results reveal that the visitors to Romanian ecotourism destinations are middle-aged, with middle income and higher education, and they visit the destination several times a year. This profile is in line with certain findings highlighted in the tourism literature for several places around the world: Africa, America, New Zealand, and Australia [23,30,39,41,42]. The main segment identified within the present paper, nature travellers, includes visitors under 50 years old, with low and middle income and having secondary education level. This finding is not in line with the profile found in USA, excepting the repetitive visit behaviour [30]. Culture travellers are another important segment of visitors to Romanian ecotourism destinations. They are over 50 years old, with a high income, being highly educated and retired. The results show that more international visitors than Romanians are motivated to visit the analysed destinations for cultural purposes. These findings are partially contrary to the ones from China, where culture travellers are mainly young people with a low income [32]. Leisure travellers prefer soft activities,

mainly around the accommodation. They are over 50 years old, with a low income, having a secondary education and being retired. Eclectic travellers are mainly Romanian visitors, under 50 years old, with a low income, and a secondary education level. The general profile of the visitors in the studied ecotourism destinations has three characteristics: the age between 30–50 years old, middle income, and high education level. Those visitors have a broad range of visit purposes that are not focused on specific activities in the ecotourism destination, being similar to the eclectic adventurers identified in the literature [32].



Figure 2. The main visitor segments and their profiles according to the demographic and travel characteristics.

In our opinion, nature and culture travellers are the most attractive visitor segments of an ecotourism destination, which can be targeted using tailored management and marketing strategies. Thus, the results of our research have strong implications for the ecotourism destination management and marketing. The highlighted profile can help destination management organizations (DMOs) to better understand who their visitors are in order to make proper decisions meant to ensure a sustainable development on three pillars: (1) protection of the natural sites and avoidance of excessive pollution, (2) protection of local communities against destination over-crowding, and (3) local economic growth in different fields in order to avoid mono-industry dependence.

The information regarding age, income, and occupation, correlated with education, can help DMOs to develop new tourism products and experiences, in accordance with the visitors' profile. It enables them to craft meaningful messages and adapt their promotion

materials to meet their market segments expectations. By comparing the visitors' profile with the existing tourism infrastructure and service offers, some of the weaknesses and strengths of the destination can be discovered (for example, if in a destination most of the visitors spend money on fuel or there is overcrowding, it could be due to the lack of local public transport, which should be addressed together with the local authorities). Additionally, the DMOs should be aware of the necessity to have up-to-date statistical data about their visitors' profile and to measure the impact of their management activities and the overall performance progress of the destination. Such data could be obtained through the support of academic institutions as well as non-profit organisations.

7. Limitations and Future Research

The research was conducted throughout a year in all seasons including weekdays and weekends. Even if the days of data collection were randomly selected, the participation in the survey was on a voluntary basis. This selection method can cause certain data bias. The relatively small number of questionnaires applied in every location could be considered one of the main limitations of this study. The limited number of ecotourism destinations could also be considered a research limit taking into account that such destinations have unique attractions and tourism offers. Another limitation is the application of research before the currently difficult situation regarding the COVID-19 pandemic, which certainly determined significant changes in the visitors' motivations when visiting ecotourism destinations.

Future research should replicate this study in order to find changes in the visitors' profile and behaviours. In this respect, AER aims to repeat the study every two years, with the help of its local partners, in order to measure the tendencies but also the efficiency of the marketing and management activities put into practice. The study is intended to be expanded to other destinations, as well as other time periods, in order to highlight the changes in the visitors' behaviour. Further research regarding visitors' responsibility in ecotourism destinations could also be useful for finding solutions to achieve sustainable development of these destinations. Such an approach is also proposed in the literature. Jeong [53] mentions that: "responsible behaviour occurs when tourists understand the impact of their behaviour on the environment and local people, and abide by the sociocultural and environmental norms of the site". For the sustainable destination management, it is important to be able to differentiate between the categories of tourists interested in protecting destination and the ones with a harmful behaviour. This information may help DMOs to make the best decisions for a sustainable development of the ecotourism destination. The outcomes of these decisions should satisfy both the economic interest of the local community and the goals to conserve the natural areas and cultural attractions.

Modern research tools, such as social network analysis, could be used in order to find possible relationships between the ecotourism destinations [54,55]. The results of such research could contribute to building "blockchains" [56] of information that can contribute to the sustainable development of the ecotourism destination by learning from the others' experience.

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Article

Examining the Relationships between Visitors Profile, Satisfaction and Revisit Intentions: Evidence from Romanian Ecotourism Destinations

Cristinel Petrișor Constantin , Ana Ispas  and Adina Nicoleta Candrea

Faculty of Economic Sciences and Business Administration, Transilvania University of Brașov,
500036 Brașov, Romania; ispasana@unitbv.ro (A.I.); adina.candrea@unitbv.ro (A.N.C.)

* Correspondence: cristinel.constantin@unitbv.ro; Tel.: +40-0727-39-2380

Abstract: Monitoring satisfaction levels among visitors presents an important challenge in ecotourism destinations, as it can provide useful information for tourism planning and management. The purposes of this study are (i) to identify the attribute-level satisfaction factors in the context of four ecotourism destinations from Romania, (ii) to investigate whether segments with different purposes for visiting reported different levels of satisfaction, (iii) to examine if the analyzed ecotourism destinations recorded different levels of satisfaction, and (iv) to determine if the attribute-level satisfaction factors and visitors' profiles influence the intention to revisit ecotourism destinations. The research data were collected using a survey among 1157 visitors in the analyzed destinations. An exploratory factor analysis (EFA) was computed and an analysis of variance (ANOVA) was conducted in order to determine whether significant differences in satisfaction existed across segments and across destinations. The research findings indicate three attribute-level satisfaction factors ((i) attractions and information services, (ii) amenities, (iii) conservation of natural and cultural heritage). Subsequent results revealed significant differences across visitor segments for two out of the three attribute-level satisfaction factors and across the four analyzed ecotourism destinations regarding all satisfaction factors. Furthermore, there were significant differences across visitor segments concerning the intention to revisit, however, influence of satisfaction factors on the intention to revisit the ecotourism destinations was found to be poor. The present study provides a contribution to the body of knowledge in ecotourism destination management and marketing by improving the understanding of relationships among visitors' profile, satisfaction levels, and revisiting intention.

Keywords: ecotourism destination; visitor satisfaction; attribute-level satisfaction; revisit intention; travelers profile; attractions and information services; amenities; conservation of natural and cultural heritage; survey among visitors



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1. Introduction

Ecotourism is one of the fastest growing sectors in the tourism industry, with an annual global growth rate of 5% [1]. The International Ecotourism Society (TIES) officially defines ecotourism as, "Responsible travel to nature areas that conserves the environment and improves the welfare of local people" [2]. Ecotourism areas became important destinations, due to their efficiency in protecting the environment and supporting education, recreation, and job creation [3]. In ecotourism destinations, the touring experience takes place within a natural environment and is directly linked to environmental features. Investigation of travel experiences and the satisfaction of visitors remains important for the long-term benefit of ecotourism products and destinations [4] as "ecotourists are likely to perceive ecotourism site visits in terms of their expressive experience rather than merely as a utilitarian transaction" [5]. The interest in studying the experiences of visitors at a destination derives from the fact these experiences act as a key driver for future behavior, due to the influence on customer satisfaction [6]. Therefore, it is necessary to understand to what

extent the visitors are satisfied with the services provided within ecotourism destinations, and the effects of their socio-demographic and travel behavior characteristics on their satisfaction. The competitive environment requires an attainment of customer satisfaction through delivery of quality services in order to maintain business survival. Therefore, understanding visitors' profiles and possible differences in their satisfaction levels is also critical in creating a sustainable competitive advantage for ecotourism destinations. Information regarding typology and profiles of visitors allows ecotourism destination managers to optimize their approach concerning different motivations and experiences, in order to identify which types of visitors are more likely to be found in different stages of tourist areas' development [7].

However, it is highlighted in tourism literature that only few segmentation studies focused on the relationship between the segments of demand, tourist satisfaction and loyalty, thus more empirical evidence is needed [8,9]. In this respect, the current paper aims at identifying the above-mentioned relationships. The contribution to the body of research was developed upon three pillars. First, we tested the relationship between visitors' profiles and satisfaction levels starting from the assumption that typically, eco-visitors exhibit high levels of satisfaction regarding their eco-based experiences [10–12]. Second, the satisfaction of visitors in relationship with the ecotourism destinations was analyzed starting from findings in the literature. In the tourism industry, practitioners use tourist satisfaction levels as a basic parameter to evaluate the performance of various destination-specific tourism products [13]. Consequently, the overall satisfaction of visitors concerning a destination can be specified as a function of their satisfaction with the individual attributes of all products and services [14–16]. Third, we analyzed the influence of attribute-level satisfaction factors and visitors' profiles on revisit intentions. As researchers reveal, a better understanding of satisfaction regarding visitors in ecotourism destinations and how this impacts their future behavior can guide the provision of specialized products and services, and offer valuable marketing and management insights to hosts and managers of ecotourism destinations [11].

Improving understanding of the relationships among visitors' profiles, satisfaction, and revisit intentions will better inform the managers of ecotourism destinations on methods to adjust their services and marketing efforts to enhance visitors' satisfaction and future revisit intentions.

1.1. Visitors' Profile

Given the importance of ecotourism in natural protected areas, it is necessary to obtain detailed knowledge on characteristics of the demand. Market segmentation would enable tourism site managers to subdivide the tourists into segments, to comprehend their preferences better, and communicate more efficiently. Furthermore, market segmentation offers important advantages in ecotourism, considering that worldwide operators encounter clear pressures in ensuring consumers receive experiences as anticipated [17].

Certain tourism scholars consider visitors' characteristics as being relevant to the levels of satisfaction with tourism destinations and subsequently segmented the tourism market into groups of visitors sharing common characteristics such as (i) age group; (ii) number of trips taken per annum/season; (iii) education; (iv) occupation; (v) income; and (vi) purpose of trip [18]. Profiling is one of the phases in market segmentation [19]. Understanding visitors' profiles among ecotourism destinations may prove to be a strategic action in the competitive tourism market. Profiling helps to identify target markets, craft meaningful messages, and develop products and resources in such a way that meets particular demands [20]. Moreover, visitor profiles are a determining factor that influences destination management approaches for achieving multiple aspirational goals such as high visitor satisfaction and site sustainability [21].

Tourism scholars have profiled visitors from different ecotourism areas across the world: North America (e.g., [22]); South America (e.g., [23]), Africa (e.g., [24]) Asia (e.g., [25]), Australia (e.g., [26]); and Europe (e.g., [27]) using variables such as: age, education and income [22,25,26], nationality [24] motivations [23,28], on-site activities [29],

accommodation preferences [24] and information sources [26]. Certain studies have shown high levels of satisfaction among eco-visitors [30–33].

1.2. Satisfaction

Satisfaction generally refers to “the consumer’s response to the evaluation of the perceived discrepancy between prior expectations and the actual performance of the product as perceived after its consumption” [34]. Satisfaction toward a tourist destination can be defined as the response of tourists to the evaluation of expectations from a particular destination and the evident pleasure and performance perceived from the destination [35]. Other studies postulate satisfaction as a holistic judgment upon multiple attributes that comprise a product/service [36], which connotes “an accumulated evaluation of various components and features” [37]. Therefore, attribute satisfaction can be related to consumers’ subjective judgments resulting from observations of the attributes’ performance [38].

Tourism studies have previously acknowledged that attributes of a product/service/destination are important when evaluating the purchasing behavior of individuals (i.e., the decision to visit a tourist destination, satisfaction, revisit intention, etc.) [39–43]. At the destination level, a product is presented as a mix of elements such as accommodation, entertainment, transportation, including both core and secondary attributes. During their holidays in a destination, tourists experience a wide range of attributes such as hotels, restaurants, shops, cultural, natural, and historical attractions, etc., and they may assess each attribute separately [44]. Therefore, several studies were conducted to reveal visitors’ satisfaction regarding different attributes of tourist destinations [15,41,45–47]. Tourism scholars have indicated that attributes representing a feature or uniqueness of a certain place determines satisfaction [40,48]. Eusébio and Vieira [49] found that destination attributes (i.e., basic services, accessibility, and attractions) positively influences tourists’ satisfaction. Similarly, Han et al., [40] found that attributes of a bicycle tourism destination were vital in the formation process of tourists’ satisfaction. In a nature-based resort, Meng et al., [43] discovered that friendly/quality services and location were of significant importance in satisfaction evaluation. However, few studies have been conducted to examine satisfaction toward an ecotourism destination accounting for its attributes [1,5,11,16,50]. The distinctive nature of ecotourism destinations, such as the intangibility of tourist products, the multi-faceted tourist experience, and the simultaneous consumption and production process, etc., make it difficult to measure visitors’ satisfaction.

Various research articles presented in the literature have used several destination attributes to measure visitors’ satisfaction [51,52] and reported evidence of the relationship between destination attribute satisfaction and behavioral intentions, including intentions to revisit and recommend [15]. It is important to consider the analysis of tourist satisfaction for the management of ecotourism destinations, given that the greater the degree of satisfaction, the greater the probability they will repeat the purchase of the product/service, and that they will encourage others to do so [4].

Previous studies mention high general satisfaction levels in the case of visitors among ecotourism destinations (66% of a sample of eco-visitors at New Zealand’s Pirongia Forest Park [12]; 60% of eco-visitors who visited Kenya’s Amboseli National Park were satisfied while only 4% were dissatisfied [30]). Akama and Kieti [31], Moscardo [32], and Okello and Yerian [33] all illustrated high levels of satisfaction among eco-visitors.

1.3. Relationship between Destination Satisfaction and Revisit Intentions

Destination satisfaction is an overall evaluation of the extent to which a specific destination is able to meet tourists’ expectations [53,54]. It is one of the most important factors that determine a destination’s success as visitors’ satisfaction positively influences their loyalty [14,55–57].

Travelers’ intentions to revisit a destination are considered a critical factor in the tourism industry [58]. Antón et al., [37] distinguished intention to revisit a destination from intention to recommend, insisting that travelers may intend to recommend a place to

others although they themselves had no intention to revisit the location. In light, this study, similar to the one conducted by Moon and Han [59] (analyzing Chinese travelers' revisiting intention to an island destination) uses revisit intention as a proxy for actual behaviors instead of combining other indicators of behavioral intentions such as recommendation to others.

It is generally believed that satisfied tourists are more likely to return to the same destination [14,44,60]. However, Um et al., [61] found that satisfaction was not a sound indicator of revisit intention. Dolnicar et al., [60] argue that in the context of tourism services, satisfaction does not necessarily lead to positive behavioral intention, especially with respect to personal intentions to return. In the same vein, Kozak et al., [62] claim that one of the certainties in tourism is that many tourists will visit only once. Repeated visits to tourist destinations are relatively rare owing to considerable travel time, cost constraints, and the variety of available alternative destinations [63]. Thus, there is a need for additional research related to satisfaction and future behavioral intentions in the case of tourist destination [35]. Furthermore, studies conducted within the field of ecotourism destinations are scarce [4,11,64,65] and a new analysis of the relations between tourist satisfaction and revisit intentions to an ecotourism destination will help to respond to these ambiguities.

It is important to note that the level of tourism development in different destinations is not identical and thus, the impact of visitors' satisfaction on their intentions to revisit will differ. Furthermore, different visitor segments of a certain destination may have various satisfaction levels and distinct behavioral intentions.

Therefore, in order to achieve the overall purpose of the present study, the following research objectives were established:

O1: to identify the attribute-level satisfaction factors in the context of four ecotourism destinations from Romania,

O2: to investigate whether segments with different visit purposes report different levels of satisfaction,

O3: to examine if the analyzed ecotourism destinations recorded different levels of satisfaction,

O4: to determine if the attribute-level satisfaction factors and visitors' profile influence the intention to revisit the ecotourism destinations.

The paper is structured in five sections: the Introduction, which presents the context of the study and the current state of the research field; the Materials and Methods section, which describes the study context and the methodology; the Results section, which presents the findings of the research, followed by the Discussion section and the Conclusion.

2. Materials and Methods

The research was conducted by the Association of Ecotourism in Romania (AER) with the aim to find relevant information about visitors' profiles in Romanian ecotourism destinations, their satisfaction with the main attributes of these destinations and the revisit intentions, in order to find appropriate solutions that improve destination marketing and management. AER was supported in its efforts by the Romanian–American Foundation, the Romanian Partnership Foundation, and the Swiss–Romanian Cooperation Programme. The process of data analysis was performed with the help of specialists from Transilvania University of Brasov, Romania. The data regarding visitors' satisfaction collected for 15 satisfaction items were pre-processed in order to handle the missing values and outliers. Data processing starts with identification of the attribute-level satisfaction factors by using exploratory factor analysis (EFA). Next, these factors were analyzed in relation to the main visitor segments to identify significant differences between them using analysis of variance (ANOVA). Finally, the influences of attribute-level satisfaction factors as well as the influence of visitors' profiles on revisit intentions were tested using discriminant analysis and Pearson's chi-square test.

2.1. Setting the Scene: Romanian Ecotourism Destinations and Visitors Profile

Romania has a unique and rich natural heritage, which creates multiple opportunities for ecotourism. The country hosts almost half of the European (excluding Russia) population of large carnivores (bear, wolf and lynx) [66]. Moreover, the Romanian territory hosts half of the Carpathian mountain range as well as the Danube Delta, which is the most important wetland in Europe. In addition to this rich natural heritage, Romania preserves an original and authentic cultural heritage, especially in rural areas situated near natural protected areas, which were successfully integrated in ten ecotourism destinations.

The Romanian National Tourism Authority [67] defines the ecotourism destination as a tourism destination that respects the following principles: (1) the destination projects a responsible marketing image; (2) businesses with a sustainable management predominate in the destination; (3) there is a real support for local communities within the destination; (4) tourists and locals are made aware of and informed about the natural characteristics of the destination; (5) clear nature conservation measures are implemented within the destination. The ecotourism destination includes at least a protected area and the local communities around or within it, including the protected area administrator in the management of the whole destination. The management of the destination focuses on tourism products, small-scale infrastructure development, and marketing holding sustainability and nature conservation as core values. The ecotourism destinations in Romania were developed and promoted by the Association of Ecotourism in Romania (AER) in partnership with other governmental and non-governmental stakeholders [68]. AER is a non-governmental organization, based on a partnership for nature conservation and tourism development in Romania. It brings together tourism associations, non-governmental organizations for local development and nature conservation, guesthouses and tourism agencies. The innovative concept promoted by AER is to rally the public and private sectors in a partnership aimed at nature conservation and sustainable tourism development. AER is increasingly interested in studying the degree of satisfaction regarding ecotourism products in order to ensure that the experience provided to visitors fulfills or even exceeds their expectations [69].

The present study focuses on four ecotourism destinations in Romania, which were considered appropriate for the purpose of this research, considering they are located within different geographical areas of the country. A comparative analysis of the existing tourism infrastructure within the studied ecotourism destinations is presented in Table 1.

Table 1. Tourism infrastructure within the studied ecotourism destinations.

Indicators	Ecotourism Destination			
	Eco Maramureş	Țara Dornelor	Pădurea Craiului	Transylvanian Highlands
No. of accommodation units	134	227	33	82
No. of beds	1805	4692	729	1421
No. of visitor centres and tourist information offices	5	2	5	3

Source: AER.

Pădurea Craiului is located in the western part of the Carpathians and represents a land of caves, spectacular gorges and waterfalls, extensive forests and wildflower meadows. The caves conceal traces of human life that date from ancient times and old wooden churches, water mills and traditional households combine to form an idyllic scenery in its rural area [69]. Visitors may choose from a wide range of nature-based activities within the destination: cycling, trekking, climbing, via ferrata, caving, rafting, and horseback riding. The destination holds few places of accommodation (33 units) and five tourist information centers.

The Transylvanian Highlands are situated in the center of the country and include the second largest Natura 2000 site in Romania [69]. It is an area which best displays the Saxon culture in Romania and includes several villages with fortified churches, some

of which are recognized as UNESCO Heritage sites (Biertan, Saschiz, Valea Viilor and Viscri). It is the largest protected area in Transylvania, where thousands of bird species nest, a region with High Nature Value farms, with extremely varied biodiversity, where traditional agricultural practices are preserved. Moreover, it offers an impressive cycling infrastructure with more than 500 km of trails, which is used by trekkers and, wildlife and culture enthusiasts. The destination includes 82 accommodation units and 3 tourist information centers.

Eco Maramureș is a small destination situated in Maramureș County, in the north-western part of Romania. The activities on offer to visitors include nature-based activities such as cycling, climbing, paragliding, skiing, as well as cultural experiences within authentic rural areas, including wooden churches which are included in the UNESCO heritage list. Although it is a small area, the accommodation capacity totals 1805 beds in 134 units and holds five tourist information centers.

Tara Dornelor is located in the north-eastern part of Romania and partially overlaps with the Călimani National Park. Visitors may choose from a wide range of nature-based activities within the destination: cycling, trekking, crafting, paragliding and horseback riding. This destination has a long history in developing tourism, especially due to the Vatra Dornei spa and a winter sports resort which acts as a service hub for the area. This fact is also reflected in the accommodation capacity at the destination level, which totals 4692 places in 227 accommodation units. The area benefits from four interpretation trails, and one tourist information center in Vatra Dornei. It is the only analyzed destination which has a visitor center located within the administrative headquarters of the Călimani National Park.

A map containing the Romanian ecotourism destinations is presented in Figure 1. The locations of the destinations described above are colored in red. An interactive version of this map, on which the main landmarks of each destination can be accessed, is presented on the AER website [69].

As projected in the literature, the conventional profiles of eco-visitors are middle-aged and generally well educated [31,70,71], which are also found in visitors' profiles from Romanian ecotourism destinations, who are mainly aged 30–50 years, with a background of high education and middle income [7].

For the selected Romanian ecotourism destinations, the authors performed an “a priori” segmentation from a single characteristic, which was presented in a previous paper [7]. Four segments of visitors were computed according to the primary purpose of visit: nature travelers; culture travelers; leisure travelers, and eclectic travelers. The dominant characteristics of the named segments were: (1) nature travelers—under 50 years old, with secondary education level and a background of low and middle income, active people who visited the ecotourism destinations in order to participate in sports (skiing, ice climbing, rafting, hiking, zip lining, mountain biking, etc.), or to observe flora and fauna.; (2) culture travelers—over 50 years old, with higher incomes, higher education level and retired who were mainly interested in learning more about culture and traditions and in visiting painted churches or other heritage-based attractions; (3) leisure travelers—over 50 years old, lower income, secondary education level and retired, oriented towards soft activities such as relaxing in guesthouse courtyards or at their secondary residence, visiting friends or relatives; (4) eclectic travelers—under 50 years old, lower income, secondary education level and were mainly in transit or visited the destinations for various other purposes/preferred a broad range of activities.

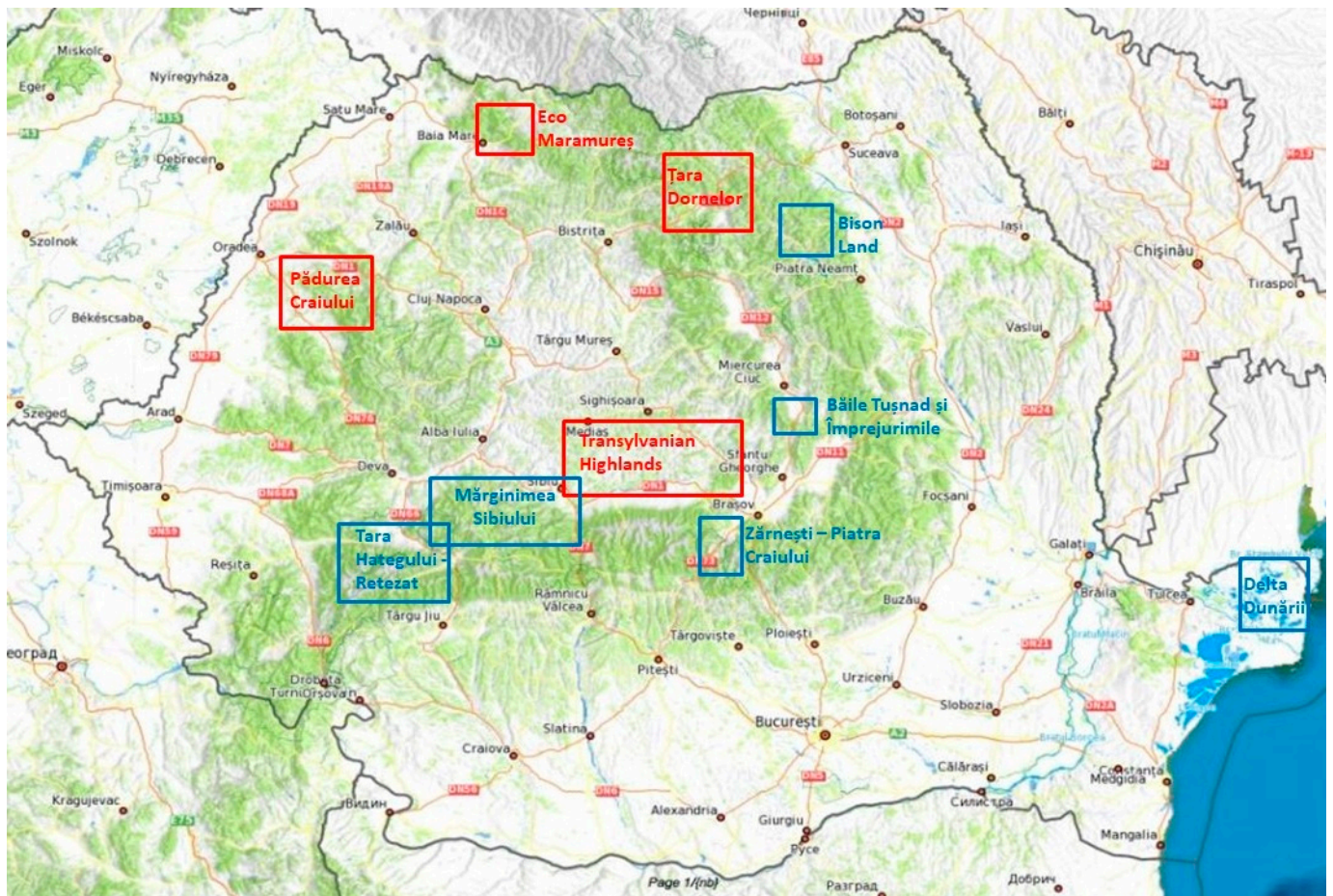


Figure 1. The geographical location of the Romanian ecotourism destinations. Source: [69].

2.2. Research Design and Data Collection

The research was conducted based on a survey among the visitors in the named Romanian ecotourism destinations: Eco Maramureș, Țara Dornelor, Pădurea Craiului, and Transylvanian Highlands. The research instrument for data collection was a questionnaire in which visitors were asked about: the main activities carried out in the ecotourism destination; the satisfaction of visitors with several attributes of destinations; the intention to revisit the destination; and their demographic and travel characteristics.

The satisfaction with the ecotourism destination was captured by using 15 items measured with a 5-point Likert scale with equal distance between neighbouring levels (1 = very dissatisfied to 5 = very satisfied). These items were derived from previous destination studies [14,72–74] and adapted to the specifics of the analyzed destinations: Cleanliness in destination; Conservation of natural heritage; Conservation of cultural heritage; Direction signs to tourist attractions; Parking near attractions; Quality of lodging; Quality of dining; Guiding; Spa facilities; Accessibility of local tourist attractions; Visitor center; Shopping facilities; Souvenirs; Interpretation and information services; Festivals and events.

A binary scale was used to capture intentions to revisit the destination and nominal scales for questions about visitors' demographics and travel characteristics. These questions referred to: age, monthly income, education, occupation, country of residence, main activities carried out in destination and frequency of visits in the destination.

The questionnaire was applied via face-to-face interviews in the analyzed ecotourism destinations and conducted by volunteer operators. The days in which the interviews were conducted were chosen randomly both within and off-season, during working days and weekends. The final sample counted 1157 visitors.

2.3. Data Processing

The collected data was processed for every research objective by computing different statistical methods in IBM SPSS system. In the first stage, the data were checked for errors in order to avoid bias in the results. A number of 6 satisfaction items with a large number of missing values was excluded from analysis. Other isolated cases with random missing values were handled by imputation analysis and replaced with the mean values in SPSS. The outlier analysis focused mainly on identifying errors due to the process of entering data that needed to be corrected. As the scale used had only five levels, the effect of outliers was considered to be of low intensity, as such no outlier treatment was applied. It was preferred to maintain the observed values given that the extreme values were few in number.

An exploratory factor analysis (EFA) was used “to identify the attribute-level satisfaction factors in the context of four ecotourism destinations from Romania (O1)”. Its scope was to reduce the number of items regarding the visitors’ satisfaction to a small number of factors that contained the same information but were uncorrelated [75]. Thus, three factors which represented the attribute-level satisfaction factors [76] were obtained. These factors were selected after excluding 6 items from the analysis due to a large number of missing cases that distorted the results. In this respect, the EFA was computed based on 9 items: Cleanliness in destination; Conservation of natural heritage; Conservation of cultural heritage; Direction signs to tourist attractions; Parking near attractions; Quality of lodging; Quality of dining; Accessibility of local tourist attractions; Interpretation and information services.

The reliability analysis of the resulting scale based on Cronbach’s alpha coefficient returned a value of 0.72, which confirmed the internal consistency of the construct [77]. The extraction methods included a principal component analysis with varimax rotation and the suitability of data for this method was evaluated by computing Kaiser–Meyer–Olkin (KMO) Measure of Sampling Adequacy and Bartlett’s Test of Sphericity [78].

Secondly, this paper aimed “to investigate whether segments with different visit purpose report different levels of satisfaction (O2)”. The analysis of variance (ANOVA) was used to test the statistical significance of the differences across these segments regarding the satisfaction with every attribute-level satisfaction factor. The visitor segments considered in the analysis are presented in Section 2.1: Nature travelers, Culture travelers, Leisure travelers and Eclectic travelers.

Thirdly, the study aimed “to examine if the analyzed ecotourism destinations recorded different levels of satisfaction (O3)”. For this purpose, an ANOVA was computed by using the attribute-level satisfaction factors as dependent variables and the destination from which data was collected as an independent variable.

Finally, in order “to determine if the attribute-level satisfaction factors and visitors profile influence the intention to revisit the ecotourism destinations (O4)” two separate analyses were performed. Firstly, the influence of the satisfaction factors on the revisit intention (O.4.1) was tested by discriminant analysis. This method aims at identifying certain independent variables that better discriminate between the two groups [79]. The intention to revisit the ecotourism destination (Yes/No) was considered as a dependent variable (Revisit) and attribute-level satisfaction factors were set as independent variables: “Attractions and information services” (Attract); “Amenities” (Amen); “Conservation of natural and cultural heritage” (Conserv). The following discriminant function was considered for the relationship between the two categories of variables and the significance of function coefficients was tested using ANOVA:

$$\text{Revisit} = \beta_0 + \beta_1 \times \text{Attract} + \beta_2 \times \text{Amen} + \beta_3 \times \text{Conserv} \quad (1)$$

Furthermore, the relationship between the 4 considered segments and the revisit intention (O.4.2) was analyzed based on cross-tabulation and Pearson’s chi-square test.

3. Results

3.1. Demographic and Travel Characteristic of the Sample

The structure of the sample according to the visitors' demographics and travel characteristics, resulting from the survey in the analyzed ecotourism destinations is presented in Table 2. Most of the interviewed subjects were active people (77.5%), with a medium income (32.7%) and higher education (70.8%), aged between 30–50 years old (56.2%). Regarding the country of residence, the majority of visitors were Romanians (79.9%), while international visitors represented 20.1% of the total sample [7].

Table 2. The sample structure on demographic and travel characteristics.

Characteristics	% from Total Sample
Age	
Under 18 years	1.6%
18–29 years	20.5%
30–50 years	56.2%
51–65 years	17.8%
Over 65 years	3.9%
Monthly income	
Under EUR 215	5.2%
EUR 215–430	19.9%
EUR 431–645	32.7%
EUR 646–1077	23.0%
Over EUR 1077	19.2%
Education	
Lower-secondary education	1.7%
Upper and post-secondary education	27.5%
Higher education	70.8%
Occupation	
Active people	77.5%
Retired	12.8%
Inactive people	9.7%
Country of residence	
Romania	79.9%
Other countries	20.1%
Visitor segments according the visit purpose	
Nature travellers	41.7%
Culture travellers	29.5%
Leisure travellers	15.0%
Eclectic travellers	13.8%
Ecotourism destination	
Eco Maramureş	31.4%
Țara Dornelor	20.5%
Pădurea Craiului	30.6%
Transylvanian Highlands	17.5%

Source: [7].

In order to achieve the research objectives only the variables “Visitor segments according visit purpose” and “Ecotourism destination” presented in Table 2 were used in computing the research results.

3.2. Attribute-Level Satisfaction Factors

The computed means and standard deviation for every satisfaction item are presented in Table 3. All items recorded mean scores higher than 3 points (neutral level) on a 5-level scale (5 = very satisfied). The minimum value obtainable for every satisfaction item is 1 point and the maximum is 5 points on a 5-level scale.

Table 3. Descriptive statistics of satisfaction items.

Satisfaction Items	Mean	SD
Cleanliness in destination	3.9537	0.83531
Conservation of natural heritage	4.1639	0.73399
Conservation of cultural heritage	3.9611	0.75917
Direction signs to tourist attractions	3.7172	0.89744
Parking near attractions	3.6234	0.97545
Quality of lodging	4.3791	0.65933
Quality of dining	4.3906	0.75040
Guiding	4.3437	0.88344
Spa facilities	4.1364	0.56023
Accessibility of local tourist attractions	3.9446	0.81324
Visitor centres	4.6667	0.57735
Shopping facilities	4.4000	0.63246
Souvenirs	3.9923	0.81489
Interpretation and information services	3.7150	1.02306
Festivals and events	3.8028	0.95048

The highest means were obtained by the “Visitors centre”, followed by “Shopping facilities”, and “Quality of lodging” then “Quality of dining”. The lowest means (under 4 points) were recorded for the items regarding “Parking near attractions”, “Direction signs to tourist attractions” and “Accessibility of local tourist attractions”.

EFA was used in order to “identify the attribute-level satisfaction factors in the context of four ecotourism destinations from Romania (O1)”. The extraction method used was principal component analysis with varimax rotation. Only 9 satisfaction items were used (see Table 4), after the exclusion of 6 items with irrelevant responses, and a three-factor solution was computed. They had eigenvalues greater or equal to 1 and explained 60.75% of the total variance. The results of EFA are presented in Table 4.

Table 4. The results of Exploratory Factor Analysis.

Satisfaction Items	Factor 1	Loadings Factor 2	Factor 3
Accessibility of local tourist attractions	0.661		
Interpretation and information services	0.690		
Direction signs to tourist attractions	0.816		
Parking near attractions	0.618		
Quality of lodging		0.828	
Quality of dining		0.864	
Cleanliness in destination		0.528	
Conservation of natural heritage			0.870
Conservation of cultural heritage			0.726
Eigenvalues	2.80	1.55	1.11
Percent of variance explained	31.16%	17.22%	12.37%

The extraction method could be considered suitable given that Kaiser–Meyer–Olkin (KMO) = 0.658 > 0.5 and Bartlett’s Test of Sphericity returned a chi-square value of 298.57 with Sig < 0.01.

Based on the common content of the items that contribute to the resulted factors, the attribute-level satisfaction factors were labeled as follows: Factor 1—“Attractions and

information services”, Factor 2—“Amenities”, Factor 3—“Conservation of natural and cultural heritage”. New variables were computed in SPSS by calculating the means of the items that contributed to a factor for each respondent. The analysis of the responses’ frequency for every attribute-level satisfaction factor revealed high percentages of satisfied visitors who rated these factors with scores equal to or greater than 4 points on a 5-level scale: Attractions and information services (52.1%), Amenities (82.7%) and Conservation of natural and cultural heritage (78.1%).

3.3. The Relationship between Visitors Segments and Satisfaction

In order to reach the next research objective (O2: to investigate whether segments with different visit purposes report different levels of satisfaction) the attribute-level satisfaction factors were analyzed in relationship with the visitor segments according to the visit purpose. The results presented in Table 5 revealed the highest general mean of satisfaction was recorded by Factor 2 “Amenities” (4.15 points), followed by Factor 3 “Conservation of natural and cultural heritage” (4.09 points), whereas Factor 1 “Attractions and information services” received the lowest satisfaction rating (3.75 points).

Table 5. The means of satisfaction factors divided by visitor segments according to travel purpose.

Visitor Segments	Attribute-Level Satisfaction Factor		
	Attractions and Information Services	Amenities	Conservation of Natural and Cultural Heritage
	Mean	Mean	Mean
Nature travelers	3.73	4.05	4.10
Culture travelers	3.78	4.34	4.18
Leisure travelers	3.81	4.04	3.94
Eclectic travelers	3.67	4.09	3.90
General mean	3.75	4.15	4.09
ANOVA			
F	0.985	12.526	5.438
Sig.	0.399	0.000	0.001

The distribution of means within the four visitor segments showed that segments with different visit purposes reported different levels of satisfaction. The results of ANOVA revealed significant differences across the four segments only for two of the three attribute-level satisfaction factors, respectively “Amenities” and “Conservation of natural and cultural heritage” (Sig < 0.01).

Among the four visitors segments, nature travelers were most satisfied with the “Conservation of natural and cultural heritage” (mean = 4.10 points); Culture travelers were most satisfied with “Amenities” (mean = 4.34 points) and with “Conservation of natural and cultural heritage” (mean = 4.18 points); and Leisure travelers and Eclectic travelers rated the highest mean scores for the “Amenities” factor.

3.4. The Relationship between the Four Ecotourism Destinations and the Level of Satisfaction

The third research objective (O3) was “to examine if the analyzed ecotourism destinations recorded different levels of satisfaction”. The means recorded for every attribute-level satisfaction factor were computed in relationship with the analyzed ecotourism destinations (see Table 6). Factor 1 “Attractions and information services” recorded the highest mean in Țara Dornelor (3.91 points), Factor 2 “Amenities” in Eco Maramureș (4.37 points) and Factor 3 “Conservation of natural and cultural heritage” in the Transylvanian Highlands (4.28 points). The results of ANOVA, presented in Table 6, revealed significant differences across the four analyzed ecotourism destinations for all attribute-level satisfaction factors (Sig < 0.01).

Table 6. The means of satisfaction factors divided by analyzed ecotourism destinations.

Ecotourism Destination	Attribute-Level Satisfaction Factor		
	Attractions and Information Services	Amenities	Conservation of Natural and Cultural Heritage
	Mean	Mean	Mean
Eco Maramureş	3.90	4.37	4.07
Țara Dornelor	3.91	4.11	4.06
Pădurea Craiului	3.64	3.94	4.01
Transylvanian Highlands	3.55	4.14	4.28
General mean	3.75	4.15	4.09
ANOVA			
F	12.286	21.759	6.070
Sig.	0.000	0.000	0.000

Eco Maramureş and Țara Dornelor ecotourism destinations received the highest means for the factor “Amenities” and the lowest for “Attractions and information services”, while Pădurea Craiului and Transylvanian Highlands received the highest means for the factor “Conservation of natural and cultural heritage” and the lowest for “Attractions and information services”. The attribute-level satisfaction factor “Attractions and information services” recorded the lowest means among all analyzed destinations.

3.5. The Influence of the Attribute-Level Satisfaction Factors on the Revisit Intention

In order to determine whether the attribute-level satisfaction factors influence the intention to revisit the ecotourism destinations (O4.1), a stepwise discriminant analysis was computed. The means of the attribute-level satisfaction factors divided by the two categories of visitors according to their revisit intention are presented in Table 7.

Table 7. Descriptive statistics according to revisit intention.

Revisit Intention	Attribute-Level Satisfaction Factor		
	Attractions and Information Services	Amenities	Conservation of Natural and Cultural Heritage
	Mean	Mean	Mean
Yes	3.78	4.18	4.07
No	3.50	4.09	4.04

The descriptive statistics revealed that the travelers who intended to revisit the destinations reported higher satisfaction levels for all factors. However, according to the results returned by the stepwise discriminant analysis, the difference between their means and the means of visitors who did not express their revisit intention was statistically significant only for the factor “Attractions and information services”. The remaining two factors were rejected from the model at the first iteration. The non-standardized coefficients of the resulting discriminant function are presented in Table 8.

Table 8. Canonical discriminant function coefficients.

	Function 1
Attract	1.399
(Constant)	−5.196

According to these results, the empirical discriminant function is:

$$\text{Revisit} = -5.196 + 1.399 \times \text{Attract} \quad (2)$$

A direct relationship was revealed, which was statistically significant according to the ANOVA results ($F = 21.43$; $\text{Sig.} < 0.01$). This emphasizes that the higher the satisfac-

tion with attraction and information services, the higher the probability of revisiting the destination achievable. According to the values of the function coefficients, a respondent should evaluate this factor by at least 4 points on a 5-level Likert scale to obtain a positive discriminant score, which is associated with an intention to revisit the destination.

Therefore, the most important determinant of respondents' revisit intention is the satisfaction with Factor 1—"Attractions and information services". Given that the other two attribute-level satisfaction factors do not bear a significant discriminant power, it can be considered that the analyzed factors have a poor influence on the intention to revisit the ecotourism destinations.

3.6. The Relationship between the Visitors Segments and the Revisit Intention

With regards to the influence of visitors' profiles on their intention to revisit the ecotourism destinations (O4.2), the distribution of responses obtained by cross-tabulation revealed a high percentage of visitors who intended to return to the ecotourism destination (Table 9).

Table 9. The relationship between the visitor segments and the revisit intention.

Revisit Intention	Nature Travelers	Culture Travelers	Leisure Travelers	Eclectic Travelers	Pearson Chi-Square	Sig.
Yes	85.1%	64.5%	78.7%	79.4%	48.86	0.00
No	14.9%	35.5%	21.3%	20.6%		

Nevertheless, some differences could be observed across tourist segments. The highest percentage of respondents with revisit intentions was recorded for nature travelers, while the lowest percentage was for culture travelers. Such results could be explained by the differences between the two segments' profiles. While nature travelers were mainly Romanian visitors under the age of 50, with low and middle income and secondary education, who usually undertake many visits per year, the culture travelers were over 50 years old, retired, with high incomes, highly educated, and mainly foreign people who visited Romanian ecotourism destinations every few years.

In conclusion, visitors' profile influences their revisit intention as the relationship between the two variables is statistically significant according to the results of Chi-square test, which returned a Pearson Chi-square value equal to 48.86 and a significance level lower than 0.01.

4. Discussion

The overall goal of this study was to examine the relationships between visitors' profiles, satisfaction and revisit intentions, with a focus on four Romanian ecotourism destinations. The general assumption revealed in the specialty literature was that tourists with different purposes for visits reported different levels of satisfaction and both visitor profiles and satisfaction with a tourism destination influence the intention to revisit the destination.

First, the present study aimed to "identify the attribute-level satisfaction factors in the context of four ecotourism destinations from Romania". The results revealed three attribute-level satisfaction factors: Factor 1—"Attractions and information services", Factor 2—"Amenities", and Factor 3—"Conservation of natural and cultural heritage". These findings confirm the multifactor structure of customer satisfaction [80] and are similar to those reported by Lee [76], in the context of forest recreation tourism, who also found three factors: Factor 1—"Information services", Factor 2—"Recreation facilities", and Factor 3—"Safety and sustainability".

At the level of the analyzed ecotourism destinations, a high degree of satisfaction with Factor 3, "Conservation of natural and cultural heritage" was recorded (general mean = 4.09 points), in line with the results mentioned by Xu et al., [81]. The lowest rated satisfaction factor was Factor 1 "Attractions and information services" (general mean = 3.75 points).

This factor reflected visitors' attitudes regarding destination attributes such as: "parking near attractions" (satisfaction mean = 3.62 points, the lowest value registered among the 15 initial items), "interpretation and information services" (3.71 points), "direction signs to tourist attractions" (3.72 points), and "accessibility of local tourist attractions" (3.94 points). The findings reveal poor tourism spatial planning within the studied destinations in addition to the need for a better planned interpretation, which is a key issue in ecotourism development. The interpretation techniques used within the analyzed ecotourism destinations were limited to mostly guided tours, walking trails, trail side signs and maps. Tara Dornelor is the only destination which had a visitor center and four interpretation trails. Therefore, as suggested by previous studies [32], future interpretation initiatives within these destinations should provide personal connections for visitors, create clear content, and allow for alternative audiences.

Secondly, the paper aimed to "investigate whether segments with different visit purpose report different levels of satisfaction". The results showed that segments with different visit purposes reported different levels of satisfaction, but there were significant differences across the four segments only for two of the three attribute-level satisfaction factors. Visitors in ecotourism destinations were driven by specific/different visit purposes and in turn they measured their satisfaction/experiences based on such purposes. The relational outcome between specific types of segments and satisfaction will ultimately define the nature of post-purchase behavioral intentions. Observing every visitor segment, nature travelers (interested in observation of flora and fauna or skiing, ice climbing, rafting, hiking, zip lining, mountain biking etc.) were most satisfied with the "Conservation of natural and cultural heritage" (mean = 4.10 points). However, culture travelers (interested in culture and traditions and in visiting painted churches or other heritage-based attractions) were most satisfied with "Amenities" (mean = 4.34 points) and "Conservation of natural and cultural heritage" (mean = 4.18 points). Leisure travelers (oriented towards soft activities such as relaxing in guesthouses or in their secondary residence) and eclectic travelers (who had a broad range of visit purposes that were not focused on the specificities of ecotourism destinations) were most satisfied with the "Amenities" factor (Quality of lodging and dining and Cleanliness in destination). The study results revealed high percentages of satisfied visitors who rated the attribute-level satisfaction factors with scores equal to or greater than 4 points on a 5-level Likert scale, similar to those reported in a number of studies conducted in other contexts [10,12,30–33,82].

Thirdly, the present paper aimed "to examine if the analyzed ecotourism destinations recorded different levels of satisfaction". The outcomes of the conducted research revealed significant differences across the four analyzed ecotourism destinations for all attribute-level satisfaction factors. These results indicated differences between the analyzed destinations regarding their tourism offers, natural and cultural heritage level of conservation, as well as the quality of their tourist information and interpretation initiatives. Moreover, similar findings were reported in other studies [83,84]. For example, locations with different types of on-site factors (i.e., presentation platform and support services) were found to influence visitors' perceptions and satisfaction [84].

Tourist satisfaction should be taken into account when assessing the strengths and weaknesses of a tourism destination. Such an assessment can also prove useful in forming the strategic and operational planning of tourism destinations. An examination of each destination attribute's impact on tourists' satisfaction helps identify the strengths and weaknesses of the destination. Therefore, the highest mean of satisfaction with information services was registered in Țara Dornelor, which was the only analyzed destination that held a visitor center. Eco Maramures recorded the highest mean value for the second component, related to Amenities, and Colinele Transilvaniei for the Conservation of natural and cultural area. The attribute-level satisfaction factor "Attractions and information services" recorded the lowest means in all analyzed destinations. This finding must be addressed by the AER in addition to the destination management organizations from the four analyzed areas in their future tourism strategies and planning initiatives. Within the destinations

Pădurea Craiului and Transylvanian Highlands visitors were mostly satisfied with the factor “Conservation of natural and cultural heritage”. This finding may be explained by the fact that Pădurea Craiului is an extremely picturesque natural area with spectacular gorges and waterfalls while the Transylvanian Highlands include many bucolic villages, where the cultural heritage and the traditional rural life is very well preserved. Visitors to the destinations Eco Maramureș and Țara Dornelor were mainly satisfied with the existing “Amenities”. This outcome is not surprising as both destinations have several accommodation units on their territory.

Regarding the influence of attribute-level satisfaction factors on the intention to revisit the ecotourism destinations, the results revealed that the most important determinant of revisit intentions was satisfaction with Factor 1—“Attractions and information services”. In the present study, the values recorded for respondents’ satisfaction regarding each attribute included in Factor 1 are below 4 points for all visitor segments (the lowest means within the satisfaction assessment) and for each of the four analyzed destinations. Therefore, destination management organizations should focus on this particular factor in their future initiatives, in order to boost visitors’ revisit intentions. The literature has overly concentrated on revisit intention as a measure of actual visitation [57,65]. Moreover, the current study confirmed that customer satisfaction is a key factor in destination management to obtain repeat customers. Therefore, the present study confirms the significant relationship between satisfaction and loyalty which was postulated in literature [14,57].

Considering the relationship between visitors’ profiles and their intention to revisit the ecotourism destinations (O.4.2), our study emphasizes that the highest percentage of respondents with revisit intentions was recorded for nature travelers, while the lowest percentage was registered for culture travelers. This outcome might be due to the fact that these destinations offer unique conditions for certain sports (e.g., there are few ecotourism destinations in Romania where visitors can do river rafting). On the other hand, culture travelers might feel less motivated to revisit certain ecotourism destinations which include particular cultural landmarks or traditions and are more interested in other types of heritage-based experiences. These findings are different from previous studies which show that segments with multiple travel motives result in higher levels of intentions to return, to recommend and relay positive experiences about the destination [8,9,85,86].

5. Conclusions and Implications

Taking into account the results of the present research, we consider that it bears a significant contribution to the body of knowledge in the field of tourism, especially regarding the marketing and management aspects of ecotourism destinations. A distinctive feature of this article consists in the simultaneous analysis of several ecotourism destinations, which have different natural attractions, tourism facilities and management systems. It allowed us to point out that satisfaction must be considered in relationship with the destinations’ attributes but it can vary significantly from destination to destination. Additionally, both satisfaction and revisit intention are significantly influenced by the visitors’ profile and visit purpose. Thus, from the theoretical perspective, these relationships should be studied in-depth and interpreted with caution due to the interference of several factors that influence both satisfaction and the visitors’ behaviors.

From a practical perspective, the findings of this paper offer useful management and marketing insights for managers of the analyzed ecotourism destinations that previously were not considered. Therefore, as the attribute-level satisfaction factor “Attractions and information services” recorded the lowest means among all analyzed destinations, there is an urgent need for a series of measures aimed at: the preservation of the environment; the maintenance of trails, natural heritage interpretation; the provision of hiking and cycling paths, maintenance and signage of rest areas, observation platforms, and bird watch towers. All of these initiatives must be performed with a compatible and coherent connection to the natural preservation of the ecosystems at the analyzed ecotourism destinations. This information should be accurate, as otherwise the visitors could become extremely

dissatisfied with a resulting negative impact on general satisfaction. The provision of correct information does not increase tourist satisfaction, but misleading information will lead to extreme displeasure if later found to be inaccurate [80].

Based on the finding that the attribute-level satisfaction factor “Conservation of natural and cultural heritage” did not achieve a maximum general score for the analyzed destinations, we suggest that destination management organizations should pay much closer attention to these satisfaction attributes in order to maintain customers’ positive evaluation, and/or make investments for preserving the cultural and historical values of destinations. This is also supported by the existence of protected areas within the analyzed destinations and the fact that natural features conserved within a protected landscape, is one of the key characteristics of ecotourism destinations [87].

At the level of destination attributes, low satisfaction scores were recorded by “Interpretation and information services”, “Accessibility of local tourist attractions”, “Direction signs to tourist attractions”, and “Parking near attractions”. “Interpretation and information services” are particularly relevant in ecotourism destinations, where visitors are mainly interested in outdoor recreation zones that are designed to protect fragile resources, including bike paths, hiking trails in addition to the interpretation of the natural heritage. Thus, a recommendation for destination management and marketing services is to provide sound interpretation and correct information to visitors in order to communicate to visitors in a coherent way what activities and places to observe are available visitor in the respective places.

Efficient accessibility to tourist attractions is one of the most important attributes for the development of any destination. For this reason, accessibility in terms of transportation and information should be improved in the analyzed ecotourism destinations through smart development of transportation and communication technologies. Moreover, improving and increasing the number of “Direction signs to tourist attractions” and “Parking near attractions” facilitates the implementation of good management of visitor flows, which is a key issue in ecotourism destinations. Furthermore, lodging, dining and cleanliness, need to be guaranteed at standards of high quality as these attributes were well appreciated by the respondents and their absence will reduce visitor satisfaction. The ecotourism destination management organizations from the analyzed areas need to consider these aspects when planning and managing ecotourism. Some destination attributes that received a low number of responses should also be better promoted in the analyzed destinations to increase visitors’ satisfaction: spa facilities, festivals and events, souvenirs, guiding, visitor centers and shopping facilities.

This study provides a relevant contribution to the literature by highlighting the relationships between visitors’ profiles, their satisfaction levels and revisit intentions. These issues were not previously studied within the context of Romanian ecotourism destinations [88–90]. The findings have vital practical significance for the Romanian ecotourism industry and public organizations such as the administrations of protected areas included within the analyzed ecotourism destinations. Firstly, regional and local stakeholders can improve ecotourism products and services to increase the satisfaction of future tourists. The analysis of visitor satisfaction with different attributes of ecotourism destinations offers the opportunity to focus managerial actions on those that can increase the attractiveness and competitiveness of the destination. This will increase visitors’ intentions to revisit the destinations [91]. Secondly, the outcomes provide ecotourism managers with more comprehensive and specific market segment portraits, and more effective information to meet the differentiated needs of visitors. This information could be incorporated into future ecotourism management strategies and sustainable development strategies.

Research Limitations and Future Research Directions

The results of this investigation have their limitations, which mean that they should be interpreted within their own context rather than extrapolated to another. Therefore, its focus on a narrow geographic area serves as a limitation. In this study, four ecotourism

destinations were chosen as study areas and the data collected were analyzed as one sample. This could be a potential limitation as the socio-demographics, motivations and satisfaction characteristics of visitors of four sites could possibly be different. Another limitation was given by the fact that visitors' loyalty was measured using a single dimension, respondents' intention to revisit the destination.

In addition, this study is limited in that the data analyzed is cross-sectional, and it would be of great value to replicate this study using longitudinal evidence. Future research in other ecotourism destinations and with visitors from other countries is needed. They may include multiple collection times to better understand how post-trip satisfaction might have evolved. Future research should include more attributes, which would provide a more comprehensive understanding of visitors' satisfaction levels and could generate other attribute-level satisfaction factors.

It is hoped that the current study can stimulate further research to better understand other relationships (e.g., between quality of visitor experience and destination image) as well as the influence these relationships may have on satisfaction and loyalty.

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Article

How Do Visitors to Mountain Museums Think? A Cross-Country Perspective on the Sentiments Decoded from TripAdvisor Reviews

Adina Nicoleta Candrea ¹, Eliza Ciobanu ^{1,*}, Florin Nechita ², Gabriel Brătucu ¹, Ecaterina Coman ³,
Camelia Şchiopu ³ and Mihai Bogdan Alexandrescu ⁴

¹ Department of Marketing, Tourism Services and International Affairs, Faculty of Economic Sciences and Business Administration, Transilvania University of Brasov, 500036 Brasov, Romania; adina.candrea@unitbv.ro (A.N.C.); gabriel.bratucu@unitbv.ro (G.B.)

² Department of Social Sciences and Communication, Faculty of Sociology and Communication, Transilvania University of Brasov, 500036 Brasov, Romania; florin.nechita@unitbv.ro

³ Department of Management and Economic Informatics, Faculty of Economic Sciences and Business Administration, Transilvania University of Brasov, 500036 Brasov, Romania; ecaterina.coman@unitbv.ro (E.C.); camelia.s@unitbv.ro (C.Ş.)

⁴ Department of Legal Sciences and Economic Sciences, “Spiru Haret” University, 500152 Brasov, Romania; mihai.alexandrescu@spiruharet.ro

* Correspondence: eliza.nichifor@unitbv.ro

Abstract: In the digital era, user-generated online reviews serve as a valuable resource for understanding visitor experiences in cultural institutions. This study analyses sentiments and thematic trends in TripAdvisor reviews of mountain museums, using Latent Dirichlet Allocation topic modelling and sentiment analysis. A dataset of 2157 reviews from ten museums was classified into local and non-local perspectives, revealing significant differences in visitor expectations. Findings indicate that local visitors prioritize historical authenticity and educational value, whereas non-local visitors emphasize aesthetic appeal, interactivity, and cultural immersion. Sentiment analysis highlights generally positive perceptions, with business travellers and groups of friends reporting the highest satisfaction levels. Comparative analysis across visitor types reveals distinct engagement patterns, with families valuing child-friendly exhibits, couples seeking cultural enrichment, and solo travellers focusing on intellectual depth. These insights inform strategic recommendations for museum management, including multilingual content, interactive elements, and guided tours dedicated to specific visitor profiles. Despite limitations related to lack of real-time feedback, this research demonstrates the potential of sentiment analysis in enhancing museum experiences. Future studies should integrate multimodal analysis and real-time tracking to further refine visitor experience evaluation.

Keywords: online reviews; sentiment analysis; topic modelling; mountain museum experience; TripAdvisor; human–computer interaction



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1. Introduction

In today’s competitive environment, museums should determine specific goals and develop strategies to enhance their attractiveness and increase numbers of visitors along with their revenue [1]. The museum experience is a combination of cognitive and affective factors [2] and it correlates with visitors’ unique personal context (e.g., motivations, attitudes, emotions, prior knowledge) and the museums’ collections, services, practices, spatial context, and staff [3]. Assessing visitors’ experiences helps museum managers and curators to design and redesign exhibits [4] and to improve the overall attractiveness of

the museum [5,6]. To improve and develop the quality of visitor experiences, museums must systematically collect and analyze customer satisfaction data from exhibitions and programs, providing valuable insights for making decisions and enhancing management practices [7,8].

During a museum visit, the experience unfolds through encounters with objects, interpretive texts, staff, other visitors, and additional services like souvenir shops and cafés [9]. This experience extends into the post-visit phase, where memories and online activities, such as social media posts and visitor online reviews on platforms, influence future visitors' pre-visit perceptions [9]. Improving museum offerings and visitor experiences requires systematic evaluation of satisfaction indicators, as visitor impressions are shaped by staff interaction, ambiance, complementary services, and a high tendency to capture and share experiences on social media during or after visits [8].

Traditionally, museum visit experience has been assessed using direct surveys of visitors focusing on a predefined set of dimensions [10,11]. However, digital and online technologies and data offer new opportunities for analyzing the visit experience [12,13]. In today's digitized and social media-dominated era, museums need to pay close attention to details at the micro-level, ensuring an impeccable visitor experience [14] as these experiences are increasingly being disseminated and discussed on digital platforms. Interpretation of visitors' reviews may contribute valuable information to understanding visitors' experience [9] and may have a significant impact on the decisions of other potential visitors [14].

Online museum reviews have become a crucial indicator of museum service quality, visitor experience, and public feedback in the digital age [15,16]. Analyzing online reviews on social media platforms can assist museums in developing appropriate management strategies [12,15]. TripAdvisor is one of the most popular travel and tourism sites worldwide [17–20]; it serves as an online platform for digital reviews, with over 1 billion reviews and 900 million registered users [21]. TripAdvisor comments can serve as an authentic and valuable tool for evaluating museum experiences [22,23], as the content extracted from this platform may capture visitor satisfaction and cultural perceptions, offering valuable and actionable insights for museum managers [24–26]. The platform can provide valuable insights into museum visitor experiences, helping potential visitors make informed decisions before their visit by relying on authentic perspectives rather than official narratives. Framed within a wider travel context [27] highlighted TripAdvisor's role as a trusted intermediary for independent travelers, offering user-generated reviews and rankings that often challenge traditional expertise.

Given its vast repository of user-generated content, TripAdvisor serves as a powerful tool for extracting data-driven insights into visitor sentiments and cultural perceptions, making it an essential resource for studying museum experiences in the digital era [15,28]. Within this context, the current study aims to explore the sentiments of visitors to mountain museums by analyzing online reviews from TripAdvisor.

Mountain museums constitute a distinctive segment within cultural tourism, shaped by their geographical context, alpine heritage, and integration into natural landscapes. Unlike urban museums, which often benefit from high visitor flows and broad cultural programming, mountain museums are typically situated in remote or seasonal destinations and serve as gateways to localized identities, ecological narratives, and historical memory tied to highland environments. Their dual role as cultural institutions and place-based heritage ambassadors demands a visitor experience model that accommodates diverse expectations across both local and international audiences [29–32].

Mountain museums were selected as the focus of this study because they represent a distinctive yet underexplored segment within heritage tourism, shaped by remote geogra-

phies, alpine cultures, and seasonally driven visitor flows. These institutions often integrate natural and cultural storytelling, serving as both educational and place-based interpretive centres. While user-generated content (UGC) is increasingly being used to study museum experiences, a review of Web of Science revealed that very few studies ($n = 6$) have applied TripAdvisor data in their research on museums, and none of these have addressed mountain museums specifically. This gap is particularly relevant considering the existence of the International Mountain Museums Alliance (IMMA), which connects institutions sharing similar interpretive missions in mountainous regions worldwide. The authors' attention turned to this network when the newest IMMA member, the Olimpia Museum in Braşov (Romania), opened in early 2024. The authors' proximity to this development, along with direct contact with IMMA's founding members (such as Museo Nazionale della Montagna in Turin), allowed researchers to construct a cross-national comparative dataset. Much like Baleiro [3]'s focus on literary museums, this study investigates a coherent group of specialized institutions with shared thematic identities, offering both geographic diversity and interpretive consistency.

In the context of digital transformation and human–computer interaction, visitor-generated content has become a valuable resource for understanding museum experiences, visitor satisfaction, and intercultural communication in the tourism sector [33–36]. This study identifies key themes and emotions expressed in mountain museum reviews, offering insights for management, cultural experience enhancement, and tourism development strategies. Despite the ongoing academic discourse on the role of TripAdvisor for evaluating museum experiences [37–41], there is limited focus in the specific literature on differences in the latent dimensions perceived by local and non-local visitors, as identified through the language of their reviews. Therefore, this paper aims to fill this gap and investigates the differences in perceptions between local and non-local visitors, examining how cultural and linguistic diversity influences visitors' experiences in mountain museums. The findings contribute to a deeper understanding of the role of digital platforms in shaping visitor expectations, decision-making, and post-visit reflections. In this context, the following research questions were formulated:

RQ1: *What are the latent dimensions of the museum visitor experience perceived by visitors who write reviews in the local language?*

RQ2: *What are the key themes of museum visitor experience perceived by visitors who write reviews in non-local languages?*

RQ3: *What are (if any) the differences in latent dimensions of museum visitor experience perceived by visitors who write reviews in the local language compared to those who write in non-local languages?*

RQ4: *How do visitor profile (solo traveller, couples, families, and group of friends) influence perceptions regarding museum visitor experience?*

To address these questions, this study aims to achieve the following objectives: (O1) identify and analyze the latent dimensions of visitors' perceptions expressed through reviews written in local languages; (O2) identify and analyze the latent dimensions of visitors' perceptions expressed through reviews written in non-local languages; (O3) compare the key themes and differences in visitor experiences between those who write reviews in the local language and those who write in non-local languages; and (O4) examine the impact of visitors' profiles on their perceptions of the museum experience. To answer to these questions, the research followed the workflow pictured in Figure 1.

Based on the findings, strategic recommendations for museum management to enhance visitor experiences are formulated in the Discussion Section. These recommendations are formulated in relation to visitor expectations, suggesting ways to improve engagement for different visitor types. Specific improvements are proposed, such as enhancing interactive elements for families, refining historical content for solo travelers, and optimizing

museum logistics for business visitors. With reference to these insights in the specialized literature, museums can make data-driven decisions to improve their services, attract more visitors, and ensure a high-quality, memorable experience for all guests.

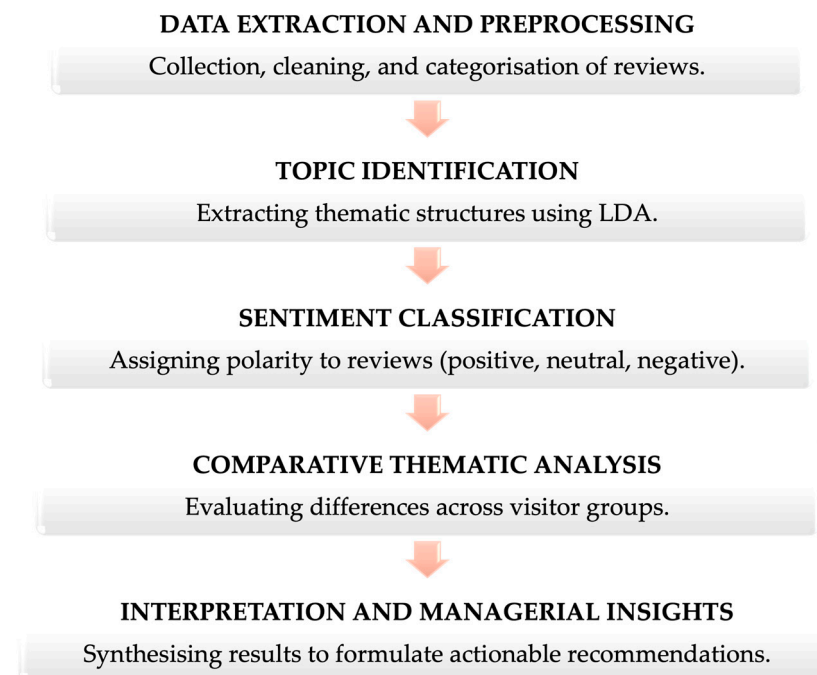


Figure 1. The research workflow. Conceptualized by authors.

2. Literature Review

The latest definition of museums, approved on 24 August 2022 during the 26th ICOM General Conference held in Prague [42], includes the concept of “experience”, stating that museums offer varied experiences for education, enjoyment, reflection, and knowledge sharing [43]. Currently, museums are transforming from object-centred institutions to visitor-focused, interactive spaces, emphasizing engagement, community impact, and experiential value. Modern museum experiences blend cognitive and affective elements, intertwining with visitors’ personal and sociocultural contexts while fostering adventure, learning, and social connections, redefining the museum–visitor relationship with a client-centered approach [44,45]. Drawing on Pine and Gilmore’s (1998) [46] framework, modern museums deliver diverse values—education, entertainment, escapism, and aesthetics—that enhance perceived visitor benefits through engagement with their personal, sociocultural, and physical contexts. Recent studies have revealed that museums are perceived as unique, multidimensional spaces with exceptional qualities that captivate visitors [47].

2.1. The Museum Experience

Packer and Ballantyne [48] define the museum visitor experience as an individual’s personal and immediate response to activities or settings outside their usual environment, characterized by ten facets: physical, sensory, restorative, introspective, transformative, hedonic, emotional, relational, spiritual, and cognitive. The museum experience now extends beyond the visit itself [49,50], beginning with pre-visit activities like online research for hours, location, ticket prices, and reviews from other travelers, and continuing afterward [9,44].

Godovykh and Tasci [51] define the museum experience as the totality of cognitive, affective, sensory, and conative responses across pre-visit, on-site, and post-visit stages, influenced by situational and personal factors, providing a comprehensive framework for

explaining and measuring visitor experiences. Conti, Pencarelli, and Vesci [52], building on prior research by Falk and Dierking [44], Sheng and Chen [53], and Pine and Gilmore [46], introduced socialization as a fifth experiential dimension, emphasizing interaction between visitors and staff or among visitors. Guo et al. [54] highlight that visual and auditory cues are the most impactful in enhancing visitor experiences, mediated by emotional state and sense of presence. Joviality, personal escapism, and localness are identified as key evaluative dimensions, providing insights for designing immersive, hedonic experiences that cater to visitors' emotional and physiological needs. Understanding which of these dimensions are important for visitors helps museum managers tailor their offerings effectively. Ducros and Euzéby [55] explored how visitors perceived and experienced hybrid museums, emphasizing the dual cognitive and sensory stimulation offered, and found that while these venues provided edutainment value, they often fell short of delivering the promised immersive and memorable experiences due to design elements such as spatial freedom, digital scenarization, and reliance on passive individual engagement, which limit active participation and social interaction.

Antón, Camarero, and Garrido [56] argue that museum visitors actively co-create their experiences across three stages: before the visit, through knowledge, planning, and involvement; during the visit, through participation and interaction; and after the visit, by engaging with social networks and sharing opinions, which intensifies their connection with the museum. These active experiences foster a stronger intention to revisit, seek additional information, and recommend the museum to others [57–60]. Moreover, Yin, Chen, and Ni [61] concluded that museum experiences significantly influence word-of-mouth (WOM) recommendations in relation to brand image and museum attractiveness, with temporary experiences amplifying this effect.

2.2. The Role of Visitor Online Reviews in Decoding the Museum Experience

Visitor online review (VOR) platforms like TripAdvisor serve as judgment devices, enabling visitors to widely share experiences and foster new social interactions. Tourists often write reviews with an awareness of their audience, using various strategies to engage readers they may never meet [62]. VOR websites highlight user-generated content as a public voice for visitors, but accessing this space requires technological literacy, registration, and acceptance of the platform's terms [63]. Notably, these platforms often assign badges and awards to prolific contributors, elevating their influence through visible markers and user feedback [64,65]. VOR sites not only facilitate visitor expression but also help establish collective perspectives on travel experiences.

Marques [39] considers that museum visitors use reviews to share personal experiences that guide and inform future visitors, establishing a bridge across time. Despite the increase in research on online reviews, studies focusing specifically on museums and cultural sites remain limited. Research has identified key themes in these reviews, such as practical advice, exhibits, the overall experience, and logistical aspects like buildings, shopping experience, and ticketing [3,41,66]. Emotional engagement has become central to museum experiences, shifting the focus from simply conveying historical knowledge to fostering empathy [67]. For example, Lee et al. [40] categorized emotions in museum reviews and found a strong alignment between positive emotions and TripAdvisor ratings, though some nuanced feelings defied standard classification.

Shao et al. [41] found that analyzing user-generated reviews of the National Gallery in London using topic modeling and sentiment analysis provided valuable insights into improving museum shopping experiences, emphasizing the importance of addressing visitors' specific needs to enhance satisfaction and support museum tourism development. Furthermore, Riva and Agostino's [68] study highlights the value of user-generated data in

assessing museum experiences and offers actionable insights for museum management. By analyzing 36,460 TripAdvisor reviews of 30 popular Italian museums using latent Dirichlet allocation, they explored differences between local and non-local visitors. The results revealed three shared dimensions of museum experience (cultural heritage, personal experience, and services) and unique dimensions for locals (e.g., 'wow effect') and non-locals (e.g., time management). Su and Teng [46] used content analysis of negative TripAdvisor reviews and document analysis of related studies to identify categories of service failure in museums. They extracted 12 dimensions of museum service quality, incorporating SERVQUAL dimensions (reliability, tangibles, communication, empathy) and HISTOQUAL dimensions (responsiveness, communication, consumables) tailored for cultural heritage tourism.

Alexander et al. [9] noted that reviews of cultural sites in London tended to focus on practical aspects and personal experiences rather than deep engagement with cultural content. Ramírez-Gutiérrez et al. [69] similarly found that reviews blended emotional reactions with practical insights, often advising future visitors while occasionally critiquing management. Huo et al. [15] propose a comprehensive model linking museum attributes, visitor experience, and satisfaction; they analyzed TripAdvisor reviews of four UK museums using structural topic modelling, identifying 19 topics. Their findings reveal that core offerings, peripheral services, and ambiance positively influence visitor experience and satisfaction, with experience strongly impacting satisfaction.

Gerrard, Sykora, and Jackson [70] concluded that the gap between real and expressed experiences on Twitter requires further exploration. Analyzing data extracted from Instagram, Rhee, Pianzola, and Choi [71] concluded that hashtags, particularly geo-related and city-specific tags, highlight the cultural and touristic influence of museum locations and help identify spaces that attract the most visitor attention. Baniya, Dogru-Dastan, and Thapa [72] analyzed TripAdvisor reviews by separating one-to-three-star ratings from four-and-five-star ones, revealing that 96% gave high ratings, while low ratings primarily cited issues with ticket prices, crowding, and persistent selling. Catir [73] used text mining on TripAdvisor reviews to reveal five key themes of the Topkapı Palace Museum experience: easiness and fun, cultural entertainment, personal identification, historical reminiscences, and escapism. The results show that visitors appreciate the museum's convenience, cultural insights, immersive storytelling, and unique atmosphere, while fostering both personal connections and a sense of escape.

Agostino et al. [74] analysed 47,993 TripAdvisor reviews of 100 Italian museums, comparing 'top-down' (policy-driven) and 'bottom-up' (user-driven) approaches to identifying quality dimensions. They found significant differences, with visitors prioritizing cultural heritage and personal experiences over museum services. That study highlights the limitations of predefined quality assessments, emphasizing the importance of user-generated content in identifying emergent, visitor-centric dimensions and contributing to data-driven decision-making and the cultural tourism literature.

2.3. Cultural Differences in the Museum Visitor Experience

Numerous studies on cultural tourism indicate that the experiences of tourists are influenced by their cultural backgrounds [75,76]. In the context of museums, this is especially relevant, as visitors' cultural backgrounds influence how they view, understand, and filter their sociocultural distance from the location [68]. While demographic characteristics have been used to identify inter-group specificities in visitor motivations, behaviors, and expectations [39] other traits can also be attributed to differences (e.g., local versus non-local visitors) [77].

Museums attract both local and non-local domestic visitors and face distinct challenges [77]. The different backgrounds and experiences of local and non-local visitors shape how they assess museums. For example, the extent to which local visitors ‘own’ indigenous heritage assets at sites of national significance is challenged when non-local domestic visitors also consider them an important part of their heritage [78]. Non-local visitors are often partly or wholly unfamiliar with indigenous culture, and the knowledge they do possess may be based on inaccurate cultural stereotypes regarding locals’ attitudes, service quality expectations, and safety [79]. Furthermore, local visitors typically have a unique viewpoint on the traditions and expectations of the places they visit, which could lead to more enjoyable, memorable, and relaxing experiences [80].

Despite the relevance of differences in the latent perceptions on the parts of local and non-local visitors, as identified through the language of their reviews, there is very limited empirical research that investigates the importance of language as a proxy for cultural background. Focusing on Italian museums, [68] used the language of museum visitors in their online reviews to indicate cultural background and compared the latent dimensions of the experience between those writing in the local language and visitors writing in non-local languages.

The present study takes a further step in the analysis of latent dimensions within the perceptions held by local and non-local visitors from different countries to 10 mountain museums, revealing significant differences in visitor evaluations of the museum experience.

3. Materials and Methods

This study employed a computational text analysis approach to examine visitor experiences, utilizing user-generated content from TripAdvisor. The International Mountain Museums Alliance (IMMA) provides an ideal case for computational text analysis of visitor experiences due to its unique combination of thematic homogeneity and geographic diversity. Museums that are members of IMMA are all specialized in mountain culture and present similar content, yet they are situated in distinct cultural and touristic contexts. This enables comparative analysis of how visitors sharing common interests perceive and engage with mountain heritage across different locations [81].

To decode visitor sentiments, identify key experiential themes, and compare the perceptions of local and non-local visitors, as well as different visitor profiles, the methodology of the analysis comprised five steps, as shown in Figure 2. This approach enables a data-driven understanding of how a specialized yet internationally dispersed museum network shapes visitor engagement, offering insights into experiences within a shared curatorial framework.

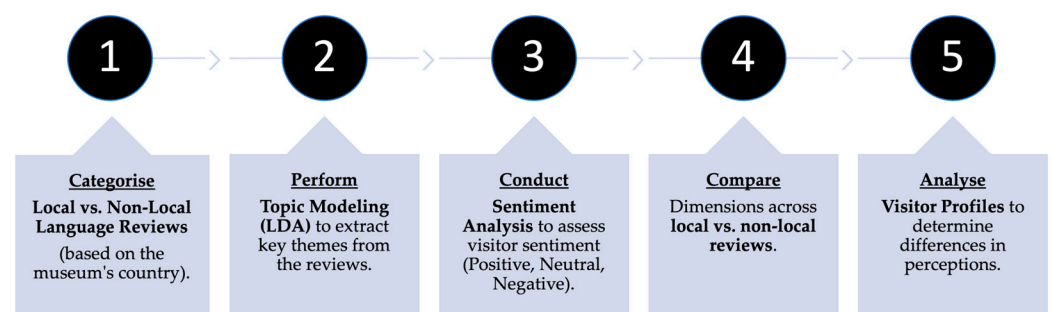


Figure 2. Data analysis flow. Conceptualized by authors.

The dataset comprised 2157 reviews of 10 mountain museums (Table 1), ensuring the inclusion of a diverse range of visitor experiences. The data were collected between 15 and 20 September 2024.

Table 1. Number of reviews for each mountain museum.

Museum Name	No. of Reviews
Museo Nazionale della Montagna	164
Musee Alpin Chamonix	91
Whyte Museum of the Canadian Rockies	595
Tatra Museum in Zakopane	11
Alps Swiss Alpine Museum	102
Museo degli Usi e Costumi della Gente Trentina	80
International Mountain Museum	972
Musée Savoisien	55
Museo Valtellinese di Storia e Arte (Valtellina Museum of History and Art)	41
Olimpia—Muzeul Sportului și Turismului Montan	46

Source: Data retrieved from public TripAdvisor accounts of the museums. Table created by the authors.

Reviews were extracted using a web-scraping method via the console.apify.com application, generating ten separate files corresponding to each observation. All reviews analyzed in this study were publicly available on TripAdvisor and were accessed in accordance with the platform's terms of use at the time of data collection. No personally identifiable information was collected or stored, and all user identifiers were excluded from the dataset. Data were extracted using Apify's public scraping interface, and the dataset was anonymized during pre-processing to ensure compliance with ethical standards for user-generated content analysis.

These files were subsequently merged into a unified dataset to facilitate comprehensive analysis. To ensure data accuracy and reliability, a systematic extraction process was implemented, incorporating criteria such as relevance, linguistic categorization, length threshold, and potential applicability for sentiment analysis. Reviews were required to explicitly reference aspects of the museum experience to qualify for classification into local and non-local language categories, thereby ensuring the inclusion of meaningful content. To ensure data accuracy and analytical relevance, a character length threshold of ≥ 50 was established to filter out excessively brief or generic reviews, which typically lack substantive insights. This approach aligns with prior research that similarly applied length-based filters to exclude non-informative or low-quality content from sentiment and topic modelling analysis [41,72,73]. This 50-character minimum was chosen as a balanced threshold that retains meaningful feedback while minimizing noise, in accordance with common practices in tourism and museum-related text mining studies.

The dataset underwent preliminary pre-processing, including the removal of stop words, punctuation, and special characters. Additionally, lemmatization was performed to standardise textual content, improving consistency for subsequent linguistic and sentiment analysis.

To classify visitor types (solo travelers, couples, families with children, groups of friends, and business travelers), rule-based textual analysis was applied to the review content. Specific keywords and linguistic patterns were used to infer the profile of the reviewer. For example, phrases such as "I visited alone", "went with my partner", "our children enjoyed", "we were a group of friends", or "visited during a business trip" were extracted to determine the visitor category. Each review was manually or semi-automatically labelled based on these indicators. This approach is in line with methods applied in previous studies that have used self-reported information in online reviews to infer demographic or behavioral profiles [68].

Lemmatization is a fundamental process in Natural Language Processing (NLP) that converts words into their base forms or lemmas. This text-processing technique reduces words to their root forms, thereby enhancing linguistic analysis. For better conceptualization, an illustrative example is the transformation of "running" to "run" or "better"

to “good”. This standardization ensures that variations of the same word are analyzed collectively, improving the accuracy of sentiment analysis and topic modelling.

In this study, lemmatization facilitated the grouping of related words such as museum and museums, mitigating redundancy within the dataset. By consolidating different inflected forms of a word into a single reference point, lemmatization enhances the efficiency and accuracy of computational linguistic tasks. Lemmatization [82,83] is a crucial post-tokenization technique that refines textual data by converting words into their morphological roots. This process optimizes word classification, thereby facilitating the analysis of meanings, synonyms, and contextual relationships in textual data [84,85].

To determine the optimal number of topics, researchers tested multiple LDA models with topic numbers ranging from 5 to 20. Each configuration was evaluated using the C_v coherence metric, a standard measure for assessing semantic interpretability in topic modelling. Based on these scores and qualitative evaluation of topic coherence, they selected five topics as the most balanced configuration, providing clear thematic structure while avoiding fragmentation. The models were implemented in Python using the Gensim library with default variational Bayes settings (alpha = ‘auto’, eta = ‘auto’, 1000 iterations).

LDA operates by clustering words that frequently co-occur, facilitating the extraction of dominant themes from extensive textual corpora. In this study, LDA was utilized to categorize key visitor concerns based on their reviews, enabling the identification of primary thematic structures within local-language reviews. Consequently, distinct thematic patterns emerged in reviews provided by local and non-local visitors, offering insights into variations in visitor perceptions.

The rationale for employing this method in the study’s methodology was based on the following three key considerations:

- (i) Identification of latent dimensions of visitor experience through clustering words into coherent topics, as LDA facilitates the extraction of dominant themes from extensive textual data;
- (ii) The ability to compare local and non-local visitors within diverse audiences while ensuring an unbiased identification of key aspects valued by different cultural groups;
- (iii) The objective of understanding variations in experience across visitor types, thereby enabling the differentiation of visitor categories and their respective interests.

Sentiment analysis was conducted to classify visitor reviews into positive, neutral, or negative categories. Sentiment analysis is a Natural Language Processing (NLP) technique used to determine the emotional tone of content. In this study, sentiment analysis was employed to categorize reviews based on the words and phrases present in visitor feedback, with sentiment polarity indicating the direction of emotions within the text. This classification enabled objective assessment of overall visitor satisfaction across various demographic groups. Widely applied in consumer behavior research, sentiment analysis systematically extracts subjective opinions from textual data. Given that museum visitor experiences are inherently affective and evaluative, this technique provides a structured approach to categorizing visitor feedback. Specifically, this method facilitated the following:

- (i) Quantification of visitor satisfaction by aggregating sentiment scores to assess overall perceptions of the museum experience;
- (ii) Comparison of perceptions across visitor groups, identifying variations in sentiment polarity based on language (local vs. non-local) and visitor type (solo travelers, families, couples, groups, business visitors);
- (iii) Detection of potential service gaps, as a higher proportion of neutral or negative sentiments within a specific visitor segment may indicate areas requiring improvement.

Sentiment analysis of user-generated content offers an efficient and objective tool for decoding visitor experiences in museums, enabling the identification of key museum

attributes. Gómez Punzón and Recuero Virto [58] used sentiment analysis with a Support Vector Machine (SVM) algorithm to classify user-generated content about museums into positive, negative, and neutral sentiments, revealing visitors' emotional responses to their experiences. Text mining with Atlas.ti and weighted percentage metrics identified frequently repeated words, providing actionable insights into visitor perceptions and feedback.

Sentiment analysis was conducted using TextBlob, a Python 3.11. library for processing textual data, assigning a sentiment score to text based on word associations. TextBlob automatically classified reviews as positive, neutral, or negative by identifying key sentiment-carrying words. To analyze sentiment polarity, reviews were categorized as follows:

- Positive sentiment: reviews containing expressions of satisfaction, enjoyment, or appreciation;
- Neutral sentiment: reviews exhibiting a balanced perspective, neither overtly positive nor negative;
- Negative sentiment: reviews highlighting dissatisfaction, service issues, or unmet expectations.

To enhance analytical depth, comparative analysis was conducted across different visitor profiles. Sentiment trends were examined for solo travelers, couples, families, groups, and business travelers, providing insights into how each group experienced and evaluated their mountain museum visit. Additionally, key themes mentioned by different visitor types were analyzed, identifying dominant topics such as education, interactivity, history, and social experience. This study also investigated variations between local and non-local visitors, assessing how cultural and linguistic factors influenced visitor expectations and satisfaction levels.

4. Results

This study included analysis exploring visitor engagement patterns based on review data. By examining diverse visitor perspectives, it uncovers key aspects that shape museum experiences. The analysis identifies distinct themes and variations in visitor feedback, offering insights into how different audience segments perceive and interact with museum offerings. This exploration provides a structured approach to understanding visitor satisfaction, preferences, and overall engagement.

4.1. Reviews Categorisation

Understanding the composition of visitor reviews is essential for analysing museum engagement and visitor perceptions. The dataset consisted of 2157 reviews collected from 10 mountain museums, written in multiple languages. To distinguish between local and international perspectives, reviews were categorized based on language: those written in the local language were considered local, while those in any other language were classified as non-local. The analysis reveals that a significant majority (87.44%) of reviews come from non-local visitors, while only 12.56% originated from local visitors. This distribution highlights the strong international appeal of these museums, indicating that they attract a diverse audience beyond their immediate geographical region. The difference in representation suggests potential variations in visitor expectations, satisfaction levels, and review characteristics, which will be explored in subsequent analyses.

A visual representation of this distribution is provided in Figure 3, illustrating the dominance of non-local reviews in the dataset. Subsequent sections present the differences between local and non-local reviews in terms of sentiment and thematic content.

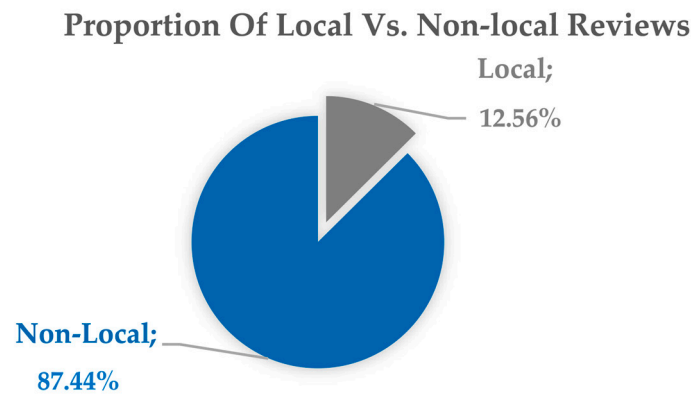


Figure 3. Proportion of Local vs. Non-Local reviews. Conceptualized by authors.

4.2. Latent Dirichlet Allocation Topic Modelling

By applying topic modeling to the reviews, the researchers identified the common themes and topics that each visitor segment emphasized in their feedback. Each group tended to highlight slightly different aspects of the museum experience. Based on these findings, researchers determined distinct thematic patterns in visitor feedback, focusing on differences in priorities and experiences between local and non-local visitors (Figures 4 and 5).

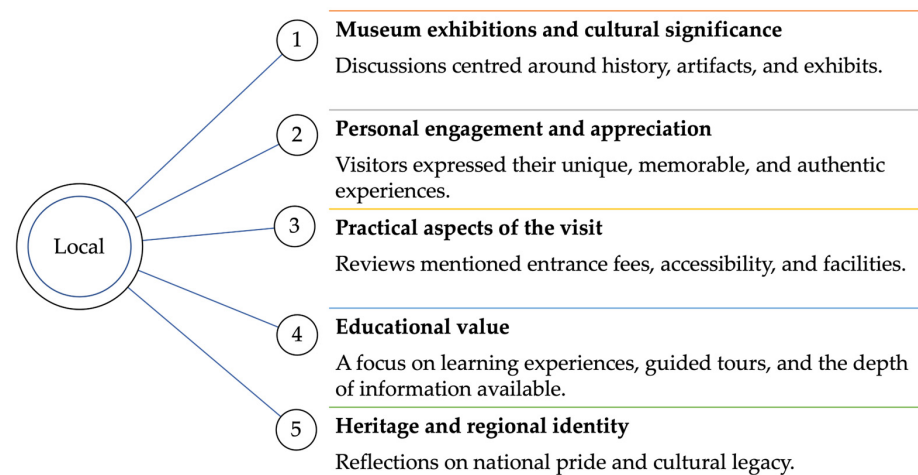


Figure 4. Five latent dimensions in local reviews of mountain museums. Authors' conceptualization.

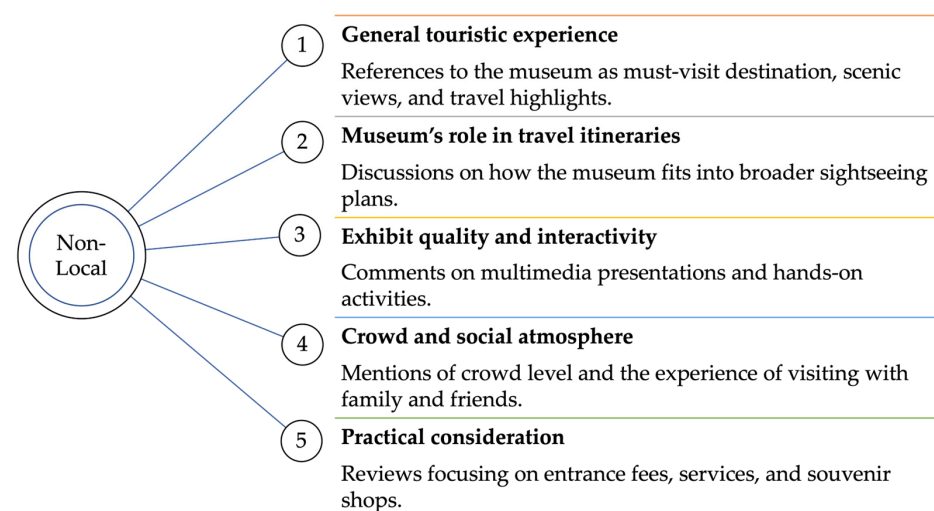


Figure 5. Five latent dimensions in non-local reviews about mountain museums. Authors' conceptualisation.

These findings indicate that local visitors engage deeply with the cultural and educational dimensions of the museums, emphasising the role of museums in preserving and promoting local and national identity.

These insights suggest that non-local visitors primarily perceive the museums as part of their travel experience, with greater emphasis on interactivity, convenience, and overall ambiance.

Table 2 provides a better understanding of the perceptions of each visitor type.

Table 2. LDA topic modelling results.

Type of Visitors	Content Category	Perceptions
Solo travelers (Often appreciate the depth and detail of the museum content)	Historical and informative exhibitions	Many solo reviewers mention the rich history on display and detailed exhibits, valuing how informative and “interesting” the collections are. They often dive deep into museum content, indicating that they enjoy absorbing information at their own pace.
	Personal experience	They frequently comment that the visit was “worth the time” and “worth the money”, suggesting a strong focus on the value of the experience. They typically spend substantial time (often a few hours) and note that the visit met their personal expectations for learning or enjoyment.
	Photography and reflection	There are mentions of photos and taking the time to observe. This implies solo travelers may engage in photography and quiet reflection. They enjoy being able to linger and truly take in the exhibits (appreciating art or artifacts without rush).
Couples (Tend to enjoy a leisure experience)	Cultural and historical enrichment	Like solo travelers, couples frequently highlight history and interesting information. They also often note art displays or local culture (regional art, heritage exhibits), indicating that a blend of history and art appeals to them.
	Contextual elements	They mention the area or context of the museum (such as a museum’s setting or theme like mountaineering in the Himalayas or Rockies). They appreciate it when the museum visit complements their travel itinerary, such as learning about the local history of a place they are vacationing in.
	Overall enjoyment and value	Couples use words like “nice”, “great”, and “worth it” to describe their experience. They often recommend a visit as a good way to spend part of the day. Some mention going early in the day, suggesting they plan visits to avoid crowds or to fit into a day’s schedule conveniently.
Families with children (Focus on engagement and educational value)	Child-friendly exhibitions	One of the key themes is how well the museums cater to children. Families frequently mention interactive displays and exhibitions that can hold children’s attention. Reviews from this category highlight when children have enjoyed specific sections or activities. When a museum offers hands-on multimedia resources, families’ notes reflect this positively.
	Educational experience	Parents appreciate it when the museum is informative and engaging. Topics like mountaineering history or natural history are mentioned alongside comments about learning. Families often value that the visit was “educational for children and adults alike”, indicating that they seek a learning experience that is also fun.
	Practical aspects	Families often plan their visit length and logistics. Reviews mention spending a couple of hours and sometimes note facilities (such as availability of coffee shops or rest areas). Keeping kids engaged for the whole visit is a common concern. When a museum succeeds in this (through child-friendly content or play areas), it is highlighted as a positive. Conversely, any lack of amenities for children or exhibits that are not engaging might be pointed out by this group.

Table 2. Cont.

Type of Visitors	Content Category	Perceptions
Groups of friends (Emphasize fun and social activities)	Variety and “must-see” highlights	Groups of friends often talk about specific exhibits or exhibitions that stand out, using terms like “worth the visit” or even naming unique displays. They seem to enjoy a broad variety of content, possibly because each person in the group finds something of interest. A common theme is that visiting together is “fun and interesting” for everyone.
	Social experiences	These visitors sometimes mention the museum shop or coffee shops. For example, a group might note enjoying the gift shop or grabbing a snack together. This suggests that for groups of friends, the museum visit is a social outing, and things like cafes, rest areas, and souvenir shops add to their experience.
	Guided tours and explorations	Some groups of friends take tours. They mention guided tours’ availability and how these have added to their understanding (such as learning a lot from a tour guide). In general, friends appreciate an experience that is easy to navigate as a group (clear information and engaging guides help keep everyone in the group interested).
Business travelers (Values efficiency)	Guided experiences	These groups often mention taking a “tour” or having a limited time frame. Business reviewers frequently praise guided tours or well-organized exhibits that allow them to experience the museum in a short visit. They appreciate when the museum offers a quick yet enriching overview. For instance, a guided walk through key exhibits or an informative highlight the museum’s best feature.
	Unique local highlights	Even on business, these visitors notice standout aspects like historic houses or special exhibits. For example, if the museum includes a tour of a historical building or a famous artifact, business travelers point it out as a high point. They often use words like “amazing” or note something memorable they can share when they get back home. Since their time is limited, impactful displays that leave an impression (an iconic mountain climbing exhibit or a life-size model) are particularly appreciated.
	High satisfaction	It is worth noting that despite shorter visits, business travelers give very positive reviews. This suggests that when museums provide convenient options (like luggage storage, flexible hours, or quick tours), business visitors can comfortably fit a museum visit into their trip and end up very satisfied.

Source: Conceptualized by authors.

4.3. Sentiment Analysis

The sentiment analysis revealed that overall visitor satisfaction was high, with the majority of reviews exhibiting positive sentiment (Table 3).

Table 3. The overall sentiment of the reviewers by visitors’ type.

Visitor Type	Negative Reviews	Neutral Reviews	Positive Reviews
Solo	12	98	144
Couples	48	172	571
Families	20	93	221
Groups of friends	22	111	292
Business	1	98	144

Authors’ computation based on TripAdvisor reviews dataset.

Groups of friends and business travellers were especially positive, with nearly nine out of ten giving a favourable review. Solo travelers, couples, and families also showed strong positivity (around four in five were positive). Neutral sentiments (mixed or average experiences) made up roughly 8–14% of reviews depending on the group. Negative

experiences were uncommon across the board (under 7% for leisure travellers, and only ~3–4% for friends and business visitors). This suggests that museums in the dataset are generally meeting or exceeding visitor expectations regardless of who is visiting. Most reviewers in every group gave positive feedback, while negative opinions were relatively rare (Figure 6).

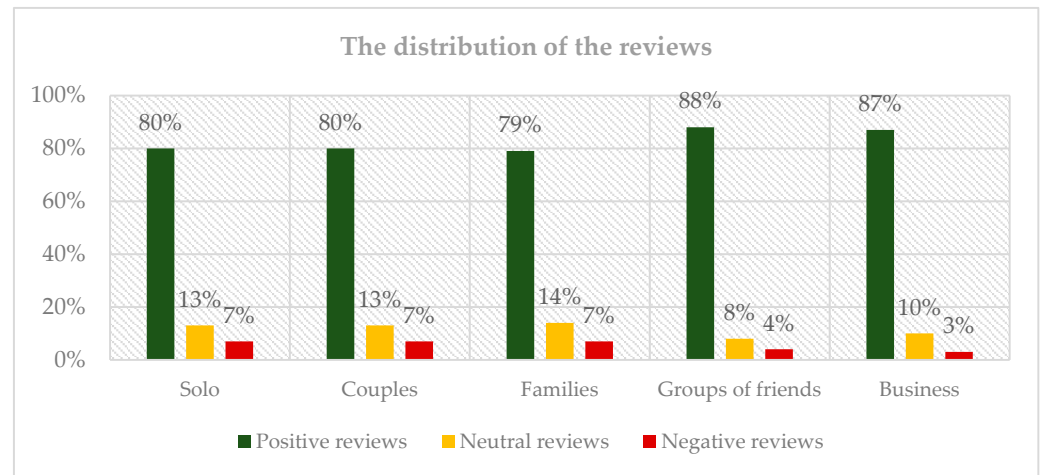


Figure 6. The distribution of the reviews—sentiment analysis by visitor type. Conceptualized by authors.

The sentiment analysis of museum visitor reviews revealed distinct patterns among different visitor types. Couples and groups of friends exhibited the highest levels of positive sentiment, primarily due to their enjoyment of the social aspects of the museum experience. They were likely to view the visit as an opportunity for shared exploration, which enhanced their overall satisfaction. Families, on the other hand, tended to leave more neutral reviews, which may be attributed to the challenges of keeping children engaged and managing logistical concerns such as facilities, accessibility, and exhibit interactivity. Their experience is shaped not only by the museum’s offerings but also by practical factors that influence the ease and comfort of their visit. Business travellers generally provide neutral feedback, reflecting the fact that their visits are often brief and more observational rather than immersive. While business travellers typically spend less time in museums, the data show surprisingly high levels of satisfaction. This may appear contradictory at first glance, but their needs and expectations differ significantly from other visitor groups. This paradox is explained by the type of museum experiences they seek: efficient, focused, and high-impact. Reviews often praised well-structured guided tours, curated highlights, and clear wayfinding that allowed them to enjoy a meaningful visit within a limited time window. These visitors appreciate “just enough” storytelling, minimal cognitive load, and visual summaries that offer a “TL;DR” (too long; didn’t read) version of the museum narrative. Since they typically visit museums within tight schedules, their engagement is likely to be limited, leading to less emotional investment in the experience. Finally, solo travelers demonstrate a more analytical approach, resulting in a higher proportion of neutral reviews. Their feedback suggests that they critically assess the depth and quality of exhibits, focusing on educational value and self-paced exploration rather than the social or logistical aspects that influence other visitor groups. Their high satisfaction suggests that mountain museums offering condensed, high-quality experiences like top-exhibit routes or thematic overviews effectively meet the needs of this segment. Such findings underline the value of efficiency-driven design for time-sensitive visitors.

4.4. Comparative Analysis of Visitors' Perceptions

Bringing all these findings together, a comparison reveals how each visitor profile's experience converges or diverges. Firstly, all groups generally enjoyed the museums, with positive sentiment around 80% or higher for each. Groups of friends and business travelers were most satisfied, possibly because they self-selected into visiting only if they were truly interested or because they had limited time and thus appreciated the opportunity. Solo travelers, couples, and family visitors, while still largely happy, had slightly more mixed feelings as indicated by higher proportions of neutral/negative reviews, indicating a few more critiques or unmet expectations in those groups.

Secondly, focusing on the content confronting the amenities, solo travelers and couples put a lot of emphasis on the content (history, art, or information). They rarely mentioned practical details; their satisfaction resulted from the depth of the exhibits and intellectual or cultural fulfilment. Families and friends also valued the content but were more likely to mention amenities (places to rest, eat, shop) and interactive or social aspects. For example, families care about children-friendly facilities and friends enjoy coffee shops or the gift shop as part of the outing. Business travelers are an interesting mix. They focus on efficiently delivered content because they want the highlights without the clamour.

Thirdly, specific interests differentiate the categories; families stand out by frequently discussing children's engagement. If exhibits are too static or scholarly, families might be less satisfied, whereas other groups might not mind. Otherwise, friends sometimes mentioned enjoying specific special exhibits or the fact that a visit was a fun group activity, which solo travelers might not have experienced in the same way. Business travelers often explicitly mentioned being on a tight schedule, so they appreciated elements that others might not have mentioned, like concise tours or easy access.

Regarding complaints or neutral tones, these differed by group. For instance, a couple or a solo traveler might say an exhibit was not detailed enough or the museum was smaller than expected, determining content-focused critique, whereas a family might comment that their toddler was bored or there was not enough interactivity, generating engagement-focused critique. A group of friends might be disappointed if the outing wasn't as exciting as hoped or if a key exhibit was closed (experience-focused), and a business traveler might note if the visit felt like wasted time in a packed schedule (efficiency-focused). These nuances show that the satisfaction of each visitor type is dependent on different aspects of the museum experience.

Lastly, in addition to sentiment analysis, a keyword cloud was generated to visualize the most frequently occurring terms in the reviews. The word cloud was created using WordCloud and Matplotlib Python 3.11. libraries, which extracted and displayed key terms based on their prominence in the dataset. The size of each word in the cloud correlates with its frequency in the reviews, making it easier to identify common themes and repeated discussions among visitors. Key terms such as "museum", "exhibits", "interesting", and "history" suggest that visitors frequently discussed the nature of the collections and their overall experiences. Additionally, some sentiment-driven words like "amazing", "beautiful", and "small" provided an initial impression of how visitors perceive the museums. The visualization revealed that "Banff" was one of the most dominant words, reinforcing the strong geographical association with the Whyte Museum of the Canadian Rockies, located in Banff National Park, Canada.

In addition to sentiment and topic modelling analysis, a keyword cloud (Figure 7), was generated to visually indicate the most frequently used content-bearing words in the visitor reviews. The word cloud was created using Python 3.11 (WordCloud and Matplotlib libraries), following standard text preprocessing steps such as lowercasing, lemmatization, and removal of stopwords and punctuation. High-frequency function words and generic

terms were excluded where possible to enhance interpretability. However, due to the strong presence of certain terms like “museum” and “Banff” in the original dataset, these still appear prominently. The visualization reflects recurrent concepts in the reviews, with common keywords including “history”, “exhibit”, “visit”, “interesting”, “area”, and “painting”. These terms illustrate the emphasis visitors place on the cultural and educational dimensions of the museum experience.



Figure 7. The keyword cloud. Computed by authors in Python 3.11.

This visualization complements the LDA analysis by offering an intuitive representation of lexical salience within the dataset and helps identify recurring topics that resonate with visitors. By utilizing this keyword cloud, we were able to gain a broad thematic overview of what matters most to museum visitors. It serves as a complementary tool to the sentiment analysis, offering a quick and visual representation of dominant topics in visitors' museum experiences.

5. Discussion

By applying LDA across multilingual TripAdvisor reviews, this study contributes to the methodological advancement of cross-cultural tourism research. While LDA has been used in tourism contexts, its application in decoding visitor narratives across national, linguistic, and motivational contexts in a single comparative framework remains underexplored. The approach followed in this study demonstrates how computational linguistics can uncover latent experiential dimensions that are not always visible through traditional survey instruments. In doing so, this study offers a scalable, reproducible model for analyzing user-generated content in niche tourism contexts, providing a template for future cross-cultural visitor research that transcends language and location boundaries.

Building upon previous work focused on museum experiences from a general perspective [39] this study presents a cross-country, visitor-profile-based exploration of a specialized museum typology. By analyzing reviews of ten mountain museums through topic modeling and sentiment analysis, this study reveals how different visitor types, including solo travelers, families, business tourists, and others, engage with mountain heritage in ways that reflect not only personal motivations but also spatial and cultural contexts. The findings demonstrate that visitor satisfaction and thematic engagement vary not only by visitor identity but also with the unique characteristics of mountain museums, including their educational framing, immersive environments, and the strong presence of cultural narratives rooted in place. In doing so, this research contributes to museum studies and niche tourism scholarship by highlighting how mountain museums act as cultural mediators within the broader experience of alpine destinations.

Therefore, the findings of this study highlight distinct patterns in how different visitor profiles experience and engage with museums. By analyzing visitor reviews in both local

and non-local languages, researchers identified key themes reflecting varying expectations and preferences. For a better understanding of the overall context, the authors created Figure 8 to logically present the aims of the study and the results of the research questions.

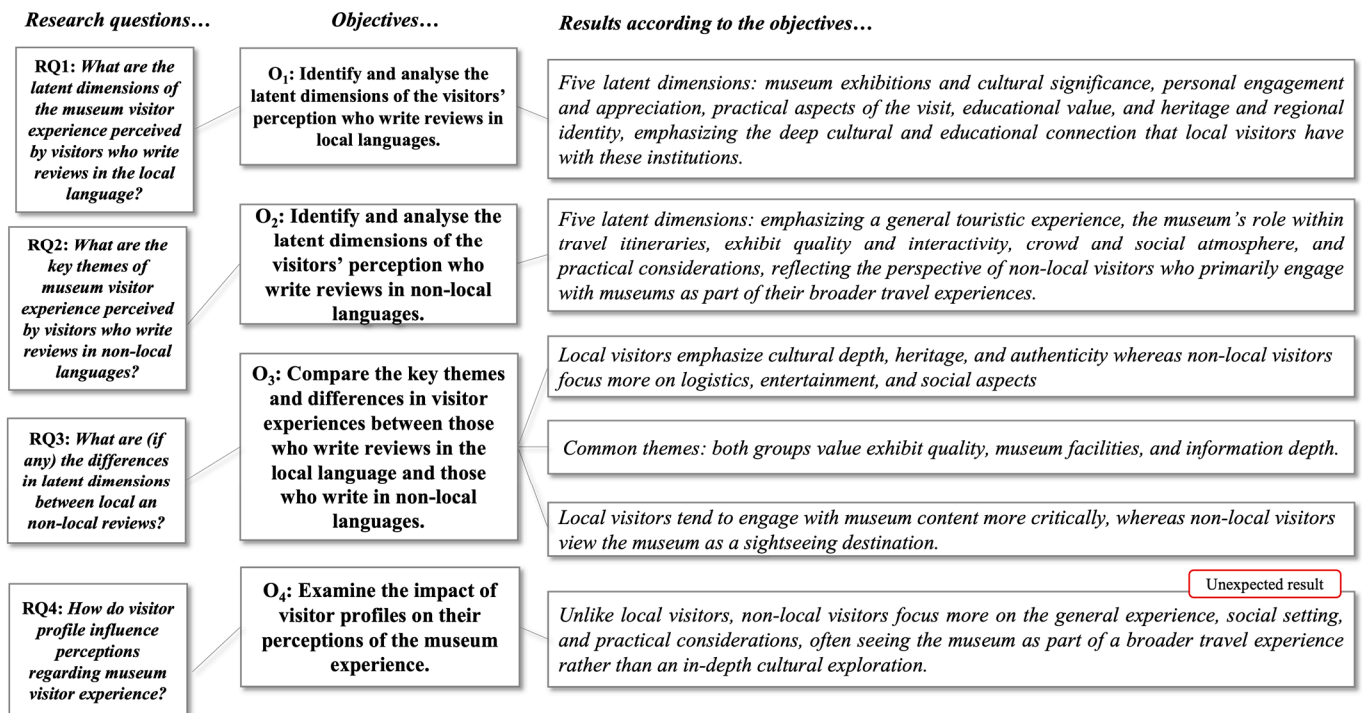


Figure 8. The research questions of the study, objectives, and results. Authors' conceptualization.

The Discussion Section explores how these insights can inform museum strategies to create more inclusive, engaging, and enhanced experiences for diverse visitor segments. The thematic differences between local and non-local reviews reflect distinct visitor motivations. Local visitors engage with museums as cultural and educational institutions, valuing their contribution to heritage and knowledge. In contrast, non-local visitors experience museums more as tourist attractions, prioritizing factors such as exhibit interactivity, itinerary fit, and atmosphere. These findings provide valuable insights for museum management, allowing the development of enhanced strategies to improve visitor experiences based on audience type. Local visitors may benefit from more in-depth cultural programs, while non-local tourists might appreciate improved accessibility, multilingual guides, and interactive exhibits.

Local visitors primarily engage with mountain museums as cultural institutions, placing strong emphasis on historical significance, personal appreciation, educational value, and heritage preservation, according to responses relating to the first research question (RQ1). Reviews written by local visitors reflect a deep interest in authenticity, knowledge acquisition, and national identity, suggesting that they perceive museums as repositories of cultural heritage rather than mere attractions, which strengthens the existing literature.

In contrast, exploring the second research question (RQ2) reveals that non-local visitors approach museums through a touristic lens, focusing on their role within travel itineraries, exhibits' interactivity, social atmosphere, and practical considerations. Their experiences are shaped by factors such as ease of access, entertainment value, and logistical convenience, reflecting an engagement style that aligns with sightseeing priorities rather than cultural immersion.

As outlined by addressing the third research question (RQ3), researchers state that clear distinctions exist between local and non-local visitor expectations. Despite these

differences, both local and non-local visitors share a common appreciation for high-quality museum exhibits, well-maintained facilities, and comprehensive information delivery. Regardless of their background, visitors value engaging displays, clear and accessible interpretive materials, and a well-curated museum environment overall. This suggests that exhibit quality, infrastructure, and visitor support services are key determinants of visitor satisfaction across all audience types. Museums that prioritize these aspects can effectively cater to a diverse audience, ensuring that both culturally invested locals and experience-driven tourists find meaningful engagement in their visits.

Analyzing how visitor profiles shape museum experiences (RQ4) reveals distinct engagement styles. Solo travelers seek in-depth learning, valuing immersive storytelling, quiet reflection, and taking photos. Couples integrate museum visits into their broader travel experiences, appreciating history, regional identity, and convenience. Families prioritize interactive, child-friendly exhibits, emphasizing education and amenities that enhance engagement. Groups of friends experience museums as social outings, enjoying diverse exhibits, cafes, and guided tours that enrich shared visits. These variations highlight how visitor expectations influence satisfaction, providing museums with insights for tailoring their content and designing engagement strategies to enhance experiences for different audience types.

Analysis of visitor-generated reviews also contributes to ongoing debates in museology regarding the shifting boundaries of cultural authority. Traditionally, museum narratives have been curated and controlled by experts, with limited input from audiences. However, platforms like TripAdvisor enable visitors to publicly evaluate, interpret, and reframe cultural experiences based on personal perceptions. The fact that these reviews can be mined for sentiment and thematic structure through tools like LDA gives voice to audiences that have historically been passive recipients. The outcomes of this study, which reveal nuanced, experience-driven patterns in feedback, suggest that online reviews are increasingly shaping the public meaning of museum content, thereby challenging top-down curatorial hierarchies and contributing to a more participatory, decentralized model of meaning-making in heritage spaces.

Based on these findings, the authors propose actionable insights for museum management to optimize offerings for each type of visitor by considering five dimensions comprised in the model pictured in Figure 9.

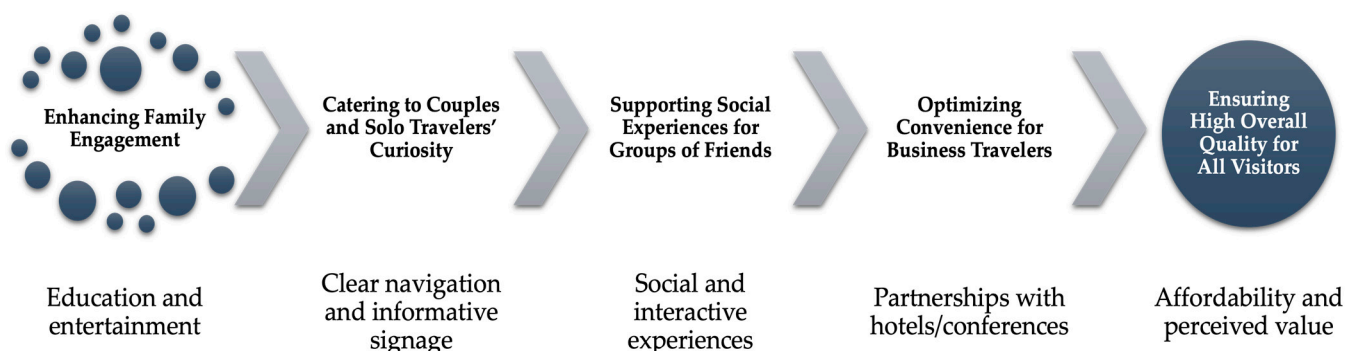


Figure 9. The dimensions for optimisation. Authors' conceptualization.

5.1. Enhancing Family Engagement

Families' prioritize both education and entertainment for their children when visiting museums. To meet these needs, museums should implement interactive exhibits, hands-on activities, and family-oriented guides. Offering family-friendly ticket options, dedicated learning areas for kids, and seating areas for parents can enhance the overall experience. Additionally, clear signage highlighting exhibits that appeal to younger visitors

can ensure a more structured and enjoyable visit. These efforts will keep children engaged, leading to a positive experience for the whole family and encouraging word-of-mouth recommendations among parents.

5.2. Catering to Couples and Solo Travelers

Adult leisure travellers, including both couples and solo visitors, tend to be drawn to rich content and immersive storytelling. Museums should invest in high-quality exhibits featuring detailed information panels, multilingual audio guides, and well-curated collections. Couples particularly enjoy cultural and artistic elements, making it beneficial to integrate local art, history, and thematic storytelling into exhibitions. For solo travelers, creating quiet corners with reading materials and ensuring an intuitive layout for self-paced exploration will enhance their engagement. These strategies cater to inquisitive visitors seeking a deeper understanding of the exhibits.

5.3. Facilitating Social Experiences for Groups of Friends

For groups of friends, museum visits often serve as a social outing rather than just an educational experience. Museums can cater to these groups by creating spaces for social interactions, such as cosy coffee shops, scenic courtyards, or communal seating areas. Offering group discounts and visually engaging, Instagrammable exhibits may encourage social sharing and word-of-mouth promotion. Additionally, museums can host special events, scavenger hunts, or trivia nights to make visits more interactive and appealing to groups looking for a fun and engaging experience.

5.4. Optimizing the Efficiency for Business Travelers

Business travelers, often on tight schedules, value efficiency and convenience. Museums can accommodate these visitors by introducing short, structured guided tours (30 min highlight tours at predictable times) that allow visitors to experience key exhibits efficiently. Providing lockers for briefcases/luggage and ensuring strong wi-fi connectivity can further enhance the convenience of a visit. Additionally, forming partnerships with conference organizers and hotels could introduce unique opportunities such as after-hours networking events or discounted entry for conference attendees. These initiatives can turn business travellers into enthusiastic advocates for the museum.

5.5. Maintaining High Overall Quality Standards

Across all visitor categories, several universal expectations emerged from the analysis, including cleanliness, knowledgeable and friendly staff, and clear visitor information. Museums should continue to train staff to provide excellent customer service and maintain an environment that meets high-quality standards. Pricing should remain transparent and reasonable, with clear communication of the value offered. Where feedback suggests areas for improvement (families desiring more interactive exhibits or solo travelers seeking more in-depth content), targeted refinements can enhance the visitor experience. Even small adjustments dedicated to each visitor segment can contribute to greater overall satisfaction.

5.6. Aligning Museum Offerings with Visitor Expectations

By aligning museum services and exhibits with these visitor-specific insights, mountain museums can provide a more personalized and memorable experience. This means delivering core museum content via multiple modes, such as hands-on and immersive for families, in-depth and research-focused for history enthusiasts, socially engaging for groups of friends, and time-efficient for business travellers. Such improvements will not only enhance visitor satisfaction but also determine repeat visits and positive online reviews, creating a cycle of continuous engagement and growth for the mountain museum sector.

6. Conclusions

This study provides valuable insights into how visitor experiences vary by language and visitor type, highlighting the importance of customized museum offerings. By adapting museum services and exhibits to different visitor segments, mountain museums can enhance engagement, improve satisfaction, and create multiple memorable experiences for all guests. This research contributes to the knowledge on mountain museum visitor experiences, sentiment analysis, and intercultural communication. By deploying human-computer interaction techniques and text mining, the study provides a data-driven approach to understanding visitor perceptions, bridging the gap between digital analytics and mountain museum management. The findings highlight the role of TripAdvisor reviews as an alternative data source for visitor experience evaluation, contributing to advancements in tourism and cultural studies.

From a theoretical perspective, this study reinforces the importance of user-generated content in tourism research. The application of latent Dirichlet allocation topic modelling and sentiment analysis demonstrates how natural language processing can decode visitor emotions and preferences in a cross-cultural context. The results contribute to the understanding of how language and cultural background shape visitor satisfaction and expectations, offering new insights for researchers in the fields of tourism, communication, and museum studies.

The findings provide practical recommendations for mountain museum managers aiming to optimise visitor experiences. Museums should invest in interactive exhibits and child-friendly spaces to improve family satisfaction. By creating engaging, hands-on experiences, museums can better cater to families, ensuring that both children and adults enjoy their visit. Providing designated play areas and structured learning activities can significantly enhance family engagement and increase repeat visits. Museums can meet the needs of solo travelers by offering short, guided tours, self-guided digital experiences, and quiet study areas where visitors can explore at their own pace. Creating flexible visiting options ensures that these visitor segments can engage with museum content efficiently, even on limited time. For couples and groups of friends, a mountain museum visit is often a social activity. Museums can enhance this experience by providing photo opportunities, themed tours, and interactive engagement activities. Incorporating elements that encourage social interactions, such as shared activities, group challenges, or social media-friendly installations, can increase visitor engagement and create lasting memories.

To communicate to local and international audiences, museums should develop multilingual and culturally immersive exhibits. Providing translated materials, multilingual guides, and digital resources can make exhibits more accessible and enjoyable for diverse audiences. Culturally contextualized storytelling, featuring both local and global perspectives, can help bridge the gap between different visitor expectations, providing a more inclusive museum experience. By deploying these strategies, mountain museums can increase engagement, visitor satisfaction, and overall attendance rates, while also using insights gained from human-computer interaction to support continuous improvement.

While this study provides valuable insights, it has some limitations. One acknowledged limitation is the exclusive reliance on TripAdvisor as the sole source of user-generated reviews. While TripAdvisor is not a museum-specific platform and covers a wide range of tourism and hospitality experiences, its extensive user base and broad geographic coverage provide a valuable source of authentic visitor feedback. Prior research has also validated TripAdvisor as a meaningful source of insights for museum and cultural tourism analysis [9,20,39].

Nonetheless, future research could enhance robustness by incorporating data from other specialized review platforms, museum websites, or real-time feedback tools to tri-

angulate findings and explore deeper qualitative dimensions. Meanwhile, TripAdvisor review may not capture the perspectives of visitors who do not engage with online review platforms. This may result in sample bias, where only digitally active visitors' opinions are reflected in the findings. As with all studies relying on user-generated content, TripAdvisor users do not represent the full spectrum of museum visitors; individuals who post reviews tend to be more digitally engaged, vocal, and motivated to share their opinions, while families with toddlers, elderly visitors, or those less comfortable with online platforms may be underrepresented. This introduces a potential sampling bias, skewing the data toward particular demographic and behavioral profiles. Furthermore, the multilingual nature of the dataset presents additional challenges. Cultural and linguistic norms influence how emotions and experiences are articulated; what is framed as neutral in German may imply satisfaction, while Spanish reviews may express enthusiasm more vividly due to cultural conventions. Even with translation and manual validation, these nuances are difficult to fully capture with standard NLP tools. Future research could mitigate these limitations by incorporating in-person surveys, multilingual sentiment models, or native-language analysis to ensure broader inclusivity and cultural sensitivity.

Thus, where language-based segmentation was applied, some nuances in sentiment and cultural expression may not have been fully captured. Differences in linguistic structures and tone may influence how sentiment is interpreted across languages. Also, the current findings are based on mountain museums, which may limit the generalizability of the results to other types of museums or cultural institutions. Future studies could expand the research scope to include a variety of museum types in order to compare findings. Moreover, this study used historical reviews, meaning that the findings do not account for real-time changes in visitor sentiment or immediate reactions to exhibits. The incorporation of real-time feedback mechanisms could further enhance the accuracy and applicability of insights. The dataset included reviews written in multiple languages, reflecting the international reach of the museums. To ensure the reliability of sentiment analysis, the authors restricted this step to reviews originally written in English, as the TextBlob classifier is designed and optimized for English-language input. For non-English reviews, initial translation was performed using the Google Translate API to support thematic comparison in the topic modeling and cross-segment analysis. During preprocessing, the researchers removed or standardized non-standard characters, emojis, and informal expressions, though they acknowledge that linguistic nuances may have been lost or distorted in translation. To assess the accuracy of the sentiment classification process, the authors manually validated a random sample of 100 reviews (including both English and translated non-English entries). In over 85% of cases, TextBlob's automated sentiment classification aligned with human-coded judgments, suggesting that, despite limitations, the tool provided a reasonable approximation of visitor sentiment for the purpose of this study. Other options could be determined from multilingual sentiment models or native-language classifiers to capture cultural and emotional subtleties more accurately.

Future research can explore several promising directions. Firstly, investigating how machine learning and artificial intelligence can track sentiment changes in real time may provide dynamic insights into visitor experiences. Through analyzing trends over time, mountain museums can adapt more proactively to visitor feedback. Secondly, implementing interactive digital feedback mechanisms within museums should allow visitors to provide immediate feedback, enabling real-time adjustments to improve engagement and satisfaction. Furthermore, refinements could include categorising words by sentiment, filtering out common location names, or grouping words by contextual themes, such as positive experiences, criticisms, or exhibit-related discussions. Also, expanding the analysis

to art museums, science museums, and historical sites would help determine whether the findings of this study are applicable across different types of cultural institutions.

Moreover, by integrating direct survey data with online review analysis, future research can overcome the current study's limitations. Demographic data can enable refined analysis of sentiment and experience, revealing, for instance, whether certain age groups consistently report more positive sentiments about educational exhibits or whether family visitors emphasize different aspects of satisfaction than solo travelers. In sum, survey platforms (such as Qualtrics, Google Forms) and distribution channels (museum websites, email invitations, on-site QR codes) to collect visitor demographics and feedback can greatly enhance the depth of sentiment analysis. This approach should allow researchers and museum managers to identify segment-specific trends and employ interpretive strategies or services accordingly, ultimately providing a richer, evidence-based understanding of the mountain museum visitor experience. Also, incorporating visual and audio reviews (social media videos, voice reviews) can offer a more comprehensive understanding of visitor feedback. This approach can capture non-verbal cues and emotional expressions that are not always evident in written reviews. Finally, location-based tracking and digital engagement metrics may help museums understand visitor movement patterns, dwell times, and levels of interaction with different exhibits. These insights could be used to optimize exhibit layouts and improve visitor flow within museums. By pursuing these future directions, researchers can further enhance understanding of museum visitor behavior, helping institutions adapt to evolving digital trends and cultural expectations.

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Predictors of individuals' intention to conserve water in a lodging context: the application of an extended Theory of Reasoned Action

Elena-Nicoleta Untaru, Ana Ispas, Adina Nicoleta Candrea*, Marcela Luca, Gheorghe Epuran

Transilvania University of Brasov, Faculty of Economic Sciences and Business Administration, Str. Colina Universitatii, no. 1, A Building, 3rd Floor, Brasov, Romania

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ABSTRACT

This study sought to develop an extended Theory of Reasoned Action (TRA) model to provide a clear understanding of individuals' intention to conserve water in a lodging context. In particular, the extended TRA incorporates two additional constructs: environmental concern and water conservation activities in everyday life, into the original TRA model. The outcomes of the present paper have shown that individuals' attitudes, subjective norms and water conservation activities in everyday life exert a positive influence on their intention to conserve water in a lodging context. The results also revealed that environmental concern has a positive influence on individuals' attitudes and water conservation activities in everyday life but a non-significant influence on their subjective norms. The empirical results of Structural Equation Modeling (SEM) indicated that the extended model provides a better fit of the data, and explains greater amounts of variance in individuals' intention to conserve water in a lodging context compared to the original TRA.

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1. Introduction

Tourism is at present the largest and fastest growing industry in the world (Kasim et al., 2014). According to the United Nations World Tourism Organization's report—Tourism 2020 Vision (UNWTO, 2012), international tourist arrivals in Europe were forecasted to grow from 414 million tourists in 2003 to 717 million in 2020, which means they will have nearly doubled in two decades (2000–2020). This forecast indicates future needs for more tourism support systems that would exert pressure on global resources' consumption, such as water, energy, air or pollution (Kasim et al., 2014).

The lodging industry is known as one of the least developed industries with regards to the implementation of sustainability policies (Smith and Feldman, 2003). Conventional hotels, especially, are often associated with issues related to deterioration of the environment (Han et al., 2011). It has been reported that about 75% of all environmental effects that conventional hotels have on the environment are related to excessive consumption of water,

energy and disposable products (Chen and Tung, 2014; Han and Yoon, 2015; Han et al., 2015). Water is an essential resource for the lodging industry. Previous studies have indicated that tourist water use tends to be high, with a corresponding water consumption that ranges between two and three times that of local water demand in developed countries (Garcia and Severa, 2003) and up to fifteen times the water consumption in developing countries (Gössling, 2001). Furthermore, according to Gössling et al. (2012), an average tourist within Europe uses over 300 l of water per day, against approximately 150 l per day for an average European resident. It was also found that tourist water consumption per capita varies between 100 and 2000 l per bed per night, and it depends fundamentally on the category of the hotel and the levels of services offered (Gössling et al., 2012). In addition, it has been reported that higher category hotels consume more water yearly than lower category hotels (Barberán et al., 2013; Gössling et al., 2012). Bohdanowicz and Martinac (2007) also found that in European hotels, water consumption increases in relation to the number of nights stayed and the number of meals served. It has been reported that most water consumption occurs in guestrooms for direct uses, including activities that are under the control of individual tourists, such as washing, bathing, toilet flushing and the frequency of towel changing (Gössling, 2015; Page et al., 2014). One of the main reasons for high water consumption in the guestrooms

* Corresponding author.

E-mail addresses: elena.untaru@unitbv.ro (E.-N. Untaru), ispasana@unitbv.ro (A. Ispas), adina.candrea@unitbv.ro, drd.adinacandrea@yahoo.com (A.N. Candrea), marcela.luca@unitbv.ro (M. Luca), epuran.gheorghe@unitbv.ro (G. Epuran).

relates to the behavioral tendencies of tourists. Hotel guests tend to have a “pleasure behavior approach” to showering or bathing, which increases the tendency to use more water than they normally would at home (Eurostat, European Commission, 2009). In addition, Jorgensen et al. (2009) emphasized that outdoor water consumption (e.g., in a lodging context) seems to be discretionary and it is often the first target for changes in water consumption.

Romania was selected for this study as it is a representative destination characterized by the increased droughts and water stress in the past ten years and by flood events that are projected to occur more frequently in many river basins (Gössling et al., 2015; Government of Romania et al., 2008). Water consumption is of considerable interest for the Romanian lodging industry, which has developed rapidly in the last two decades. According to the National Institute of Statistics (NIS, 2015), the number of total tourist arrivals (both inbound and domestic tourists) had increased from approximately 7.1 million in 1995 to 8.5 million in 2014 (Fig. 1) and the number of inbound tourist arrivals had increased from 0.77 million in 1995 to 1.9 million in 2014, which means they have nearly tripled in two decades. There were 20.3 million overnight stays in Romanian tourist establishments in 2014 (NIS, 2015). As of December 2014, in Romania there were 125 five-star hotels, 671 four-star tourist hotels, 2954 three-star rated hotels, and 1797 two-star hotels (Fig. 2). Further, the yearly average growth rate of beds was of 33.6%, 13.2%, 10.7%, and –0.6% for five-star, four-star, three-star, and two-star hotels respectively since 1995. Despite the lack of statistical data on the overall tourist water consumption in Romania, it is only logical to assume that as the lodging industry in Romania grows so too will its demand for water. Consequently, this uptrend of the lodging industry in Romania will exert a significant influence on water consumption and add to the already strenuous condition of water availability.

Although water consumption in hospitality settings has been studied extensively, research on water conservation in this industry is limited, especially in Romania. The most commonly studied pro-environmental behavior in hotel settings is the reuse of towels or linens (Goldstein et al., 2008; Shang et al., 2010). In addition, a survey among hotel guests in Iberotel indicated that 99% of participants accepted the reuse of treated wastewater for toilet flushing as long as no esthetical influence would occur (Antakyali et al., 2008). Nonetheless, no research has yet attempted to investigate individuals' water conservation behaviors in a lodging context. The present work aims to further contribute to the under researched topic of water conservation behavior in a lodging context as a possible tool to trigger the implementation of green practices in the lodging industry.

The Theory of Planned Behavior (TPB) is one of the most influential models in predicting pro-environmental intentions/behaviors. The TPB framework has been widely used to study a range of intentions/behaviors whose performance depends on the possession of requisite resources (such as time, money, skills) and/or opportunities (Han and Kim, 2010; Chen and Tung, 2014; Han et al., 2010). However, the present paper aims to examine individuals' intentions to conserve water in a lodging context. Under the terms of water conservation we considered curtailment water-saving procedures that are under the complete control of individuals (Lam, 2006). In this circumstance, the Theory of Reasoned Action (TRA) as a theoretical framework is more appropriate as it predicts an individual's intention under conditions of volitional control (Fishbein and Ajzen, 1975). Although the issue of water conservation is not new within environmental literature, no research has yet focused on the role of TRA in predicting individuals' intentions to conserve water in a lodging context.

There is growing empirical evidence that environmental concern and green activities in everyday lives (such as water, energy savings, and reduction of waste production) are powerful predic-

tors of pro-environmental intentions/behaviors. Such constructs could be integrated in the TRA as they are verified in various settings involving environment and conservation (Carrus et al., 2005; Chen and Tung, 2014; Clark and Finley, 2007; De Groot and Steg, 2007; Fujii, 2006; Gilg and Barr, 2006; Han and Yoon, 2015; Hedlund, 2011; Schultz et al., 2005; Willis et al., 2011; Wolters, 2014). However, as the literature has not covered the influence of environmental concern and water conservation activities in everyday life (as specific eco-friendly activities) on individuals' intentions to conserve water in a lodging context, the present study integrated these constructs into the original TRA framework.

Given these, the present research shall address the following objectives:

- (1) Building a theoretical framework of individuals' intentions to conserve water in a lodging context by including two additional constructs: environmental concern and water conservation activities in everyday life;
- (2) Comparing the proposed model to the original framework of TRA for the identification of its superiority in predicting individuals' intentions to conserve water in a lodging context;
- (3) Examining the mediating impact of environmental concern within the proposed theoretical model.

The paper is structured as follows. First, the Theory of Reasoned Action, environmental concern and water conservation activities in everyday lives are reviewed, and insights are presented on hypotheses development. Second, descriptions of the methodology and results are reported. Finally, theoretical and practical implications, limitations and directions for future research are presented.

2. Literature review

2.1. Theory of Reasoned Action

The Theory of Reasoned Action (TRA) was introduced by Fishbein and Ajzen (1975) to predict human behaviors under complete volitional control (i.e., depending on conscious personal choice rather than external forces). In this theory, intention, which is the immediate antecedent of behavior, indicates an individual's readiness to engage in a particular behavior (Ajzen, 1985). The TRA involves two major constructs for predicting intention, namely attitude and subjective norms. According to Ajzen and Fishbein (1980), attitude refers to the degree of one's positive or negative evaluation of behavior. Past studies have indicated that attitude has a positive impact on an individual's intention (Ajzen, 1991; Baker et al., 2007; Cheng et al., 2006; Taylor and Todd, 1995). In addition, subjective norms consist of the pressure on the individual to conform to the expectations of people who are important to him/her (Ajzen, 1991; Fishbein and Ajzen, 1975). When examining the relationships between an individual's subjective norms and behavioral intentions, most of the previous studies have revealed that subjective norms exert a positive impact on behavioral intention (Han et al., 2010; Taylor and Todd, 1995).

Sheppard et al. (1988) verified the predictive power of TRA and concluded that the model accurately predicted individuals' intentions when applied in different contexts. Furthermore, TRA has been widely applied to predict behavioral intentions in the area of environmental behaviors (Kim et al., 2013; Marandu et al., 2010) and recycling behaviors (e.g., Bagozzi and Dabholkar, 1994; Goldenhar and Connell, 1993). Most of these studies reported predictive power of the TRA. Nevertheless, the TRA model has received limited attention in the conservation literature. Most of the previous studies in this area investigated the residential water consumption and conservation (Aitken et al., 1994; Fishbein

Tourist arrivals

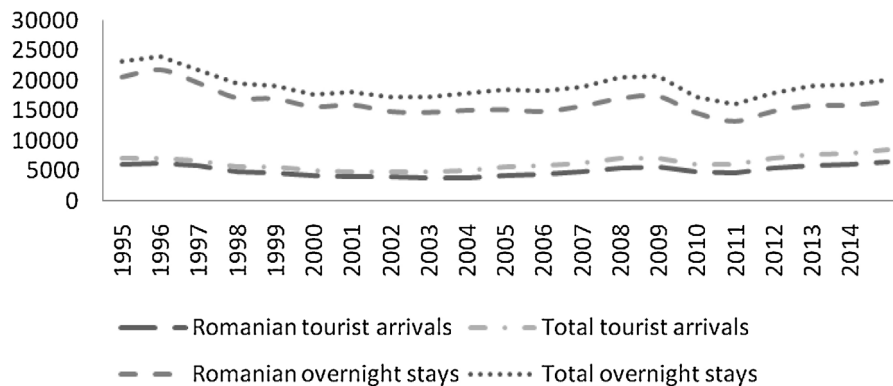


Fig. 1. Tourist arrivals in Romanian establishments between 1995 and 2014.

Number of establishments

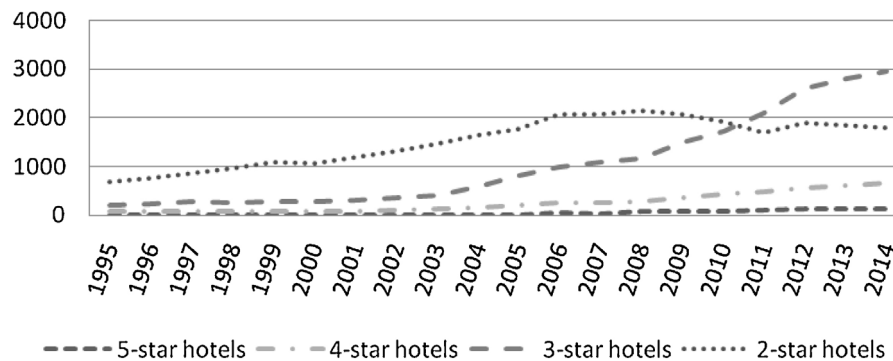


Fig. 2. Number of establishments between 1995 and 2014.

and Ajzen, 2010; Jorgensen et al., 2009; Lam, 2006; Russell and Fielding, 2010; Whitmarsh and O'Neill, 2010). Findings have generally revealed that attitudes and subjective norms exert a major impact on individuals' intentions to conserve water (Dolnicar et al., 2012; Jorgensen et al., 2013; Marandu et al., 2010). Likewise, St. John et al. (2010) revealed that most of the studies considering general attitudes towards conservation rather than attitudes towards specific conservation behaviors have been of limited use in designing conservation interventions aimed at changing behavior. Further, a comparison between the relative importance of the predictor variables suggested that in general attitude exerts a more powerful influence than subjective norms in predicting individuals' intentions to conserve water in a household setting (Marandu et al., 2010). Taken together, it can be assumed that attitudes towards water conservation behavior in a lodging context and subjective norms exert an influence on individuals' intention within our conceptual framework. Therefore, we hypothesized:

H1. Attitude has a positive influence on individuals' intentions to conserve water in a lodging context.

H2. Subjective norms have a positive influence on individuals' intentions to conserve water in a lodging context.

2.2. The role of environmental concern

Environmental concern is frequently regarded as a general attitude toward environmental protection (Abdul-Muhmin, 2007; Bamberg, 2003; Schultz et al., 2005). It is an important determi-

nant of desiring that people change their behaviors in order to become more aware of environmental protection (Hansla et al., 2008). A review of pro-environmental literature revealed significant positive relationships between environmental concern and the willingness to accept economic sacrifices to protect the environment (Hedlund, 2011), the intentions to buy ecologically sustainable tourism alternatives (Hedlund, 2011), the willingness to pay premiums for environmentally friendly product alternatives (Bang et al., 2000; Loureiro et al., 2002; Moon and Balasubramanian, 2003) or the intentions to visit green hotels (Chen and Tung, 2014). Furthermore, researchers have found evidence supporting the connection between environmental concern and people's predispositions to perform conservation activities (Nooney et al., 2003; Urban and Ščasný, 2012; Wolters, 2014). For example, Wolters (2014) investigated water conservation behaviors of the public and found that their behaviors are the result of environmental concern. Likewise, Clark and Finley (2007) found that self-perceived knowledge of climate change, environmental attitudes and concern over future shortages showed positive and significant correlations with the intention to perform specific water conservation activities in the household settings. Other studies have indicated that environmental concern directly leads to more participation in water conservation (Gill and Barr, 2006; Willis et al., 2011).

A significant body of research suggests that environmental concern does not affect a particular intention directly but indirectly. For instance, researchers who integrated the environmental concern construct in their studies found a mediation effect of attitudes and subjective norms (Carrus et al., 2005; De Groot and Steg, 2007;

Hartmann and Apaolaza-Ibáñez, 2012; Newton et al., 2015). In a previous research on college students' behavior as exhibited in their request for a brochure on green electricity, Bamberg (2003) found that environmental concern has direct effects on subjective norms. Likewise, applying the TRA to the case of green energy, Bang et al. (2000) found that attitudes toward renewable energy mediate the effect of environmental concern on purchase intention. Chen and Tung (2014) found that attitude and subjective norms significantly mediate the relation between environmental concern and intentions. Given this evidence, it can be posited that environmental concern affects people's intentions to conserve water in a lodging context via attitude, subjective norms and water conservation activities in everyday life.

Therefore, we hypothesized:

H3. Environmental concern has a positive influence on an individual's attitude toward water conservation in a lodging context.

H4. Environmental concern has a positive influence on an individual's subjective norms of conserving water in a lodging context.

H5. Environmental concern has a positive influence on an individual's water conservation activities in everyday life.

2.3. The role of water conservation activities in everyday life

Atkins (2003) defines water conservation as those activities that reduce the demand for water, improve the efficiency of its use, and reduce losses and waste. Water conservation behavior was regarded by actions like becoming aware of the ways to save water, understanding the motives underlying water consumption, having a personal motivation for carrying out a correct use/consumption, having a saving behavior in everyday life's actions and taking personal control of water use (Sarabia-Sánchez et al., 2014). According to Marandu et al. (2010), behaviors associated with water conservation are: turning the water off during brushing teeth, turning off the tap while washing vegetables, turning the shower off while soaping in, starting the machine only when it is full to save water, and repairing leaks or reporting them to landlords. A review of environmental literature suggests that conservation behaviors (such as water conservation) are frequently performed and therefore may become habitual (Gregory and Di Leo, 2003; Han et al., 2015). These green habitual behaviors are considered one of the main components to predict pro-environmental intentions/behaviors (Laroche et al., 2001). Indeed, Han et al. (2015) integrated the role of green activity in the theoretical framework of Theory of Planned Behavior and concluded that this additional construct has a significant influence on guests' pro-environmental intentions. A review of water conservation literature revealed that while most of the studies were conducted in household settings (Clark and Finley, 2007; Corral-Verdugo and Pinheiro, 2006; Dolnicar et al., 2012; Dupont and Renzetti, 2013; Halkos and Matsiori, 2014; Jorgensen et al., 2009, 2013; Marandu et al., 2010; Martínez-Españeira et al., 2014; Page et al., 2014; Sarabia-Sánchez et al., 2014; Willis et al., 2011; Wolters, 2014), research in hospitality settings are limited. The most commonly studied pro-environmental behavior in hotel settings is the reuse of towels or linens (e.g., Antakyali et al., 2008; Goldstein et al., 2008; Shang et al., 2010). As noted by Baoying and Yuanqing (2007), in the last few decades water resources have been broadly used in the tourism industry. As a consequence, tourism has a serious impact on water environment, including water pollution and water supply scarcity (Hadjikakou et al., 2013; UNEP, 2009). Valencia-Sáiz et al. (2010) emphasized that water conservation can not only be achieved from a supply management perspective, but also from a demand point of view in order to encourage people to have a more rational consumption. Given these, while integrating water conservation activities in everyday life as an additional construct in the

TRA remains untested, it can be posited that this construct exerts an influence on individuals' intentions to conserve water in a lodging context. Thus, we hypothesized:

H6. Water conservation activities in everyday life have a positive influence on an individual's intention to conserve water in a lodging context.

2.4. Proposed extended model

The conceptual model, presented in Fig. 3, was designed to better explain individuals' intentions to conserve water in a lodging context when traveling. It includes the original constructs of the TRA theoretical framework and two additional variables: environmental concern and water conservation activities in everyday life. Attitude toward water conservation behavior, subjective norms and water conservation activities in everyday life were the assumed antecedents of individuals' intentions to conserve water in a lodging setting and were treated as mediators between environmental concern and individuals' intentions to conserve water in a lodging context.

3. Methodology

3.1. Data collection and sample characteristics

An online survey was used as a data collection method to effectively reach a general population sample. Before conducting the survey, a pre-pilot study was used to develop the questionnaire for collecting the necessary data. The questionnaire was based on the extended TRA. In designing the questionnaire, a 5-point Likert scale for all the variables was used to reduce the statistical problem of extreme skewness (Fornell, 1992). Further on, a pre-test of the survey questionnaire was conducted with thirteen active members of environmental organizations, three teachers and ten students of a tourism faculty. Minor corrections (e.g. wording, typo errors, and layout) were made through this process. Additionally, Cronbach's alpha reliability coefficients of the pilot study were used to refine the questions for the final questionnaire. Further on, the research questionnaire was posted on a free online survey website (<https://docs.google.com/forms>) from 28 April to 20 May 2015. An e-mail was sent to approximately 3000 Romanian residents who had been recruited previously either by telephone or through the Internet. Those invited to participate received the link to the survey. In the opening instructions of the survey, a short description of the aim of the research was provided. No compensation was offered. A total of 394 responses were received from the survey participants. After the elimination of inadequate responses, 354 usable responses remained, yielding an 11.8% response rate.

Of the 354 responses, 59.6% were women. 25.4% were 24 or younger, 29.9% were 25 to 35, 22% were 36 to 45, and 22.6% were 46 or older. Among the participants, 84.5% were college graduates and 15.5% were high school graduates. The majority of respondents (72%) had an average monthly income of above \$255 per family member, and 28% of less than \$255 per family member. As regards to the selection criterion, the sample comprises respondents who are Romanian residents and reported staying in a tourist establishment at least once in the last year.

3.2. Measures and questionnaire development

Table 1 presents all measurement items and their corresponding constructs. In order to evaluate individuals' intentions to conserve water in a lodging context, a total of nineteen items were used. In the present research, the measurement scales for the constructs and the variables were validated by previous studies. Attitude

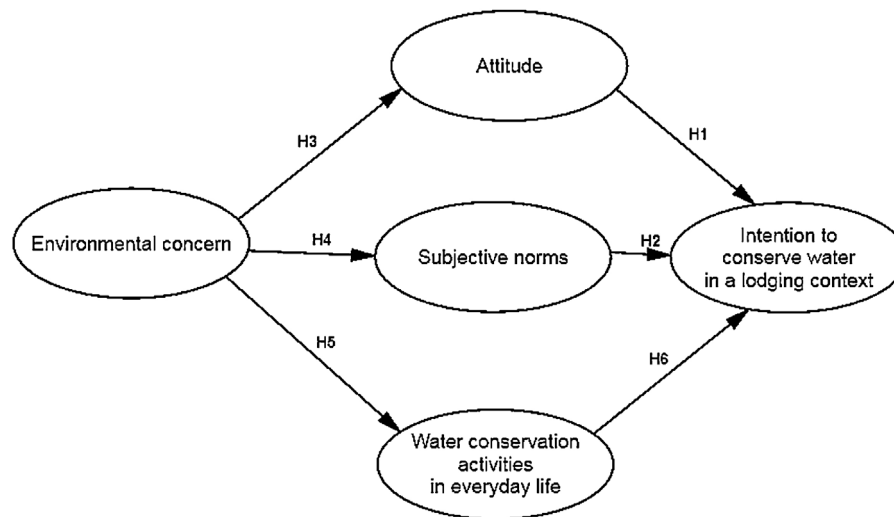


Fig. 3. Proposed extended TRA model.

Table 1
Survey questions, reliability coefficients and factor loadings.

Latent constructs and their indicators	Loading Rotated	Cronbach's alpha
<i>Attitude toward water conservation activities in a lodging context (AT)</i>		.888
AT1. For me, conserving water in a lodging context when travelling is extremely positive (1)/ extremely negative (5).	.843	
AT2. For me, conserving water in a lodging context when travelling is extremely favorable (1)/ extremely unfavorable (5).	.784	
AT3. For me, conserving water in a lodging context when travelling is extremely good (1)/ extremely bad (5).	.759	
<i>Subjective Norms (SN)</i>		.941
SN1. People whose opinions I value would prefer me to conserve water in a lodging context when travelling.	.958	
SN2. Most people who are important to me think I should conserve water in a lodging context when travelling.	.944	
SN3. Most people who are important to me would want me to conserve water in a lodging context when travelling.	.897	
<i>Intention to engage in water conservation activities in a lodging context (INT)</i>		.934
INT1. I am willing to conserve water in a lodging context when travelling.	.880	
INT2. I will expand effort on conserving water in a lodging context when travelling.	.830	
INT3. I plan to conserve water in a lodging context when travelling.	.765	
INT4. I intend to engage in water conservation activities in a lodging context when travelling.	.747	
INT5. I expect I will engage in water conservation activities in a lodging context when travelling.	.712	
INT6. I am determined to conserve water in a lodging context when travelling.	.708	
<i>Environmental concern (EC)</i>		.913
EC1. I think environmental problems are very important.	.911	
EC2. I think environmental problems cannot be ignored.	.886	
EC3. Humans must live in harmony with nature in order to survive.	.876	
EC4. I think we should care about environmental problems.	.815	
<i>Water conservation activities in everyday life (WCA)</i>		.780
WCA1. At home, I turn off the shower water while I am soaping.	.853	
WCA2. At home, I turn off the tap water while I am soaping.	.837	
WCA3. At home, I turn off the tap water each time I brush my teeth.	.764	

toward water conservation was assessed with three semantic differential items (e.g., “For me, conserving water in a lodging context when traveling is extremely positive/extremely negative”) which were slightly modified from those employed by Ajzen (1991), Ajzen and Fishbein (1980), and Han et al. (2010). Three items by Ajzen (1991) and Han et al. (2010) were assessed to measure subjective norms (e.g., “Most people who are important to me think I should conserve water in a lodging context when travelling”). Intention was evaluated with six items. From these items, three were developed by Han et al. (2010) and slightly modified for the present study (“I am willing to conserve water in a lodging context when travelling”, “I plan to conserve water in a lodging context when travelling” and “I will expand effort on conserving water in a lodging context when travelling”) and two were developed by Fielding et al. (2012) (“I intend to engage in water conservation activities in a lodging context when travelling” and “I expect I will engage in water conservation activities in a lodging context when travelling”). Environmental concern was assessed with four items, (e.g., “I think environmental problems are very important”),

by Fujii (2006). Three items were used to evaluate water conservation activities in everyday life (e.g., “At home, I turn off the shower water while I am soaping”). The last section of the questionnaire included questions about the demographic profile of the respondents and a question about the frequency of staying in a tourist establishment in the last year.

3.3. Data analysis procedure

We used SPSS 20 and AMOS 20 as data analysis tools. First, a Confirmatory Factor Analysis was conducted in order to assess the reliability and convergent and discriminant validity of measurement items. Second, a Structural Equation Modeling was run in order to investigate the causal relationships among the constructs and to verify the hypotheses developed in this study. Third, a modeling comparison was conducted to compare the superiority of our proposed extended TRA and the original framework of TRA. A mediating effect analysis was then conducted in order to assess the significance of the indirect effect of environmental con-

cern on intention to conserve water in a lodging context. Finally, a chi-square difference test was run to determine the superiority of the extended TRA model.

4. Results

4.1. Confirmatory factor analysis

Before testing the causality between the constructs in the proposed framework, a Confirmatory Factor Analysis (CFA) was conducted, using maximum likelihood estimation, aiming to assess the unidimensionality, reliability, and construct validity. The initial results revealed that the measurement model did not fit the data satisfactorily. To improve the model fit, a refinement procedure was employed. Items that had low factor loading (<0.05) and low reliability (<0.05) were removed. Based on the modification indices and expected parameter change statistics, the fit of the analytical model can be slightly improved by allowing some pairs of errors to correlate step by step until all goodness-of-fit measures of the model achieve the recommended values (Schaufeli et al., 2002). After repeated modification, there were two correlated pairs of residuals. The CFA results indicated that the model fits the data well ($\chi^2 = 285.198$, $df = 139$, $\chi^2/df = 2.052$, $p < 0.001$, $RMSEA = 0.055$, $CFI = 0.973$, $IFI = 0.973$, $TLI = 0.967$, $NFI = 0.949$). The results of the CFA are displayed in detail in Table 2. A composite reliability was also calculated using factor loadings, which were all significant at the 0.01 level. Internal consistency among multiple measurement items for each latent construct was evident in that all values for composite reliability exceeded the minimum threshold of 0.60 (Bagozzi and Yi, 1988).

Further on, construct validity was tested. To examine it, we tested both convergent and discriminant validity. Convergent validity measures “the extent to which the scale correlates positively with other measures of the same construct” (Malhotra et al., 2012, p. 876). The Average Variance Extracted (AVE) is another measure that is used to assess convergent validity and refers to the variance in the observed variables that is explained by the construct (Malhotra et al., 2012). An AVE of 0.5 or more indicates satisfactory convergent validity. That is, the latent construct accounts for 50% or more of the variance in the observed variables (Malhotra et al., 2012). As shown in Table 2, AVE values ranged from 0.551 to 0.745. Discriminant validity is defined as the degree to which observed variables differentiate between constructs. The test is conducted by showing that the average variance extracted is greater than the square of the correlations (Malhotra et al., 2012). In this research, the AVEs of the correlated constructs were all greater than the square of the correlation between the constructs. Therefore, the constructs in this study achieved discriminant validity. Accordingly, convergent and discriminant validity was supported.

4.2. Modeling comparison and structural equation modeling

The two models (TRA and extended TRA) were independently tested and compared using Structural Equation Modeling (SEM). First, the TRA was found to acceptably fit the data ($\chi^2 = 157.808$, $df = 51$, $\chi^2/df = 3.094$, $p < 0.001$, $RMSEA = 0.077$, $CFI = 0.972$, $IFI = 0.972$, $TLI = 0.964$, $NFI = 0.959$). This model satisfactorily accounted for the total variance in individuals' intentions to conserve water in a lodging context ($R^2 = 0.735$). The TRA was then compared to the extended TRA which included an adequate fit to the data ($\chi^2 = 451.562$, $df = 146$, $\chi^2/df = 3.093$, $p < 0.001$, $RMSEA = 0.077$, $CFI = 0.944$, $IFI = 0.944$, $TLI = 0.934$, $NFI = 0.919$). The proposed theoretical framework (i.e., the extended TRA) satisfactorily accounted for the total variance in individuals' intentions to conserve the water in a lodging context ($R^2 = 0.749$). The prediction

power of the extended TRA was superior to the original TRA (R^2 for TRA = 0.735, R^2 for extended TRA = 0.749) ($\Delta \chi^2 ([95]) = 293.754$, $p < 0.001$).

Overall, this modeling comparison revealed that integration of environmental concern and water conservation activities in everyday life into the original TRA is effective in explicating individuals' intentions to conserve water in a lodging context. Results of the SEM are summarized in Table 3 and Fig. 4.

4.3. Hypotheses testing

The proposed relationships among constructs were evaluated. First, hypotheses H1 and H2 were tested. The regression path from attitude to intention was positive and significant ($\beta = 0.805$, $p < 0.01$). The hypothesized impact of subjective norm on intention was tested. Results revealed that subjective norm was significantly associated with intention ($\beta = 0.125$, $p < 0.01$), and so hypotheses H1 and H2 were supported. The proposed relationship between daily water conservation activities and intention was also found to be positive and significant ($\beta = 0.212$, $p < 0.01$) so hypothesis H6 was supported. A test on the impact of environmental concern on attitude, subjective norm and water conservation activities in everyday life indicated that environmental concern significantly affected attitude ($\beta = 0.503$, $p < 0.01$) and water conservation activities in everyday life ($\beta = 0.210$, $p < 0.01$), supporting hypotheses H3 and H5, but nonsignificantly affected subjective norm ($\beta = 0.031$, $p > 0.05$). Hence, hypothesis H4 was not supported. In addition, water conservation activities in everyday life, attitude, subjective norm and their antecedent (environmental concern) accounted for 74.9% of the variance in individuals' intention to conserve water in a lodging context.

In order to have a better comprehension of a sequence of effects that leads to something, mediation effect analysis is important (Kenny, 2008). For testing the significance of the mediation effect, Sobel's (1982) z-test is one of the most well-known methods. The Sobel test results that we obtained indicate that an individual's environmental concern has a significant indirect effect on his/her intention to conserve water in a lodging context via the Attitude (Sobel $Z_{\text{Attitudetowardintentiontoconservewater}} = 4.06$, $p < 0.01$) but a nonsignificant indirect effect on his/her intention to conserve water in a lodging context via the Water conservation activities in everyday life (Sobel $Z_{\text{Waterconservationactivitiesineverydaylifetowardintentiontoconservewater}} = 1.54$, $p > 0.10$) and Subjective Norm (Sobel $Z_{\text{SubjectiveNorms}} = 0.16$, $p > 0.10$). The results from Sobel's (1982) z-tests in this study indicate that only the Attitude exerts its partial mediation effect between environmental concern and individual's intentions to conserve water in a lodging context.

5. Discussion

5.1. Theoretical and practical implications

Our research findings have some theoretical and practical implications. The present study examined the formation of individuals' intentions to conserve water in a lodging context by employing and extending the TRA theoretical framework. The results from the structural analysis revealed that the proposed TRA theoretical framework had a strong predictive power for intention and represented a substantial improvement over the TRA. In particular, added constructs in the current study (i.e., Environmental concern and Water conservation activities in everyday life) and their significant relationship were identified to be important drivers of intention that has not been previously tested. Moreover, the employment of these variables and original determinants

Table 2
Measurement model results and correlations.

	Constructs	ME	SD	1	2	3	4	5	AVE
1	AT	1.50	0.85	1.000					0.817
2	SN	3.32	1.45	0.240 ^a (0.057) ^b	1.000				0.893
3	INT	1.92	1.06	0.655 (0.429)	0.304 (0.092)	1.000			0.757
4	EC	1.25	0.58	0.361 (0.130)	−0.004 (0.000)	0.362 (0.131)	1.000		0.797
5	WCA	2.82	1.55	0.198 (0.039)	0.270 (0.072)	0.350 (0.122)	0.119 (0.014)	1.000	0.692

Goodness-of-fit statistics: $\chi^2 = 285.198$ (df = 139, $p < 0.001$), $\chi^2/\text{df} = 2.052$, RMSEA = 0.055, CFI = 0.973, IFI = 0.973, TLI = 0.967, NFI = 0.949.

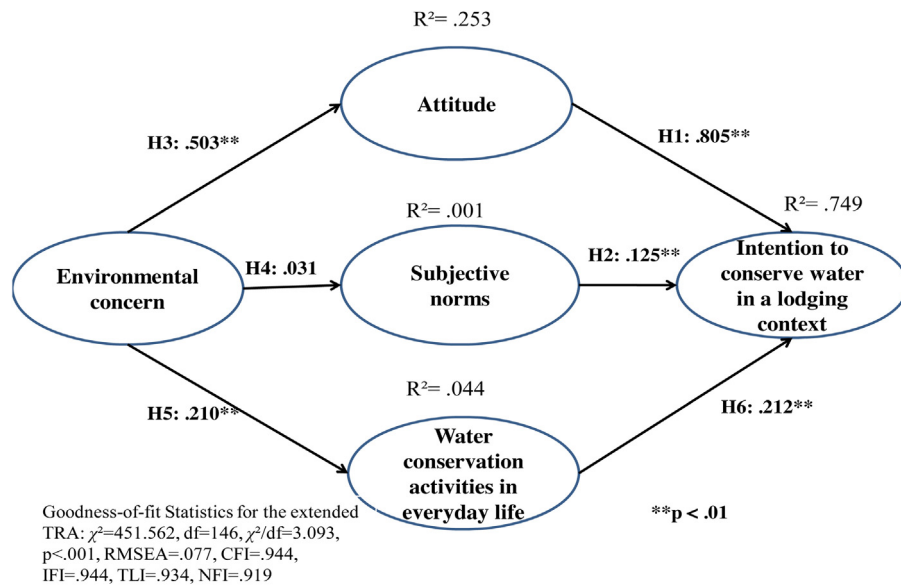
Note: AT = Attitude, SN = Subjective Norm, INT = Intention to conserve water in a lodging context, EC = Environmental Concern, WCA = Water Conservation Activities in Everyday Life, AVE = average variance extracted, ME = mean, SD = standard deviation.

^a Correlations between constructs.

^b Squared correlations.

Table 3
Results of structural equation modeling and hypotheses testing.

Hypothesized paths		Standardized coefficients	Results of hypotheses testing
H1: Attitude	→ Intention to conserve water in a lodging context	0.805	H1: Supported
H2: Subjective Norm	→ Intention to conserve water in a lodging context	0.125	H2: Supported
H3: Environmental concern	→ Attitude	0.503	H3: Supported
H4: Environmental concern	→ Subjective Norm	0.031	H4: Not supported
H5: Environmental concern	→ Water conservation activities in everyday life	0.210	H5: Supported
H6: Water conservation activities in everyday life	→ Intention to conserve water in a lodging context	0.212	H6: Supported



of the TRA model (i.e., Attitude and Subjective norms) substantially enhanced the prediction of individuals' intentions to conserve water in a lodging setting. These improvements fully satisfied Ajzen's (1991) requisites for model extension.

Our empirical results indicate that attitude is the most significant construct in generating water conservation intentions in a lodging setting ($\beta = 0.805$, $p < 0.01$). These findings, which are consistent with those from other studies (Chen and Tung, 2014; Han and Kim, 2010; Han et al., 2016; Marandu et al., 2010), suggest that individuals' positive attitude toward conserving water in a lodging setting is an important driver of their water conservation intentions. From a practical perspective, hotel management should actively educate individuals on the importance of being environmentally friendly in tourist establishments through environmental awareness campaigns and information tools (e.g., brochures, exhi-

bitions, or seminars). In particular, they could install information signs on water scarcity and encourage customers to minimize their in-room water use. In addition, hotel operators could provide feedback on consumption in order to help customers monitor and more effectively use water (Abrahamse et al., 2005) in guest rooms and even implement cash discounts or awards for conserving water in the guest rooms (Tsai and Tsai, 2008).

Subjective norms, though less powerful than attitude were nevertheless significant in explaining intention of water conservation in a lodging setting ($\beta = 0.125$, $p < 0.01$). These findings, which are consistent with those of several previous studies (Chen and Tung, 2014; Choi et al., 2015; Han et al., 2016), suggest that individuals' subjective norms toward conserving water in a lodging setting are important drivers of their water conservation intentions. Accordingly, hotel management should actively find ways to encourage

such salient referents to disseminate water conservation messages. For example, hoteliers could use their websites, social networks or in-room messages to inform individuals who have stayed in the same room to join their fellow guests in helping to save the water.

Water conservation activities in everyday life were also found to be a significant predictor of expressed intention ($\beta = 0.212$, $p < 0.01$). That is, individuals' intentions to conserve water in a lodging setting becomes stronger with an increase in the water conservation activities in everyday life, a finding that is in line with other studies (Bergin-Seers and Mair, 2009; Francois-Lecompte and Prim-Allaz, 2009; Han et al., 2015). From a practical standpoint, hotel operators should inform individuals about the advantages of water conservation in everyday life using information stickers or posters placed in bed- and bathrooms to encourage guests taking shorter showers, turning the tap off while brushing teeth or when not needed. Adopting such "common sense" behaviors (Gilg and Barr, 2006) could help individuals save significant amount of money and water in everyday life.

Such actions would help individuals become more aware of the environmental damages, feel more responsible for such issues both in daily life and in the tourist establishment, and feel more social pressure to conserve water while staying in a tourist establishment, thus enhancing individuals' intentions to conserve water in a lodging setting.

As shown in Table 3, our findings suggested that among the three mediator variables in the proposed model, only attitude mediated the impact of environmental concern on water conservation intentions in a lodging context ($\beta = 0.503$, $p < 0.01$). These findings indicate that individuals will have a more positive attitude toward conserving water in a lodging setting when they are concerned about the environment. From a practical standpoint, hoteliers should seek to increase customers' environmental concern by demonstrating their own commitment to the protection of the environment. For instance, as there are very few eco-certified hotels in Romania and the green tourism market is in its early stage, an eco-certified hotel could provide workshops for other hoteliers on how to save water (Kasim et al., 2014). Furthermore, each hotel should ensure that its program is effectively communicated to guests through environmental campaigns and information tools such as in-room notices, brochures, media boards, guest books, in-house television, and ecological corners. Such efforts, which eventually result in an increase of the customers' environmental concern, might boost individuals' attitudes toward water conservation in a lodging context and ultimately enhance their intentions to conserve water in tourist establishments.

5.2. Limitations and directions for future research

Findings from the present research should be interpreted in the context of its limitations. First, this study examined individuals' intentions instead of their actual water conservation behavior in a lodging context. Therefore, future studies should examine individuals' behaviors in an actual lodging setting in order to increase the framework's validity. Second, our results were based on responses obtained from a Web-based survey in order to reach and sample a broader range of individuals. While the usable response rate of 11.8% in the present study is comparable with the range of 10–15% found from previous research using online surveys, increasing the response rate would improve the generalizability of the results of this study. Future studies should increase the wider range of participants including both individuals concerned about water conservation activities and those who are not/little concerned and then test the same model to see if there are any significant differences between them. Third, the sample used in the present study was imbalanced, with a slightly high female ratio (59.6%), which is not unusual in studies employing an online survey (Han et al., 2016).

While many previous studies revealed that women tend to display higher levels of environmentally friendly behavior than men (e.g. Barber et al., 2010; Huang et al., 2014; Liu et al., 2014) and thus are more likely to undertake pro-environmental habits (Martínez-Espíñeira et al., 2014), future studies that include greater male participation are necessary in order to overcome this issue. Fourth, our study employed a self-report survey to investigate water conservation intentions, which are socially desirable (Fielding et al., 2012; Milfont, 2009). Consequently, social desirability bias might have affected the responses. Future research should also expand our understanding of individuals' water conservation behaviors by further identifying other possible constructs in actual water conservation situations and integrating them into the proposed TRA model. For example, researchers in pro-environmental behavior (Han and Hwang, 2015; Han et al., 2015; Han and Yoon, 2015) found that moral norm, past behavior, and desire toward behavior had significant effects on pro-environmental behavior in the hotel setting. Broadening our framework with such vital constructs would enhance its explanatory power for water conservation intentions in a lodging setting. Finally, while previous research (Han et al., 2011; López-Mosquera, 2016) indicated that demographic variables (i.e., gender, age, household income, education) had a significant influence on intentions, future studies should integrate these critical variables in the proposed theoretical framework in order to deeper understand individuals' intentions to conserve water in a lodging setting.

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Article

Environmental Management Practices within Agritourism Boarding Houses in Romania: A Qualitative Study Among Managers

Ana Ispas, Elena Nicoleta Untaru and Adina Nicoleta Candrea *

Faculty of Economic Sciences and Business Administration, Transilvania University from Brasov, Bulevardul Eroilor 29, Braşov 500036, Romania

* Correspondence: adina.candrea@unitbv.ro; Tel.: +40-744-587-182

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Abstract: Small accommodation businesses such as agritourism boarding houses (ATBHs) provide a large share of accommodating capacity in certain rural destinations. Despite their small accommodation capacity, ATBHs consume substantial quantities of water and energy; this consumption implies high environmental costs. The present study aims to explore opinions of ATBH owner-managers regarding water and energy consumption in their businesses, what motivates them to adopt environmental practices, and the specific saving measures used within the tourist accommodation units they manage. A qualitative research was conducted, using semi-structured interviews among 12 Romanian ATBH owner-managers. Data analysis revealed that the interviewed owner-managers understand the importance of natural resource conservation in tourist destinations but they are not willing or have insufficient financial, time, organizational resources, etc. to engage in serious water and energy saving initiatives. Moreover, most interviewed managers indicated that tourists cannot make a significant contribution to natural resources conservation in accommodation units and perceive water and energy saving systems as more effective than the environmental education of visitors in their facility. These findings may be useful to tourism policy-makers and environmental organizations in order to develop effective environmental strategies in ATBHs.

Keywords: environmental management; agritourism boarding houses; rural tourism; water; energy; resource saving

1. Introduction

Economic development, population growth, and increased stress in everyday life has led to an increased tourism interest in rural destinations, which are less polluted than urban areas and still preserve authentic cultural heritage [1–4]. The growing demand for rural tourism has led to an adequate development of specific tourism offers, resulting in an increase in the number of tourist accommodation units and other small business types that support tourists' needs during their holiday in the countryside. As a result, tourism is now posing a potential threat to rural resources, most acutely when they are exploited beyond their carrying capacities, and/or enterprises are not managed in a sustainable manner [5]. All these factors have led to the emergence of many environmental problems in rural tourism, such as environmental pollution, land degradation, resource depletion, biodiversity loss, and more [6–11]. As such, the development of rural tourism and the protection of the environment must be well balanced with both short- and long-term views. In the short-term, the protection of the environment in rural destinations has become a necessary practice for tourism firms to maintain their competitive position [12] since these practices allows for cost reductions [13,14] and improves their image [15,16]. In the long-term, in recognition of environmental degradation, governments,

along with the green movement within the hospitality and tourism industry, and travelers [17–20], have become increasingly aware of the need for more effective measures to protect the environment in rural destinations [21]. Although much progress has been made, many major challenges to rural environmental management remain to be addressed, especially from the perspective of the impact of rural tourism development and the expansion of small and medium-sized businesses such as agritourism boarding houses (ATBHs). Therefore, the main objective of the present study is to investigate owner managers' opinions regarding water and energy consumption and saving within their ATBH units.

Small accommodation businesses (i.e., agritourism boarding houses (ATBHs)) represent the core service, providing a large share of accommodating capacity in most rural destinations and playing a central role in rural tourism development, poverty relief, and rural revitalization [22,23]. ATBHs have limited budgets and operate their business alone. Therefore, their owner-managers are motivated to conserve important natural, social, and cultural features that are essential to the sustainability of rural landscapes and which contribute to destination competitiveness [24,25]. Font, Garay, and Jones [26] have found that small businesses in the tourism industry are more involved in responsible actions than previously expected. In addition, small business owners have the advantage of being able to react quickly to problems they encounter (including those related to environmental protection by saving resources), but are disadvantaged by the lack of awareness and lack of information about market requirements, changing behavior consumption of tourists, and so on. [26]. However, previous studies tended to ignore the dominant role of owner-managers in environmental practices in the companies they ran [27]. As such, the present study aims to examine ATBHs' owner-managers attitudes towards protecting the environment in general and particularly towards water and energy consumption in the tourist accommodation units they manage (the first objective of the research).

'Environmental management' is defined as 'the equipment, methods and procedures used in the production, product design, and product distribution mechanisms that save energy and natural resources, minimize the environmental problems generated by human activities, and protect the natural environment' [28]. Environmental management practices (EMPs) adopted by smaller firms tend to be implemented ad hoc, rather than within a coherent strategy [29]. The environmental actions taken in such firms involve mainly simple, low-cost measures [30]. In small- and medium-scale accommodation units, the lack of financial resources or an internal arrangement structure are considered as environmental management constraints [31]. Furthermore, in the case of owner-managers, the motivations to adopt EMPs depend on a number of factors [32] and the academic research to identify them is quite numerous [26,32–36]. Thus, previous studies have shown that the main reasons are related to the economic and financial goals, but also to the owner-managers' lifestyle and their need for legitimization within society [26]. Although ATBHs are predominant in rural areas, there is still insufficient research on why these companies would or would not want to protect the environment by saving the resources they use in day-to-day business. As such, the second objective of the research is to find out which the main reasons are for ATBHs to act more sustainably and save resources in the accommodation unit.

Moreover, in environmental tourism literature, there is limited research investigating different types of EMPs by small- and medium-sized enterprises in rural areas. Most of the tourism studies on EMPs focused on hotels in developed countries (e.g., in Spain [37–40]; in Greece [41]; and in the United States [42]). Very few studies have been carried out on the application of EMPs to ATBHs, as small rural businesses located in rural areas, especially in developing countries. ATBHs' managers find it difficult to adopt EMPs as they are both more time-consuming and more difficult to implement, given their inherent size-related limitations [40,43,44]. As Choi et al. [45] stated, it is imperative to further explore environmental practices and their consequences from the perspective of internal stakeholders (i.e., employees and management). Thus, to better understand ATBHs' involvement in EMPs, focusing on the perceptions of their owner-managers is crucial. As such, the third objective of the research is to identify the water and energy saving technologies used in ATBHs.

In the study of six developed European countries, Fassin et al. [46] found that the environmental concerns of owner-managers of small and medium-sized businesses differ from one country to another. For example, Bohdanowicz [21] highlighted that, “generally, hoteliers from the countries of the former Eastern Bloc (Central and Eastern Europe) are likely to be less concerned about the protection of nature per se, except for economic or legal reasons” (p. 663). Romania is one of these countries, therefore it was chosen as a case study for its special characteristics and common features compared to other Central and East European (CEE) countries. Moreover, Romania is one of the countries with the largest tourist accommodation capacity in CEE, ranking fourth place in 2016 regarding both the number of bed-places and bedrooms in hotels and similar accommodation [47]. Furthermore, the decision to examine ATBHs was prompted by their significant position in the Romanian tourism sector as a whole. According to the National Institute of Statistics in Romania [48], this type of accommodation represents 1/3 of the number of establishments of tourist reception and 13% of the existing accommodation capacity in 2017. To the best of the authors’ knowledge, few studies [49–51] have focused on environmental practices or initiatives within the Romanian hotel industry, especially the particularly case of ATBHs. Therefore, it is vital to investigate the environmental perceptions and attitudes of these ATBHs’ owner-managers regarding rural environment and natural resources, in addition to investigating concrete ways to engage in environmental and/or water and energy conservation activities within the accommodation units they manage.

Considering the aforementioned issues, the present study seeks to investigate the general opinions of ATBH owner-managers about water and energy consumption in the tourist accommodation units they manage, the reasons behind the reduction of consumption of water and energy, and water and energy saving technologies used by employees and/or guests. The study focuses on accommodation units such as ATBHs to assess the extent to which these types of units are truly active in saving water and energy resources, describing the attitudes and behaviors of their owner-managers regarding these practices. Accordingly, a qualitative research based on semi-structured interviews was carried out among the managers of the accommodation units of the type of ATBHs in Romania.

The present paper focuses on a specific type of accommodation unit from rural areas (i.e., ATBHs) from a developing post-communist country in the East European region (i.e., Romania), considering that, according to the authors’ knowledge, most studies regarding water and energy consumption were mainly based on international samples and focused on tourism businesses from developed countries. Thus, this research may bring contributions to existing hospitality literature, as it will identify what motivates ATBHs owner-managers’ to implement water and energy saving measures in a developing post-communist country. In addition, this study revealed that there is an apparent difference between attitudes and actions of the owner-managers of the ATBHs: an owner-manager can have a positive attitude towards the environment but this is frequently not translated into appropriate environmental practices.

Therefore, the following research questions were formulated in the context of the present study:

Research question 1: Are ATBHs owner-managers’ interested in saving water and energy in their units?

Research question 2: What motivates ATBHs owner-managers’ to implement water and energy saving measures?

Research question 3: Which are the main methods, systems, and technologies used for water and energy saving in ATBHs?

Research question 4: Are ATBHs owner-managers’ willing to get involved in environmental education activities among their guests?

2. Literature Review

2.1. Owner-Managers' Attitudes Towards Environmental Protection, Water, and Energy Consumption in Agritourism Boarding Houses

The environmental attitude of the owner-manager of a tourist accommodation unit is its general predisposition either to ignore important environmental issues or to respond through pro-environmental resource conservation and environment protection intentions [52]. Previous studies have shown that a positive attitude of managers towards the environment has profound effects on the extent to which environmental management practices (EMPs) are adopted and implemented in their companies [27,52,53] and that these businesses are more focused on environmental issues [54]. Especially in small self-operated businesses, environmental concern and willingness to act sustainably depend on the attitude and knowledge of the owner-manager [35], who has full control over the use of resources, including those affecting the environment [55]. This is because the owner-manager is the main supporter of environmental protection and the linking element that coordinates EMPs in the company. Several researchers consider that the relationship between managers' attitude and the adoption of EMPs is not so obvious [56] and that problems may arise in the managers' pro-environmental behavior. According to Kang et al. [57], some owner-managers are less willing to adopt environmental practices in their activities as they affect the satisfaction or the 'pampering experience' of those tourists who do not want to give up comfort they expected to receive in the accommodation unit as a result of reduced resource consumption and quality of service standards [58].

Therefore, given the contradictory results of previous research, further studies are still needed to investigate managers' attitudes in small tourism companies about protecting the environment by saving natural resources. Investigating ATBH owner-managers' attitudes in relation to saving resources for protecting the environment in rural areas is useful for several reasons. First, they usually are a major or sole owner and decision-maker in their organization and they have the opportunity to directly shape organizational practices according to their personal values. ATBH owner-managers are able to enact values, other than the company's profitability, which may induce changes in the environmental beliefs of their employees. Second, ATBHs are constrained in terms of their limited resources (i.e., they are small firms), therefore, their survival depends on their exchanges with the economic, social, cultural, and geographic environment, especially in sparsely populated or remote rural areas. The "embeddedness" of ATBHs in their wider environments may make a distinct impact on owner-manager's cognition regarding EMPs. Last but not least, managers' desire to adopt EMPs depends on a number of reasons that can act as motivating factors or as constraints.

2.2. Reasons for Agritourism Boarding Houses to Implement Environmental Management Practices

Studies in the tourism sector on the consumption of resources, such as water and energy show that it is imperative to manage them more efficiently in accommodation units [59]. Thus, according to Gössling et al. [60], the energy consumption in hotels is high (about 130 MJ) and this consumption is increasing even more as the accommodation units have several facilities (bars, restaurants, swimming pools, etc.). A typical tourist in Europe uses over 300 liters of water per day, compared with about 150 liters of water consumed by a resident in this area [61,62]. Previous studies [32–36,63,64] also identified a number of reasons for adopting EMPs that can be grouped into three major categories: cost, efficiency (e.g., internal government), and internal forces (e.g., internal green champion). At the same time, multiple barriers or constraints have been identified [32,34,36,64–67] based on type of properties, ownership and location that can be broadly categorized as: cost benefit (e.g., the implementation of EMPs is costly), organizational (e.g., lack of knowledge), and technical (e.g., lack of access to appropriate technology). More recently, Font et al. [26] showed that the reasons for engaging in environmentally friendly activities within a tourist accommodation unit are based on three frames: cost reduction competitiveness, societal legitimization, and lifestyle-value drivers. Cost reduction competitiveness is the traditional resource-based view that suggests enterprises will undertake sustainability actions

that can provide a competitive advantage [26] by reducing costs and improving financial performance. For the tourism sector, different studies were conducted on large enterprises and hotel chains [68–70], but few [26] focused on small businesses, such as ATBHs. Societal legitimization explains engagement in environmentally friendly activities within a tourist accommodation unit as a search for societal legitimization in the eyes of stakeholders [26]. However, in the case of small tourism businesses, sustainability is related with responsibility and is defined by the owner's values: reputation, trust, consensus, and legitimacy. Company legitimization means getting the image of a trusted tourism firm that offers quality services and getting closer to consumers and other stakeholders (as a result of small business size) determines its perception of ethical action [71,72]. The lifestyle-value drivers suggest that much of the individuals' environmentally-friendly behavior is best explained through lifestyle choices and habits informed by values rather than conscious actions [26]. Lifestyle, values, and worldviews are the center of the decision factors for going green in small tourism businesses [64,73]. Moreover, this is not a decision taken at a single point in time, but an element of habit and routine, a part of the enterprise's organizational culture [74], as opposed to a conscious managerial structure, usually present in large scale companies.

The results obtained by Font et al. [26] in a survey of around 900 tourism enterprises in 57 European protected areas revealed 13 categories of motives for being sustainable in tourism, i.e., to protect the environment; it's a personal, lifestyle choice; to improve our society; for cost savings; for marketing and image benefits; in response to customer demand; to meet legal requirements, to gain new information, advice and networks; to improve business management data, etc. Moreover, the study demonstrates a direct relationship between the types of motives and the sustainable actions undertaken by small tourism businesses. Thus, small tourism businesses, which are generally motivated by economic issues, have taken some internal/operational actions that have led to resource saving, but have introduced more advanced measures. Those motivated by legitimization undertake externally different measures, highlighting facing actions, seeking marketing and image benefits from being seen to respond to society's demands. It is those enterprises that are driven by lifestyle, values, and habits that undertake most sustainability actions. The enterprises taking more sustainability actions are also more satisfied with their economic performance even if they do not necessarily perform better than average.

2.3. Environmental Management Practices Used in Tourist Accommodation Units

The hotel industry, due to its very specific function, consumes substantial quantities of energy, water and non-durable products [21,75]. This high consumption implies high environmental costs. As such, hoteliers should be more and more interested and concerned about the application of environmental protection measures, as their state is closely interdependent with the development of tourist activities and the development the tourism sector generally depends on the quality of the environment.

The literature review recently conducted by Alonso-Almeida et al. [76] highlights the main environmental practices implemented by the hotel industry, distinguishing between basic and advanced environmental practices. The basic environmental practices are highlighted in most of the papers published on this topic [13,14,21,32,33,77–81]: energy-saving practices (e.g., motion-sensitive systems, low-consumption lamps, LED technology, temperature control in rooms); water-saving practices (e.g., reducing the amount of water used for showers, toilets, kitchens, and laundry; install water-efficient devices and equipment like low-flow shower heads, diffusers, water-saving sanitary ware, control valves for water pressure); waste management (e.g., install soap and shampoo dispensers in guest bathrooms in order to avoid discarding individually packaged toiletries, various forms of recycling, reuse when possible, zero paper programs); reducing the use of ecologically dangerous cleaning agents; and training employees on environmental measures. Choi et al. [45] used the term "environmental resource conservation efforts" (ERC), for the operational and technical efforts to reduce the use of water, energy, and waste. The advanced environmental practices are equally numerous, but they are mainly implemented by hotel chains [32,39]. These practices include: firm-provided employee training

on environmental issues, quantification of environmental savings and costs [33]; environmentally efficient appliances and equipment [80]; the use of rainwater or other natural sources, the use of well water, ecological clothes drying (outdoors, without the use of machines) [13]; solar water heating systems, adapting opening hours to more efficiently use electricity and water, the use of recycled water for irrigation and solar panels [81]. However, the adopted practices currently implemented by small tourism firms remain in the basic category, although the scope and extension of these practices vary [82] by type of location [83]. In a recent study by Font et al. [26], the main environmental practices mentioned among managers of small tourism enterprises were: use environmentally friendly products; energy and water saving activities; encouraging customers to be environmentally friendly in both the property and in nature; and waste recycling and renewable energy sources (solar, wind, and biomass). However, Coles et al. [78] stated that “the most important issue is not necessarily the number of pro-environmental measures taken by a small and medium tourism enterprise but rather how energy consumption and generation are related within businesses and across the sector more widely”. Moreover, the authors found that managers of small accommodation units displayed low levels of knowledge and understanding about their own bills and consumption, the fuel mix they used, and how their energy was generated. Moreover, a firm’s resources and capabilities for adopting EMPs differ depending on the characteristics and complexity of the business [45]. Therefore, there is a need for additional studies regarding the implementation of EMPs in small-scale accommodation units, such as agritourism boarding houses.

2.4. Specificities of Agritourism Boarding Houses in Romania

The agritourism boarding house (ATBH) is a tourist reception structure, with an accommodation capacity of up to eight rooms (the locators’ rooms excluded), functioning on the people’s dwellings or in separate buildings, providing for tourists’ accommodation and conditions for meals preparation and serving in special equipped places, as well as the possibility of getting involved in the household’s activities or in handicraft activities. In conformity with the provisions of the current Romanian legislation [84,85], the ATBH must develop at least one activity linked to agriculture, animal raising, growing different types of crops, fruit-tree orchards, etc. The hosts within Romanian ATBHs are in charge of accompanying tourists during their participation in household or crafting activities and they also prepare the meals from natural products grown in their establishment or obtained from local authorized producers. ATBHs operate on a small scale and are sometimes run by owner–managers with non-economic motivations. Almost all the tourist accommodation units are managed by one or more members of the owner’s family and the number of the employees outside the family is reduced. Therefore, the entrepreneurial characteristics and the vision of the owner- managers become very important in the process of adoption and implementation of EMPs in Romanian ATBHs.

During the present decade, in Romania, the ATBHs registered an ascending trend in terms of number of establishments and their accommodation capacity (see Table 1).

Table 1. The evolution of the number and the accommodation capacity of agritourism boarding houses (ATBH) in Romania between 2011 and 2017.

Indicators.	2011	2013	2015	2017
Number of establishments of tourist reception (number)	5003	6009	6821	7905
Total in Romania				
out of which:				
ATBH	1210	1598	1918	2556
Existing accommodation capacity (beds)	278,503	305,707	328,313	343,720
Total in Romania				
out of which:				
ATBH	20,683	28,775	35,188	44,499
Accommodation capacity in use (beds-days)	68,417,259	77,028,488	81,872,539	87,655,762
Total in Romania				
out of which:				
ATBH	5,378,364	7,932,634	9,079,901	11,787,897

Note: Number of establishments and existing accommodation capacity on "July 31" of the respective year. ATBHs = agritourism boarding houses. Source: Based on National Institute of Statistics, 2014, p. 22; National Institute of Statistics, 2016, p. 22; National Institute of Statistics, 2018, p. 22.

The favorable dynamics of the number and the accommodation capacity of ATBHs could be the result of both stronger entrepreneurial initiatives and of higher tourist interest in this type of small-scale rural accommodation. According to National Institute of Statistics in Romania [48] in 2017, 99.1% of the ATBHs were mainly privately owned. In addition, the indicator tourists accommodated in tourist accommodation establishments reveals that ATBHs ranked third, after hotels and tourist pensions, with over 1 million tourist arrivals in 2017 [48].

Considering the previously mentioned dynamics, ATBHs in Romania have been the subject of many research [50,86–91], which focused mostly on statistical analysis, marketing (positioning, distribution, promotion, etc.), innovation, human resources, or rural entrepreneurship. Recently, only one paper [92] deals with EMPs, but only those concerning waste management in the Italian and Romanian agritourism structures. These studies demonstrate that Romanian ATBHs are confronted with the same kind of problems inherent in all small size enterprises: dependence on the territory in which the enterprises are located, limited financial resources, skill shortages, lack of long-term strategy, reluctance to implement innovations and new technologies, and problems of accessing credit. Moreover, ATBHs are often run by individual operators (owner-managers), especially oriented to solving day-to-day problems, and whose decisions are often a result of personality, character, values, and how to be the owner-manager [93–95]. In addition, the specific way of thinking, working, and living that has been indoctrinated in the population of Central and Eastern European Countries during the totalitarian political regimes should not be overlooked.

The new socioeconomic conditions in Romania seem to favor a change of attitude towards environmentally sustainable and sustainable businesses in all areas of activity, in general, and particularly in hotels [96]. However, the rational use of water, energy, loss reduction, and the implementation of sustainable practices are generally sporadic within the Romanian tourist accommodation sector. As such, it is crucial to determine how ATBH managers perceive the need to save resources, what motivates them to adopt sustainable practices and what environmental technologies are used in the tourist accommodation units they manage.

3. Materials and Methods

3.1. Sampling and Data Collection

The targeted population within this research is represented by ATBHs from Romanian rural tourist destinations. ATBHs were chosen for this research as there are limited studies in the environmental literature focused on this type of small-scale accommodation. So far, most studies regarding water

and energy saving measures in the tourism industry are focused on hotels [42,97–101], as these firms usually have big accommodation capacities, intensive water and energy consumption, as well as high related costs. ATBHs meet additional challenges in implementing water and energy savings due to their size and limited financial power, but also due to the lower environmental attitudes and behaviors of their owner-managers.

The research aims to explore the extent to which these types of accommodation units (i.e., ATBHs) implement water and energy saving measures, in addition to investigating the factors that motivate ATBH owner managers to save water and energy in the units they manage. Therefore, a qualitative research method was employed in the form of semi-structured interviews. In order to carry out the interviews, 2556 ATBHs (the total number of such units in Romania) were selected as a sampling frame for the present study. Purposive and snowball sampling methods were used to select the ATBHs, based on their owner-managers' concern to save resources (i.e., water and energy) within their businesses. More specifically, the selection of such units was a two step-process. First, the 2556 units were searched for on the Internet, using keywords such as: "Romania" and "agritourism boarding houses". Following this online search, 114 ATBHs were identified as having a website. Based on the contact details presented on these websites, the owner-managers of these ATBHs were contacted via e-mail and invited to participate in this study, with a clear specification of the study purpose and a filter question regarding their concern to save water and energy within their tourism business. Only 15 owner-managers indicated their concern regarding resources saving in their ATBH. In the second step of the process, these 15 owner-managers were contacted online and asked whether they could recommend other ATBHs that implement water and energy saving measures. Thus, 10 other ATBHs that save water and energy were identified and their owner-managers were also contacted via e-mail and invited to participate in the study. From the total number of 25 ATBH owner-managers who indicated their concern regarding resources saving, only 12 consented to participate in the semi-structured interviews. This sample included seven ATBHs graded with three flowers and five ATBHs graded with four flowers, according to the Romanian specific grading system for rural accommodation units. Most respondents were females (eight), while four were males and their age varied between 24 and 58 years (see Table 2). The interviews with these respondents were performed between November and December 2018.

Table 2. Respondents' demographic characteristics.

ATBH Rating	Respondents' Age	Respondents' Gender
4 flowers	32	feminine
4 flowers	38	feminine
3 flowers	31	feminine
4 flowers	24	feminine
3 flowers	35	feminine
3 flowers	44	feminine
3 flowers	49	feminine
3 flowers	58	feminine
3 flowers	41	masculine
4 flowers	43	masculine
4 flowers	51	masculine
3 flowers	54	masculine

Source: the authors' research.

3.2. Data Analysis

Several questions were addressed to participants in the study, which were aimed at highlighting their views on water and energy saving motifs and practices within the accommodation units they manage. Finally, they were transcribed and analyzed using the content analysis method. More specifically, a two-step analytical process was undertaken. First, the ATBH owner-managers were questioned, based on an interview guide which included four discussion themes and 10 sub-themes, which are presented as follows:

1. Managers' involvement in environmental protection activities in their daily routine;
 - Managers' opinions regarding the environmental protection;
 - Environmental protection activities that owner-managers apply in their daily routine;
2. General information about water and energy consumption within the analyzed ATBHs;
 - The importance of water and energy saving within the ATBH;
 - The impact of ATBH's activity on the environment;
 - Measures which may reduce the impact of ATBH's activity on the environment;
3. Involving tourists in water and energy saving initiatives within the ATBH;
 - Owner-managers' perceptions regarding tourists' water and energy saving behavior;
 - Owner-managers' involvement in tourist environmental education initiatives;
4. Water and energy saving systems and technologies in ATBHs;
 - Reasons for implementing water and energy saving systems in ATBHs;
 - The influence of water and energy saving systems on operating costs and tourists' satisfaction;
 - Implementing water and energy saving systems vs tourist environmental education initiatives.

Further, all statements were categorized into different themes. Similarities and dissimilarities between these themes were used to group them into four categories [102]. Themes were categorized based on their content only. This is in line with Glaser and Strauss's [103] recommendation that it is essential to first "ignore the literature of theory and fact on the area under study, in order to assure that the emergence of categories will not be contaminated by concepts more suited to different areas." As such, the four themes which resulted from the statements' categorization are:

- Owner-managers' general opinions pro and against water and energy savings in tourist accommodation units;
- The main motivations of water and energy saving measures;
- Methods/systems/technologies used for water and energy saving in tourist accommodation units;
- The implementation of water and energy saving measures vs. environmental education of tourists.

These themes are described in detail in the following section.

4. Results

The results of the conducted interviews are presented according to each of the themes included in the interview guide.

4.1. Owner-Managers' General Pro and Con Opinions Regarding Water and Energy Savings in Tourism Accommodation Units

Research question 1: Are ATBHs owner-managers' interested in saving water and energy in their units?

The owner-managers were asked to state their point of view regarding water and energy consumption in their accommodation unit. The recorded responses included issues such as: (1) the importance of saving natural resources within tourist accommodation units in order to protect the environment; (2) attracting tourists in rural destinations; (3) increasing tourists' satisfaction; and (4) organizational, financial, or legal motivations for justifying their lack of involvement in water and energy saving initiatives.

From the interviewed managers' perspective, the consumption of water and energy in Romania is very high as a result of Romanian citizens' perception that they are inexhaustible. Therefore, there are no good reasons for people to become environmentally friendly and willing to change their conservation behavior in the tourist accommodation units is extremely difficult.

"In my opinion, a lot of water and energy is consumed in hotels (...) especially in Romania, where we are not used to saving water or energy or, in general, to have an environmentally-friendly attitude towards the nature. We have a resourceful country and we use them as if they were inexhaustible." (R7)

Furthermore, some of the interviewed managers indicated that the protection of the environment directly contributes to attracting tourists to the destinations, due to the unpolluted natural environment. The environmental protection also ensures customers' high satisfaction, with a significant impact on the long-term profitability of accommodation units. Moreover, ensuring tourists' high level of satisfaction could have a significant positive influence on their behavioral intentions, reflected in their desire to return to the same holiday destination, to spread positive word-of-mouth about the accommodation unit or even to extend the stay.

"The environment is vital for any tourism activity, whether you own a hotel or have a restaurant. An area with a neat natural environment, without hazards or harmful factors, is much more attractive to tourists than a threatened one." (R3)

"If the natural environment is well-kept and well preserved, managers can have great expectations regarding tourist flows." (R1)

In the view of the managers, although water and energy consumption are high in tourist accommodation units, it cannot be significantly reduced in order to save such natural resources and contribute to protecting the environment. In addition, these managers considered that the reduction of these natural resources could be associated with a low quality of tourist services offered to guests, which could have negative effects on the long-term profitability of the accommodation unit.

"Hotels are immense energy and water users (...). Regardless of the number of guests in the unit, it takes energy and water to keep tourist flows." (R5)

"There have been a few situations when customers complained about the delayed light sensors' reaction." (R2)

"I think I could lower water and energy consumption by reducing the number of light bulbs in the accommodation unit, but I do not want to create an unpleasant impression on tourists, so I do not want to lose quality by saving energy." (R8)

Further, according to some managers (17%), although the use of advanced technologies seems to be an attractive natural resource saving option, which would allow them to save considerable water and energy, such technologies are not used due to insufficient financial resources needed to purchase them. Additionally, the use of performing water or energy saving technologies represents the value for large accommodation units, which have the financial resources needed to make such investments.

"I think that if I equip my guesthouse with state-of-the-art appliances for saving purpose, things would be different, but that is a long-term investment that I want, of course, but it is not achievable at this moment." (R6)

"Here, in the guesthouse, we have not yet installed high-end systems because there are much more other priorities to be done first, but, for the future, if necessary, I will also apply different water saving systems." (R9)

It is interesting to notice that owner-managers' views on the water and energy economy are quite different, even contradictory. On the one hand, managers have argued that preserving an unpolluted environment (which is ensured by saving water and energy) contributes decisively to attracting and increasing the satisfaction of tourists. On the other hand, respondents considered that a water and energy saving behavior could be a constrain to ensuring a certain level of quality of tourist accommodation services and products.

However, a significant percentage of interviewed owner-managers (75%) consider that environmental pollution is not determined (at least not significantly) by the activity of accommodation units, which are too small to have a visible impact on environmental protection.

"Personally, I think there are other reasons, on a wider scale, that influence the degradation of the environment, and, by that, I mean industries that are really harmful to the environment." (R2)

"The accommodation unit I manage is small, which is why I think it has very little impact on the environmental degradation." (R4)

"I do not think the accommodation unit somehow contributes to the degradation of the environment, I would even say it does not contribute at all." (R6)

"I do not think the accommodation unit contributes to the degradation of the environment to the same extent as world plastic production, pollution, maritime trade, facts that really have a negative impact on the environment." (R8)

"(...) I do not believe that the accommodation unit that I am leading somehow affects the environment; I do not evacuate waste by inappropriate or toxic methods." (R10)

Some of the interviewed managers have also noted that the limited or even non-existing resource conservation activities in the tourist accommodation unit they run are related to one of the following facts: the area where the facility is located does not encounter environmental problems; the environment is too degraded to be able to correct something in that area; there is currently no clear-cut legislative/institutional framework regulating the consumption of natural resources by economic agents.

"My opinion is that tourism companies consume a lot of resources and raw materials, but problems can really be solved by legislation and institutional measures in this respect." (R5)

"My opinion about the environment is that for now the Transylvanian region is very well preserved." (R8)

"I think the environment is very important and requires serious legislative programs to be preserved." (R10)

Finally, 25% of owner-managers claimed that involvement in water and energy saving activities within the tourist accommodation unit is not yet a priority for management, as these resources (water and energy) do not significantly increase the profitability of the tourist accommodation unit.

"I have not been involved in environmental protection activities due to lack of time, not by lack of desire or openness to this activity." (R9)

"I did not initiate important environmental protection activities, perhaps due to lack of community initiative, due to lack of time, because I do not deal with direct environmental protection, and I am not part of any NGO. However, I have my responsibility and I work towards keeping the cleanliness and appearance of my guesthouse." (R12)

The above-mentioned opinions highlight the fact that the managers' arguments of counter-saving of water and energy in tourist accommodation units prevail (seven out of nine arguments are negative, i.e., 77% of the total of arguments). This could mean that managers are not willing or have insufficient financial, time, organizational, resources, etc. to engage in such conservation activities.

4.2. Motives for Reducing Water and Energy Consumption

Research question 2: What motivates ATBHs owner-managers' to implement water and energy saving measures?

In connection with the aforementioned aspects, numerous motives to save water and energy in tourist accommodation units were mentioned by the interviewed owner-managers. Considering that the management of the tourist accommodation units aims to obtain profit, water and energy conservation activities were evaluated by the respondents strictly from a perspective of lowering the operating costs of the unit with a significant impact on ATBH rates.

The most common motive given by the managers for water and energy conservation in the tourist accommodation unit was linked to lowering the costs. The vast majority of owner-managers (around 70%) declared that the cost of water and energy is an important component in the total costs of a tourist accommodation unit with a direct impact on ATBH rates.

"Water and energy consumption influence the rates of accommodation services. Considering the fact that electricity and water prices have increased in recent years, they have also led to an increase in the prices for accommodation services." (R4)

However, almost half of the interviewed owner-managers (42%) considered that the percentage of water and energy costs in the accommodation rate, although important, is not predominant, and there are a number of other higher costs that should be taken into account.

"The light-saving system has influenced energy consumption but not to such an extent as to influence accommodation rates." (R4)

"I believe that water-saving systems in accommodation units fail to significantly reduce costs. (...) The share of water and energy costs in the accommodation rate is important but not decisive, many other costs (e.g., heating fuel costs, wage costs) are considered and other services that, taken together, generates a certain tariff." (R6)

It is important to note that the vast majority of ATBH owner-managers expressed their intention to protect the environment, which could be linked to their interest in being socially desirable, as many other researchers have noted (e.g., [104]).

"The main reason [to protect the environment] is cost reduction, always. But that does not mean they [i.e., the managers] are careless about the environment." (R8)

From the managers' perspective, another important reason to reduce water and energy consumption has been linked to the need to ensure the highest reliability of the installations used in the tourist accommodation.

"Always, the main reason to save is to lower costs and maintain the quality of certain systems, maintaining their reliability." (R3)

Further, three of the interviewed respondents (25%) thought that the competitive factor to justify the reduction of water and energy consumption within the tourist accommodation unit was critical. In other words, the alignment of the accommodation unit's rates with those of existing competitors on the market is due to the cost reduction, energy, and water consumption playing an important role. Therefore, the reasons for reduction of water and energy consumption in tourist accommodation units are based on the managers' need to reduce their operating costs in order to cope with the existing competition on the market and to attract a high number of tourists through their rates and quality of services included in the accommodation packages.

4.3. Technologies for Saving Water and Energy in Tourist Accommodation Units

Research question 3: Which are the main methods/systems/technologies used for water and energy saving in ATBHs?

The owner-managers' responses regarding practical ways of engaging in environmental protection activities and/or saving water and energy in their everyday life and within the accommodation unit they manage revealed that the majority either do not engage in any environmental/saving activity, or engage in only a few activities that typically do not involve significant time, organizational, and/or financial investment.

"Apart from saving the resources used in the guesthouse, I have not been involved in other environmental protection activities." (R5)

"Until now I have not been involved in environmental protection activities either as a private person or as a guesthouse manager." (R7)

"So far I have not been involved in environmental protection activities, that is, I have not been part of any initiative group in this respect, but I am a responsible person and I do not neglect the environment." (R8)

The water and energy saving methods that were mentioned by the interviewed owner-managers of the research units are as presented in Table 3.

Table 3. Technologies used to save water and energy in the studied ATBHs.

Technologies Used to Save Water and Energy in the Studied Accommodation Units	The Units Which Use the Technology (Number and Percent)
Using light sensor systems, the use of LED/economic light bulbs and/or the use of a limited number of light bulbs	8 units (67%)
Rational use of energy and water (including the regulation of water flow to bath water taps)	5 units (42%)
Use of water/water-saving systems in toilets or taps and showers (i.e., small size boilers)	3 units (25%)
Room ads to avoid excess water and energy	2 units (17%)
Rational use of equipment to avoid waste water and energy (e.g., use of washing machines only when full)	2 units (17%)
Regular cleaning of air conditioner filters	1 unit (8%)
Reducing inventory used (replacing lawn and flower bed with stony ground to save water and energy)	1 unit (8%)

Source: the authors' research.

Other activities in which ATBHs are specifically involved to protect the environment are as follows: Delivering voluntary activities and selective waste collection:

"I'm interested in protecting the environment and one of my habits is to sort waste." (R2)

"(...) I have been involved in environmental protection activities, I have been a volunteer in waste collection actions several times, and as a manager of an accommodation unit I have been collecting plastic bottles from the guesthouse and took them to recycling centers." (R4)

Performing environmentally friendly activities:

"I did not do a lot for environmental protection, but my impact on the environment is quite low. I try to reduce the impact on the environment not only saving some resources but also reducing the amount

of products that cause environmental damage. I do not buy bottled water, I use a water filter for consumption, and I do not buy plastic packaged products when there are options for products that are packaged in recyclable paper. Also, I do not use disposable dishes, not even outside my guesthouse; I use wooden or metal kitchen tableware. I also try not to use synthetic textiles in clothing, which disintegrate with washing, and obviously harm the environment.” (R3)

It is worth mentioning the intervention of R3 manager, who believes that engaging in environmental protection activities should not be limited to a few water and energy saving actions at the workplace but should extend to all areas of people’s life in an ecologic way.

“(…) I think the environmental initiative implies much more than saving water or energy in a guesthouse, I think it is a way of life and an attitude that needs to be in several aspects of everyday life.” (R3)

4.4. Use of Water Energy Saving Systems and Technologies Versus Tourists’ Saving Behavior

Research question 4: Are ATBHs owner-managers’ willing to get involved in environmental education activities among their guests?

A brief analysis of practical means used by owner-managers to save water and energy in ATBHs revealed some important differences between their responses. From this point of view, managers can be grouped into three categories, namely:

- Owner-managers who emphasis exclusive on use of cutting-edge technologies for saving water and energy in tourist accommodation units;
- Owner-managers who mainly take into consideration tourists’ saving behavior in accommodation units;
- Owner-managers who use both cutting-edge technologies to save water and energy and tourists’ education in order to save such resources.

When asked to describe the technologies used to save water and energy within the ATBH, more than half of the owner-managers (approximately 60%) appreciated that they are known and strictly applied by the management and employees of the establishment. The managers also considered that the guests are only interested in the quality of services, in terms of the tangible aspects of tourist products and services, the way they are served and the actual consumption experience.

“Customers greatly appreciate the location, the comfort of the rooms, the cleanliness, the quality of the lighting in the rooms, the meals, all of which are very visible to them. For this reason, I believe that saving water and energy is an issue that preoccupies managers more than customers. (...) I do not think that water-saving systems in a hotel or guesthouse somehow affect the efficiency or operation of the unit; in general, I think this is a much more important issue for the supervisor than for the clients.” (R3)

In addition, the managers declared that guests cannot make a significant contribution to the saving of water and energy in the accommodation unit, and that a reduction in the consumption of such resources could be associated with a decrease of the quality of the services and the satisfaction of the guests. For example, in one owner-manager’s view, ecological education of tourists is an additional activity that requires considerable financial investment, considerable time and effort that, moreover, are not profitable.

“You cannot do too much just by educating tourists, because people come from all over, with different attitudes, I would do two jobs instead of one if I would start to train each tourist regarding the resource-saving behavior in the accommodation unit.” (R1)

Another argument put forward by some of the managers as to why water and energy saving technologies and systems in the accommodation unit are more effective than educating tourists is that the latter represent a highly heterogeneous segment of consumers with different behaviors that owner-managers can not anticipate or control. The difficulty in implementing environmental rules in the tourist accommodation unit is determined by the fact that tourists are “pretentious”, “careless”, or “negligent”, or that the attitudes and behaviors of tourists are difficult, if not impossible, to change.

“Tourists’ behavior is very negligent and careless (...), there are probably several factors that influence this behavior, but one of them is their belief that they have paid for something, respectively they got the best of the stay so behavior in general being very negligent.” (R12)

“Tourists are different (...) I think everyone working in tourism knows there are cases when he/she cannot predict or control certain attitudes or behaviors of tourists who are demanding or careless.” (R3)

Another issue that respondents have raised in favor of the use of water and energy saving technologies is linked to the quality-price ratio that tourists are considering in assessing the standard of tourism services. In other words, tourists assess the quality of tourist services by comparing the price they have paid with the number of products, services, and utilities (water and energy) they have consumed. Therefore, these tourists use water and energy excessively while staying in tourist accommodation units, often much higher than that recorded in everyday life. This finding is also highlighted in the results of previous studies undertaken by various researchers [105].

“I think more water is used because, in this case, customers do not save water like at home, but they sometimes use it in surplus or in vain.” (R3)

Furthermore, the difficulty of changing the attitudes and/or behaviors of tourists in terms of water and energy saving or, more broadly, the protection of the environment is linked to the context and time at which they are asked to act. Different researchers in this field [106] have shown that the ecological education of tourists during their holiday is a difficult process, if not impossible, because tourism consumption is a hedonic one. In other words, tourists will be primarily concerned with satisfying the needs for holiday (relaxation, rest, business, etc.), while protecting the environment is placed peripherally in tourists’ activities. In addition, most of the time, buying a holiday involves a series of financial sacrifices that tourists make for a whole year and engaging in environmental activities for the sake of protecting the environment is an impediment that restricts their desire to relax [107].

“My opinion is that a tourist accommodation unit’s manager cannot change tourists’ behavior with regard to water or energy consumption. (...) Tourists are too preoccupied with holiday or relaxation to think about the environmental factor.” (R5)

“I think there are very few tourists who value the water and energy consumption in the accommodation, most of them do not think about it at all. (...) Unfortunately, I did not get involved in educating my clients, for my part, I think there are very few who would take this into account.” (R4)

On the other hand, the technologies used in the accommodation units for reducing water and energy consumption do not lead to a corresponding change in the consumption behavior of the guests or in their environmental education.

“I think water-saving systems in accommodation units are not able to cause a change in customer consumption behavior.” (R6)

As a result, more than half of the interviewed owner-managers (67%) appreciated that the implementation of water and energy saving technologies is far more effective than educating tourists.

“Unfortunately, I think technology implementation is far more effective than customer education.” (R4)

"It's much easier to implement saving systems and devices than to educate tourists." (R5)

The arguments respondents used to justify the greater importance of water and energy saving technologies against the ecological education of tourists are related to the safety and easy use of equipment and their contribution to growth of efficiency and productivity within the accommodation unit, compared with the tourists' saving behavior, which is much more difficult to manage.

"I think the most efficient solution is to install equipment (...) is not an easy process and it costs little, but it is safer than educating tourists." (R7)

"Efficient means practical and if I could equip my guesthouse with new technologies I would not care so much to check the rooms after the customers leave and shut the lights after them, I would have more free time, because the use of the water and energy saving technologies would reduce my effort." (R12)

Finally, one manager claimed that water saving in the tourist accommodation unit is an extremely complex activity, which, in order to be efficient, should combine the use of technologies with encouraging tourists to adopt a resources conservation behavior and also with ensuring that the written rules of conduct within the accommodation during the stay are visible to all tourists.

"There is no easy method to save water in accommodation units as this is a complex activity. My duty is to do everything in my power to get people who enter the guesthouse to see certain rules or appeals, so I appeal to common sense first and second to their environmental education." (R3)

However, as two of the interviewed owner-managers declared, the ecological education of tourists is not a difficult process and can be ensured most effectively by the personal example of the employees of the tourist accommodation unit.

"(...) I am involved in educating the tourists about reducing water and energy consumption; I am the person who responds to the irregularities found in the room when my customers come to the reception for check-out." (R11)

Another manager stated that the most effective ways for tourists to be determined to save water and energy in the accommodation unit are: a legislative-institutional framework, with clear rules and regulation to be followed and adoption of a natural resources conservation behavior in order to contribute to the protection of the environment within tourist accommodation units.

"I am firmly convinced that tourists can also be educated, but by legal methods, not just by talking to them. This is only done at a private level, if we want to achieve at a general level, restrictions must be imposed and recognized by the general public." (R9)

Finally, another method of ecological education of tourists, mentioned by one of the owner-managers, is to offer discounts on accommodation rates:

"A method that would motivate tourists to take care of water and energy consumption would be a discount on accommodation rates." (R4)

5. Discussion

This paper attempted to fill a gap in the environmental literature by exploring the general opinions of ATBHs' owner-managers about water and energy consumption in the tourist accommodation units they manage, the reasons behind the water and energy reduction, and the water and energy saving methods used within these accommodation units.

The study indicates that ATBHs' owner-managers understand the importance of an unpolluted environment in tourist destinations, which is in accordance with previous research [21,35]. However, most respondents consider that the environmental pollution of tourist destinations is not significantly

influenced by the activity of accommodation units, which are too small to have a visible impact. This finding is thus in line with recent studies highlighting that agritourism is a form of tourism with a low environmental footprint [108–110].

Moreover, the interviewed owner-managers indicated that reducing water and energy consumption might affect guests' satisfaction and thus exert negative effects on the long-term profitability of the accommodation unit. This finding is in contrast to other studies' results [13,26,35], which highlight that customers' concern in environmentally-friendly practices while staying in an accommodation unit is a strong incentive for such units to adopt environmental initiatives (including water and energy saving measures). Nevertheless, some researchers [111] indicated that, in some cases, managers have a narrow perspective on their property's environmental responsibility based on a low tourist demand for environmentally-friendly businesses and activities. Likewise, a study by Kasim [110] conducted in Pulau Pinang, Malaysia found that there is little consumer pressure for tourism SMEs (small and medium enterprises) to be green, and they are not expected to be environmentally friendly while staying in such accommodation units due to their reduced size which makes them invisible polluters compared with large-scale resorts.

Results also indicated that most interviewed managers are not willing or have insufficient financial, time, organizational resources, etc. to engage in water and energy-saving activities. Owner-managers' low environmental engagement is determined by three factors: their low level of environmental awareness, the lack of customer pressure, and the permissive legislation.

First, research findings indicate that respondents have a low level of environmental awareness. Some owner-managers are not aware of the environmental problems and only focus on the area where they are located, disregarding the national and/or international environmental problems. Others consider that the environment is too degraded and that the environmental management within ATBHs cannot make a difference in the current situation. This result is in line with previous studies which reported on managers who are unaware of environmental issues and their accommodation's impacts on the natural environment [30,111,112].

Second, the interviewed owner-managers mentioned the lack of customer pressure for ATBHs to become environmentally managed. They indicated that specifically Romanian citizens perceive water and energy as inexhaustible resources, and generally, are not environmentally friendly. Moreover, respondents fear that water and energy saving measures could constrain a certain level of quality in their tourist accommodation services and products, at least from their clients' perspective. This finding is not in line with previous studies, which highlight that consumers growing attention toward ecological issues has fostered accommodation managers to implement environmental management initiatives [23,113–115]. However, the study site of the present research must be considered in this context. Romania is an East European post-communist country and other studies show that tourists' environmental concern may vary across countries [116]. Leonidou et al. [117] indicate that tourists from Western Europe are more environmentally-friendly than their Eastern European counterparts, perhaps due to stricter environmental laws, the presence of environmental pressure groups and a more well-established 'green culture'. Therefore, Romanian tourists might be less concerned about environmental issues and exert little pressure on ATBHs' to become environmentally friendly, as suggested by the interviewed owner-managers.

Third, the permissive legislation factor indicates the lack of clear-cut legislative and institutional frameworks regulating the consumption of natural resources by tourism accommodation in the studied country. In the absence of clear government regulations concerning water and energy saving in tourism accommodation units, such environmental management measures might not represent a priority for their owner-managers. Previous studies have also shown that industry's environmental legislation or policies were either insignificant or negatively related to the implementation of environmental measures [32,34,118].

Although most of the interviewed owner-managers were not interested in engaging in water and energy conservation activities, several respondents indicated a more environmentally friendly approach

of their ATBH operations. The main reasons for saving water and energy in tourist accommodation units are based on managers' need to reduce their operating costs in order to cope with the existing competition on the market and to attract visitors. This result is in line with previous studies [26,32,34,35,64], which highlighted how one of the main motivations for managers to embrace environmental management measures is related to reducing operating costs.

Furthermore, the findings show that, although the use of cutting-edge technologies within ATBHs seems to be an attractive option for saving natural resources, such technologies are not used by the hotel management due to insufficient financial resources needed to purchase them. This result confirms previous studies [31,32,34,36,39,66] that emphasize costs as the main constraint to the implementation of environmental management measures.

The interviewed owner-managers thought that tourists cannot make a significant contribution to natural resources conservation in accommodation units and that water and energy saving systems are more effective than the environmental education of visitors in their facility. The main arguments were related to the safety and easy use of equipment and also to their contribution to growth of efficiency and productivity within the accommodation unit, compared with tourists' saving behavior, which is much more difficult, if not impossible, to control and change. These findings are not in line with other studies [5,42,105,119]. In particular, some researchers [119] postulated that reducing water and energy consumption only using high-performance technologies would not significantly contribute to water and energy saving and thus would have negative consequences for the environment. Other studies [105] found that implementing only the water and energy saving technologies within ATBHs may be insufficient, as tourists can not appreciate the amount of water or energy they consume during their stay in the accommodation unit, which is often higher than the one registered at home. However, Zhang et al. [42] highlighted the importance of managing both operations and customers in order to co-produce balanced environmental-economic outcomes. Likewise, Buffa et al. [5] found that both communication-oriented towards customers (i.e., promotion of green events, green reporting, and green marketing activities) and organizational practices (i.e., waste management and use of renewable energy) are key issues in implementing environmental management in small-scale accommodation units and that these are generally carried out by family members, or even by the hotel owner him/herself. The discrepancy between our study's results and other previous research may be attributed to the limited environmental knowledge of the Romanian ATBH owner-managers' and to their lack of awareness regarding the necessary techniques and educational tools that can be employed within their units.

According to the interviewed owner-managers, the most popular water and energy saving measures implemented within the ATBHs they manage are light sensor systems, the use of LED and economic light bulbs, and/or the use of a limited number of light bulbs (eight ATBHs), rational use of energy and water (including the regulation of water flow to bath water taps) (five ATBHs), and water-saving systems in toilets or taps and showers (three ATBHs). These types of environmentally-friendly activities are also highlighted in previous studies [13,21,32,33,35] alongside other water and energy-saving measures which were not mentioned by the interviewed owner-managers (i.e., wastewater treatment, ecological clothes drying outdoors, without the use of machines, change/modification of the heating system and fuel, building insulation). This gap could be explained by the ATBHs owner managers' lack of knowledge regarding environmental initiatives and technologies.

6. Conclusions and Implications

The present paper analyzed to what extent ATBHs owner-managers consider tourists' resource saving behaviors and intend to get involved in environmental education activities. The study is based on a qualitative research, using semi-structured interviews, among 12 ATBH owner-managers from Romania. The findings revealed that although most interviewed ATBHs' owner-managers understand the importance of the environment in tourism destinations, they were not fully conscious of the necessity to save water and energy in their units and fear that tourist satisfaction may be negatively

influenced by this type of initiative. Some of them justified that they were not willing or have insufficient financial, time, organizational resources, etc. to engage in water and energy saving activities. The study highlights that the main factors that determine owner-managers' low environmental engagement: low level of environmental awareness, lack of customer pressure, and permissive legislation. These factors may explain the constraints to implementing environmental management measures (i.e., water and energy saving) in a post-communist developing country like Romania, where environmental laws are not yet established and/or reinforced in the same manner as in developed countries.

In the case of owner-managers, who were interested in saving water and energy in their ATBHs, the main motivating factor is the need to reduce their operating costs in order to cope with the existing competition on the market and to attract visitors. A second reason is the need to ensure the highest reliability of the installations used in the tourist accommodation. The most popular water and energy saving measures that are implemented within the analyzed ATBHs concern the use of: light sensor systems, LED and economic light bulbs, and/or the use of a limited number of light bulbs, rational use of energy and water (including the regulation of water flow to bath water taps), and water-saving systems in toilets or taps and showers. Although the use of cutting-edge technologies within ATBHs seems to be an attractive option for saving resources (i.e., water and energy), such systems were not used by the interviewed owner-managers due to insufficient financial resources needed to purchase them. Another measure aimed at saving water and energy within ATBHs is to educate tourists to behave in an environmentally friendly manner during their stay in the ATBHs and encourage their water and energy saving behavior.

Based on their interest in the use of cutting-edge technologies and the environmental education of tourists within their ATBHs, three types of ATBHs owner-managers were identified:

(1) Owner-managers who emphasize the importance of cutting-edge technologies for saving water and energy in tourist accommodation units.

These respondents believe that visitors cannot make a significant contribution to the saving of water and energy in the accommodation unit, as they represent a highly heterogeneous segment of consumers with different behaviors that cannot be anticipated or controlled. Moreover, the environmental education of tourists is considered an unprofitable initiative which requires considerable financial investment, time, and effort. This finding does not confirm previous studies [13,76], which found that customers' lack of awareness related to environmental practices makes it necessary to invest more in environmental education, thus showing how the environment can be helped through independent gestures. Recent research indicated that devoting in environmental education can be beneficial for agritourism businesses by effectively increasing the pool of their potential customers, who are more willing to revisit and purchase at a premium price [120]. Therefore, a major shift in thinking is required for ATBHs owner-managers.

(2) Owner-managers who mainly take into consideration educating tourists' saving behavior in accommodation units.

These respondents consider that the three most effective ways for tourists to be determined to save water and energy in the accommodation unit consist of: the adoption of a natural resources conservation behavior in order to contribute to the protection of the environment within tourist accommodation units and a legislative-institutional framework with clear rules and regulation to be followed. They believe that ecological education of tourists is not a difficult process and can be ensured most effectively by the personal example of the employees of the tourist accommodation unit. However, this will not be an easy task as the ecological education of tourists during their holiday is a difficult process [105] because tourists are mainly driven by their need to relax and thus may consider environmental activities as impediments [107].

(3) Owner-managers who use both cutting-edge technologies to save water and energy and tourists' education in order to save such resources.

These owner-managers should first focus on implementing different water and energy saving technologies that may facilitate a rational use of such resources. Furthermore, they should focus on

raising tourists' awareness regarding the importance of saving water and energy within the rural destination they are visiting and within the unit they are accommodated in. Such accommodation units might collaborate with government agencies and nonprofit organizations that aim for environmental protection in order to promote environmental education among visitors [120]. Second, these units may implement various environmental education methods such as advertising the environmental commitment in their facilities and inviting guests to participate in environmentally-friendly activities, ecological corners with brochures or multimedia presentations, and seminars on environmental themes.

Given the different position taken by the interviewed owner-managers regarding environmental initiatives in their facility, it is possible that they do not have the necessary information about the practical possibilities of engaging in resource conservation practices. Therefore, rural tourism policy-makers, in collaboration with environmental organizations, should identify the main motivations and restrictions for adopting water and energy saving measures in ATBHs and implement actions, which may induce a resources conservation behavior among their managers. For example, courses may be organized in rural destinations, aimed at educating accommodation managers regarding the importance of the environment in the destination and their role in reducing natural resources consumption within their units. Further, ATBHs owner-managers should be informed by environmental nongovernmental organizations regarding different financing sources for implementing cutting-edge technologies, in order to save water and energy in their businesses. Finally, government incentives such as tax breaks for small accommodation units that implement environmental practices (i.e., water and energy saving systems) may ease the adoption of such facilities within ATBHs.

7. Limitations and Future Research Directions

The present study responds to calls requested by other researchers to perform qualitative studies focused on specific countries [26,32] in order to get deeper insights into the managers' motivations to engage in environmental management activities within tourism accommodation businesses. Although it provides interesting information on the studied theme, the research framework has several limitations, which offer perspectives for future research. First, the study focused on a single type of accommodation unit (i.e., ATBHs). Therefore, future studies should be conducted in other types of accommodation units in rural areas, in order to establish a more complete understanding of environmental management practices. Second, the study was based on a qualitative research method that did not provide representative data for all ATBH owner-managers, so the findings cannot be generalized. A quantitative research, based on a survey among a representative sample of ATBH owner-managers, may provide interesting data on their environmental management initiatives and motivations. For example, a possible model based on the results of this qualitative study may be tested in future studies. The model may include factors such as owner-managers' low level of environmental awareness, the lack of customer pressure, and the permissive legislation as well as their influence on the barriers that explain why ATBHs' owner-managers do not implement environmental management measures. Third, the study focuses on a single country (i.e., Romania) and tourist destination type (i.e., rural). Consequently, future studies should capture data regarding water and energy-saving in different types of tourist destinations (i.e., rural vs. urban destinations) and in different countries (i.e., developed vs. developing countries). Moreover, future research could measure tourists' perspective on natural resources saving practices while staying in such rural accommodation units for further comparisons with ATBHs' owner-managers' perspectives. Fourth, the present study focuses on only two types of environmental management initiatives (water and energy saving measures). Accordingly, future studies could focus on ATBHs owner-managers' opinions and behaviors regarding other environmentally-friendly practices (i.e., waste management and use of renewable energy).

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Impact of Place Identity and Place Dependence on Satisfaction and Loyalty toward Black Sea Coastal Destinations: The Role of Visitation Frequency

Ana Ispas, Elena-Nicoleta Untaru, Adina-Nicoleta Candrea & Heesup Han

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Impact of Place Identity and Place Dependence on Satisfaction and Loyalty toward Black Sea Coastal Destinations: The Role of Visitation Frequency

Ana Ispas^a, Elena-Nicoleta Untaru^a , Adina-Nicoleta Candrea^a, and Heesup Han^b

^aFaculty of Economic Sciences and Business Administration, Transilvania University from Braşov, Braşov, Romania; ^bCollege of Hospitality and Tourism Management, Sejong University, Gwanjin-Gu, Seoul, Korea

ABSTRACT

Tourism destination literature identifies place identity and place dependence as prominent dimensions of place attachment. Despite their importance, only limited research has been carried out to examine the likely influence of these constructs on satisfaction and loyalty in the context of an Eastern European post-communist country. Romanian coastal destinations were analyzed due to their high rate of domestic return visitors with possible connections to the fact that these were their only coastal tourism option during communist times. Our results reveal that place identity and place dependence for Black Sea coastal destinations significantly influence satisfaction and loyalty toward such destinations and that satisfaction has a significant mediating role between place attachment and loyalty intentions for these destinations. Findings also reveal that in the case of tourists with a low visitation frequency, satisfaction influences their intention to recommend the destination to other people. Our findings help Black Sea coastal destination marketers strengthen tourists' place attachment, satisfaction, and destination loyalty.

KEYWORDS

Black Sea Coast; coastal destinations; place dependence; place identity; visitation frequency

Introduction

Tourism destinations face intense competition, which may become stronger in the following decades, therefore marketers must understand why certain visitors are loyal to destinations and which are the drivers of their ties to specific places (Meng and Han 2018). Psychological ties with places are conceptualized by psychologists with constructs such as place attachment, place identity and sense of place (Stedman 2002). Place attachment is a bond between people and their environment (Moore and Graefe 1994; Williams et al. 1992) based on cognition and affect (Low and Altman 1992; Proshansky, Fabian, and Kaminoff 1983), and identity is a crucial component of a place which distinguishes it from other places (Lynch 1960). Sense of place can be conceived as a collection of symbolic meanings, attachment, and satisfaction with a spatial setting held by an individual or group (Stedman 2002).

Interconnections between individuals' self-identity, place identity and different places are visiting are particularly important in tourism studies. Therefore, in the context of tourist destinations, certain scholars argue that satisfied tourists are likely to feel a deep rapport and sense of belongingness toward a visited destination (Hou, Lin, and Morais 2005; Lee and Oh 2018) and create or reinforce their identity in relation to that destination. Tourist identification with a destination refers to the extent to which a tourist perceives a sense of connectedness to a destination and defines him- or herself in terms of that feeling (Mael and Ashforth 1992). Tourists with strong psychological attachments to a destination not only intend to revisit it, but also serve as goodwill ambassadors through their promoting behavior (Hultman et al. 2015).

When tourists visit a specific place continually over time, the pleasant memories and identity to this place happens to them naturally (Tsaur, Liang, and Weng 2014). Tourism scholars theorize variables such as place attachment as a crucial part of the self and as evoking substantial emotions that might determine visitors' loyalty to destinations (Dwyer, Chen, and Lee 2019; Yüksel, Yüksel, and Bilim 2010). An individual's attachment to a place is defined as an emotional bond which people develop with various places (Lewicka 2011). The tourism destination literature identifies place identity (PI) and place dependence (PD) as important dimensions of tourists' place attachment (PA) (Kwenye and Freimund 2016; Lee, Kyle, and Scott 2012).

Recently, PA has been studied as a predictor of satisfaction and loyalty in various tourism destination contexts (e.g., Yüksel, Yüksel, and Bilim 2010). Several researchers have investigated whether a particular destination can generate loyalty in people who visit it, but most studies conducted to this date were carried out in Western countries (Bosnjak et al. 2011 – Germany, Italy, Spain; Chi 2012; Plunkett, Fulthorp, and Paris 2019 – USA; Martínez González, Parra-Lopez, and Buhalis 2017 – Spain; Moore, Rodger, and Taplin 2017 – Australia). However, few destination loyalty studies are focused on East-European post-communist countries, which are characterized by a specific consumer behavior. Therefore, the first objective of this study is to assess to what extent PA dimensions (i.e., PI and PD for Black Sea coastal destinations) exert an influence on visitors' loyalty toward Black Sea coastal destinations in a different context: a post-communist country from Eastern Europe, Romania.

The Black Sea Coast was selected as the setting of this study for several reasons. First, research on place attachment and loyalty intentions for tourist destinations in the Central and Eastern Europe has been limited, and Romania is an important destination in the region. Second, the Romanian Black Sea Coast records a high rate of repeat visits by Romanian tourists, and an in-depth understanding of the attachment, satisfaction and loyalty intentions that domestic tourists have of this destination is important to maintain such a high rate of repeat visits. It is therefore necessary to investigate whether place attachment and satisfaction can explain the Romanians' loyalty and if this high rate of repeat visits could be a significant moderator in the relationships among constructs.

Prior studies in tourism sector for Black Sea coastal destinations have mostly investigated issues related to specificities of tourist destinations without focusing on visitors' satisfaction, attachment, or loyalty. These studies emphasized potential strategies for increasing tourism competitiveness (Munteanu et al. 2014), destination branding through experience and authenticity (Mocanu 2014), and climate change impact on seaside

tourism (Surugiu, Dincă, and Micu 2010; Surugiu and Surugiu 2012). Therefore, the theoretical value of this study highlighted the degree to which destination identity and dependence affect the measurement of satisfaction and loyalty felt by visitors to the Black Sea coastal destination.

Some researchers (Hwang, Lee, and Chen 2005; Ramkissoon, Smith, and Weiler 2013; Yüksel, Yüksel, and Bilim 2010) have demonstrated that PA dimensions (i.e., PI and PD) have a significant effect on destination loyalty through tourist satisfaction. Other researchers (Kozak and Rimmington 2000) postulate that the effect of satisfaction on customer loyalty is not the same for all destinations worldwide. On the other hand, Um, Chon, and Ro (2006) found that satisfaction is not a good indicator of revisit intention, and Dolnicar, Coltman, and Sharma (2015) argued that, in the context of tourism services, satisfaction does not necessarily lead to positive behavioral intention, especially with respect to the personal intention to return.

Although the relationship among the dimensions of PA, satisfaction, and loyalty is not recent in tourism destination studies (Li 2013), the topic needs to be further clarified in different contexts and country settings (e.g., coastal destinations from post-communist countries in Eastern-Europe). Consequently, the second objective of the present paper is to investigate the potential mediating impact of satisfaction between the dimensions of place attachment for Black Sea coastal destinations and loyalty intentions toward such destinations. The dimensions most often used to capture tourists' loyalty intentions related to the destination include the intention to recommend it to others or word of mouth and the intention to revisit the destination (e.g., Chi and Qu 2008; Prayag and Ryan 2012). Moore, Rodger, and Taplin (2015, 2017) suggested the importance of measuring intention to revisit and to recommend as separate dimensions/items and contributors to loyalty. Moreover, the results of the Lam et al. (2004) study indicate that the two loyalty dimensions behave differently with regard to their linkages with their antecedents.

The number of previous visits has been considered a particular factor of place attachment, satisfaction, and loyalty (Williams and Vaske 2003). Halpenny (2006) argues that positive emotional and cognitive bonds with a place, developed through both direct experiences and/or indirect experiences (e.g., media exposure). Moreover, it may be possible to develop a strong feeling for places one has never visited (Lee and Allen 1999). McAlexander, Kim, and Roberts (2003) found that satisfaction exerts an impact on customer loyalty depending on the tourists' prior visits. A few empirical studies (e.g., Gyte and Phelps 1989; Juaneda 1996; Kozak and Rimmington 2000) focused on the influence of satisfaction and previous visits on the probability of returning to the same destination. Both previous visits and satisfaction were found to be determinants of the revisit intentions. Gabe, Lynch, and McConnon (2006) found the total number of past visits and a higher level of tourist satisfaction significantly increased tourists' revisit likelihood. Even though these findings are of interest, more empirical studies are still necessary in order to investigate whether the number of previous visits can increase the impact of the dimensions of PA on satisfaction and loyalty. The authors of the present study did not find any studies that measured this type of moderating effect in the context of a post-communist country. Therefore, the third objective of the present study aimed to gain insights into the interdependence among the dimensions of PA for Black

Sea coastal destinations, satisfaction, and loyalty toward such destinations considering visitation frequency as a moderator.

To achieve the above mentioned objectives, this research used a theoretical framework that investigated whether the dimensions of PA for Black Sea coastal destinations exerted an influence on tourists' satisfaction and their loyalty intentions for such destinations. Furthermore, it analyzes the mediating role of satisfaction between the dimensions of PA for Black Sea coastal destinations and loyalty intentions for these destinations. Moreover, visitation frequency was included as a moderator in the relationships among the constructs (i.e., place identity, place dependence, satisfaction, and loyalty), which included the dimensions of place attachment for Black Sea coastal destinations, satisfaction, and loyalty toward these destinations.

The results of this investigation provide recent information which Black Sea coastal destinations may use in their destination planning and management regarding the place attachment of Romanian visitors. Almost 97% of visitors of Black Sea coast are Romanians. Therefore, their satisfaction may be used as a driver to revisit these coastal destinations but also to recommend them to other persons. Furthermore, Black Sea coastal destinations are tourist destinations with a more nature-friendly environment, and it is believed that more tourists would be able to enjoy their vacation on the safe coast in conjunction with the recent global social issue, Covid-19.

Literature review

Place identity and place dependence

Place identity and place dependence are constructs that have been accepted and examined in various tourism studies (Kwenye and Freimund 2016; Lee, Kyle, and Scott 2012; Prayag and Ryan 2012; Suntikul and Jachna 2016) and form the basis of several quantitative measures of PA (Lewicka 2011). PA derived from the attachment theory (Bowlby 1980, as quoted in Ram, Björk, and Weidenfeld 2016) states that attachment is a relatively steady personality trait that is not affected by an experience, such as visiting a new destination (Ram, Björk, and Weidenfeld 2016). PA can be defined as an emotional and cognitive experience that connects people to places (Lewicka 2011), a state of psychological well-being that results from accessibility to a place (Hummon 1992) or the level of individual identification with a specific environmental setting (Moore and Graefe 1994).

The nature of PA is rather vague (Stylos et al. 2017), and most studies treat it as a multidimensional construct (Ramkissoon, Smith, and Kneebone 2014). For instance, some authors (e.g., Kwenye and Freimund 2016; Lee, Kyle, and Scott 2012; Suntikul and Jachna 2016; Williams et al. 1992) used two dimensions (i.e., place identity and place dependence), while others added the dimension of affective attachment (Tsai 2012; Yüksel, Yüksel, and Bilim 2010) or social bonding (Plunkett, Fulthorp, and Paris 2019), or used the four-dimensional construct (Brown, Smith, and Assaker 2016; Ramkissoon, Smith, and Weiler 2013). However, a two-dimensional construct has been accepted and examined by various tourism researchers (e. g. Hou, Lin, and Morais 2005; Kwenye and Freimund 2016; Kyle et al. 2004; Lee, Kyle, and Scott 2012). For example, Kwenye and Freimund (2016) used the two dimensions of PA for

understanding and predicting domestic tourists' loyalty to a local natural setting in Zambia, finding that PA plays a dominant role in fostering destination loyalty. In addition, Lee, Kyle, and Scott (2012) observed that place identity and social bonding were indistinguishable, and they suggested that researchers should be open to the potential for merger among the four dimensions of PA. Consequently, in this paper, PA is considered with two dimensions, place identity (PI) and place dependence (PD), based on the work of Kwenye and Freimund (2016) and Suntikul and Jachna (2016).

PI is related to dimensions of self that define the individual's personal identity in relation to the physical environment by means of a complex pattern of conscious and unconscious ideas, beliefs, preferences, feelings, values, goals and behavioral tendencies, and skills relevant to this environment (Loureiro and Kaufmann 2013). Lewicka (2008) considered that PI is a feature of a person not place, a complex, and a cognitive process (Rollero and de Piccoli 2010), which influences tourist behavior, satisfaction and loyalty (Simpson and Siguaw 2008). PI or emotional attachment is defined as the relationship between one's self-identity and a particular setting (Ramkissoon, Smith, and Kneebone 2014). In other words, people seek to maintain self-identity both through the implications and emotions they relate with particular places as well as through distinguishing and seeking out types of places that are compatible with their desired identity (Farnum, Hall, and Kruger 2005).

PD or functional attachment describes the ability of a place to provide conditions that support the desired activities (Prayag and Ryan 2012). This concept is related to the destination's physical characteristics, such as beaches and hiking trails, and it can grow when the place is close enough to tourists' residences to enable them to visit it frequently (Williams and Vaske 2003). In addition, PD is used to evaluate how the current setting contrasts or matches with other places with similar attributes.

Several studies indicated that PA, through PI and PD, influence visitors' satisfaction (Campón-Cerro, Baptista Alves, and Hernández-Mongollón 2015; Prayag and Ryan 2012; Yüksel, Yüksel, and Bilim 2010) and their loyalty to tourist destinations (Tsai 2012).

Destination loyalty

Loyalty is defined as "a commitment to a particular destination" (Baker and Crompton 2000), and it is measured through the intention to say positive words about the destination to others and/or the intention to revisit the destination (Prayag and Ryan 2012). Destination loyalty is probably one of the most important determinants of a destination's success (Meng and Han 2018). Assael (1984, 47) argued that "success depends not on the first purchase but on repurchase. It is unlikely that any brand can survive over time without some degree of loyalty."

Several researchers have studied the antecedents of destination loyalty and found that variables related to PA, companies, and tourist satisfaction play a key role in forming loyalty (Chi 2012; Yüksel, Yüksel, and Bilim 2010; Martínez González, Parra-Lopez, and Buhalis 2017). For example, some studies have revealed the effects of satisfaction (e.g., Bajs 2015; Yüksel, Yüksel, and Bilim 2010), while another revealed the effect of destination attachment (Prayag and Ryan 2012) on destination loyalty.

Despite the extensive literature on destination loyalty (e.g., Chi 2012; Yüksel, Yüksel, and Bilim 2010), further studies are still needed to focus on how to make tourists loyal to the places they visit (Campón, Alves, and Hernandez 2013). Visitors' loyalty was analyzed with different types of destinations: mountain (Alexandris, Kouthouris, and Meligdis 2006), rural (Kastenholz, Carneiro, and Eusebio 2006), urban (Forgas-Coll et al. 2012), and coastal destinations (Martínez González, Parra-Lopez, and Buhalis 2017). The present study analyzes the mediating effect of tourist satisfaction on the relationship between PA dimensions (i.e., PI and PD) and destination loyalty toward Black Sea coastal destinations.

Interdependencies among the dimensions of place attachment, satisfaction, and loyalty and the hypotheses development

Several studies demonstrated that PA to a destination was associated with tourism satisfaction (Ramkissoon, Smith, and Weiler 2013; Yüksel, Yüksel, and Bilim 2010). Concerning the relationship between PA and satisfaction, past research viewed PA either as an outcome variable, predicted by customer satisfaction (Gross and Brown 2008; Lee and Allen 1999; Lee, Kyle, and Scott 2012; Zenker and Rütter 2014) or as an antecedent variable, predicting/driving satisfaction (Hwang, Lee, and Chen 2005; Prayag and Ryan 2012; Ramkissoon and Mavondo 2015; Ramkissoon, Smith, and Weiler 2013; Yüksel, Yüksel, and Bilim 2010). However, there are only a few studies (Hwang, Lee, and Chen 2005; Lee and Allen 1999; Ramkissoon, Smith, and Weiler 2013; Yüksel, Yüksel, and Bilim 2010) that have analyzed the individual impact of each dimension (PI and PD) on satisfaction. Thus, some researchers (Lee and Allen 1999) indicated that place dependence exerted a significant influence on satisfaction. Likewise, Yüksel, Yüksel, and Bilim (2010) found a significantly positive effect of place identity on satisfaction. Hence, the first and second hypotheses of this study are as follows:

Hypothesis 1: There is a positive and significant relationship between place identity for Black Sea coastal destinations and tourist satisfaction with these destinations.

Hypothesis 2: There is a positive and significant relationship between place dependence for Black Sea coastal destinations and tourist satisfaction with these destinations.

Tourist satisfaction is considered a critical construct that reflects the quality of different tourism products and services (Meng and Han 2018). In the case of tourism destinations, satisfaction refers to the degree of overall pleasure felt by the tourist, which results from the evaluation of the extent that a tourist destination is able to meet tourists' expectations or fulfill their desires (Lu, Chi, and Liu 2015). Tourist satisfaction is considered to be one of the most critical factors that determines a destination's success because it leads to tourists' loyalty. Previous studies in the field of tourism have established that the satisfaction of the tourists increases the probability that they will return to visit (e.g., Alegre and Garau 2010; Petrick 2004; Prayag 2009) and will recommend the destination to friends and family (Chi and Qu 2008; Chi, Pan, and Del Chiappa 2018; Prayag and Ryan 2012; Wang and Hsu 2010).

Recent studies (Dolnicar, Coltman, and Sharma 2015; Moore, Rodger, and Taplin 2017) outlined that loyalty is not a single concept, and it cannot be measured by a single item or a single set of items. In the tourism context, the dimensions most often

used to capture tourists' loyalty intentions are the intention to recommend the destination to others (word-of-mouth intention) and the intention to revisit the destination (Han 2013; Meng and Han 2018). Therefore, the present study analyzed these two dimensions of loyalty.

Several researchers (Cong 2016) examined and provided support for the view that intention to recommend the destination to others (word-of-mouth intention) and intention to revisit the destination behave differently in regard to their linkages with their antecedents. Tourists who are satisfied with a destination are more likely to become loyal to that destination (i.e., to revisit it and recommend it to other people). For example, previous studies found a positive relationship between overall satisfaction and tourist destination loyalty intentions (Martínez González, Parra-Lopez, and Buhalis 2017; Dolnicar, Coltman, and Sharma 2015). Accordingly, the following hypotheses are proposed to test these relationships:

Hypothesis 3: Satisfaction has a positive effect on intention to revisit a destination

Hypothesis 4: Satisfaction has a positive effect on word-of-mouth intention

The hospitality and tourism literature showed that satisfaction significantly mediates the relationship between place attachment and loyalty. For example, in the context of island destinations, Prayag and Ryan (2012) found that satisfaction mediates the association between PA and loyalty. Furthermore, Ramkissoon, Smith, and Weiler (2013) demonstrated that satisfaction exerts a significant mediating effect between the dimensions of PA and behavioral intentions in the context of national parks. Other studies highlighted that PA dimensions (i.e., PI and PD), influenced overall satisfaction (Campón-Cerro, Baptista Alves, and Hernández-Mogollón 2015) and loyalty (Tsai 2012). Furthermore, satisfaction exerts a significant influence on loyalty (Yüksel, Yüksel, and Bilim 2010; Prayag and Ryan 2012). Therefore, the following hypotheses were developed:

Hypothesis 5: Satisfaction significantly mediates the relationship between place identity for Black Sea coastal destinations and revisit intention

Hypothesis 6: Satisfaction significantly mediates the relationship between place identity for Black Sea coastal destinations and word-of-mouth intention

Hypothesis 7: Satisfaction significantly mediates the relationship between place dependence for Black Sea coastal destinations and revisit intention

Hypothesis 8: Satisfaction significantly mediates the relationship between place dependence for Black Sea coastal destinations and word-of-mouth intention.

Moderating role of visitation frequency

Several researchers employed the number of previous visits as a moderator in order to examine differences between the visitor groups based on their visitation frequency (Chi 2012; Liu, Lin, and Wang 2012; Park, Bufquin, and Back 2019). Chi (2012) found that repeat tourists are more likely to revisit and to recommend the destination, while Park, Bufquin, and Back (2019) showed that the number of optimum visits is higher for highly satisfied visitors than those less satisfied. Liu, Lin, and Wang (2012) indicated

that repeat visitors have a higher probability than first-time visitors to be more satisfied, and they are significantly more likely to positively recommend the destination than first-time visitors, and they continue returning even when they have to pay more for the same experience. Moreover, Wang et al. (2011) suggested that first-time and repeat visitors could be treated as moderators to analyze different factors that influence tourists' behavioral intentions.

In this study, respondents were segmented into high and low groups according to their visitation frequency. Specifically, the individuals in the high group had visited the Black Sea Coast for summer holidays at least four times in the last three years, and individuals in the low group had visited this destination at most three times in the last three years. Consequently, the current study suggests that place attachment dimensions (i.e., place identity and place dependence for Black Sea coastal destinations), may have a stronger influence on satisfaction for the high group of tourists than for the low group. Therefore, the present research proposes the following hypotheses:

Hypothesis 9a: Visitation frequency significantly moderates the relationship between place identity for Black Sea coastal destinations and satisfaction.

Hypothesis 9b: Visitation frequency significantly moderates the relationship between place dependence for Black Sea coastal destinations and satisfaction.

Chi (2012) tested if previous experience moderated the relationship between tourist satisfaction and loyalty toward a destination and found that satisfaction is much more significant, inducing loyalty for first-time visitors than for repeat visitors. Also, other researchers (McAlexander, Kim, and Roberts 2003) outlined that the relationship between satisfaction and loyalty tended to be moderated by the consumption experience. Their research results indicated that even though satisfaction increases loyalty for the less experienced group, it did not significantly influence the loyalty of the more experienced group. However, other researchers (Liu, Lin, and Wang 2012) showed that repeat visitors are much more likely than first-time visitors to transmit positive information about the destination, recommend it to others, and revisit the destination. Moreover, previous research demonstrated that positive experiences of repeat visitors into a destination will significantly increase their revisit intentions (Meleddu, Paci, and Pulina 2015). This study predicted a greater impact of satisfaction on loyalty toward Black Sea coastal destinations, which includes revisit intention and word-of-mouth intention, for the high group compared to the low group. Therefore, the following hypothesis is suggested:

Hypothesis 9c: Visitation frequency significantly moderates the relationship between satisfaction and revisit intention.

Hypothesis 9d: Visitation frequency significantly moderates the relationship between satisfaction and word-of-mouth intention.

Research framework

The present study investigated whether the components of place attachment (i.e., place identity for Black Sea coastal destinations and place dependence for such destinations), exert some influences on individuals' satisfaction and loyalty intentions toward Black

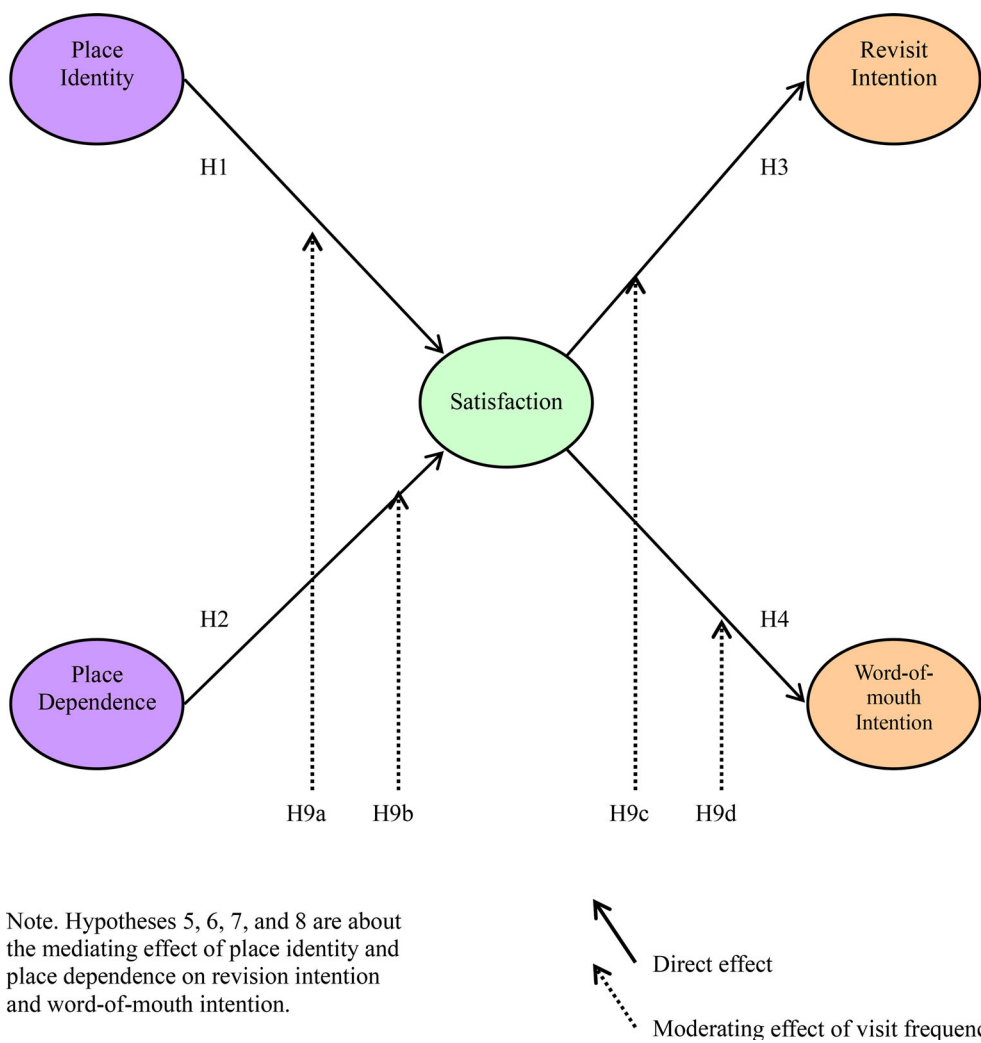


Figure 1. Proposed conceptual model. Note. Hypotheses 5, 6, 7, and 8 are about the moderating effect of place identity and place dependence on revisit intention and word-of-mouth intention.

Sea coastal destinations, such as revisit intention and word-of-mouth intention, and also the mediating role of satisfaction between place attachment for Black Sea coastal destinations and loyalty intentions toward these destinations. Visitation frequency was treated as moderator in the relationships among these variables. The research framework for the present study is represented in Figure 1.

Study context

Tourism began to develop in Romania in the late nineteenth century, but the tourism industry expanded considerably during the communist period (1947–1989). Domestic tourism increased rapidly during this period (Light and Dumbrăveanu 1999), as Romanians were strongly encouraged to travel within their country and did so

extensively (Turnock 1991). The communist regime used domestic tourism to develop senses of citizenship and collective loyalty to the socialist state (Light 2013). Romanians were restricted to travel only in their own country, and very few people were allowed to travel abroad under thorough observation by the communist authorities.

The communist government made huge investments in developing a series of resorts on the Black Sea Coast, which were equipped to meet international standards (Postelnicu and Dabija 2018). Currently they remain the most famous and crowded Romanian destinations, hosting 9.8% of total tourism accommodation units, 23.4% of the total number of places, and 10.5% of the total overnight stays in the country (Popescu and Plesoianu 2019). The number of tourist arrivals in these destinations registered 1,111,389 tourist arrivals in 2018 (NIS 2019), with an annual average increase of 2.7% since 2007 (Popescu and Plesoianu 2019). Moreover, the majority of tourists visiting national coastal destinations are Romanians (96.7%). A recent study on Romanian citizens' preferences and loyalty to the national destinations (MKOR Consulting 2017) revealed that 31% of the respondents chose Romanian coastal destinations for their summer holiday and that 33% are loyal visitors who visited their preferred destinations at least 4 times. These results indicate that domestic visitors are loyal to Romanian coastal destinations. However, according to the authors' knowledge, no studies were conducted to explain the factors which determine Romanians' loyalty toward Black Sea coastal destinations in this post-communist era, when visitors can choose from a variety of other destinations from different countries. Therefore, the present study aims to identify whether there is a relationship between the loyalty of domestic tourists visiting the Black Sea coastal destinations and their attachment to such destinations.

Measurement scales and questionnaire development

In order to measure the study dimensions for the proposed conceptual framework, items validated by other researchers were used and slightly adapted in wording to be appropriate for a coastal destination. The first form of the questionnaire was pre-tested and refined by academic tourism specialists and stakeholders in the hospitality industry (representatives of a local DMO, of a national tour operator and of two accommodation units). Before finalizing the questionnaire, a pilot test was carried out with 30 customers to check for possible ambiguities or misunderstandings regarding the wording and questions, and to ensure the reliability and validity of the scales. Based on the results obtained through respondents' feedback several minor adjustments were made. The final version of the questionnaire was divided into three sections (see Table 1). The first includes questions regarding attachment levels of the respondents. In particular, a nine-item scale and a five-item scale were borrowed from Lee, Kyle, and Scott (2012), and they were utilized to assess place identity for Black Sea coastal destinations and place dependence for such destinations, respectively. These variables have also previously showed good reliability and validity (i.e., greater than the minimum threshold of .700 and .500, respectively, as indicated by Hair et al. 2010) in a destination context (Lee, Kyle, and Scott 2012). The second section was designed to evaluate the individuals' satisfaction with the Black Sea coastal destinations and their loyalty intentions toward these destinations. Specifically, five items were adapted from Cong (2016) and

Table 1. Validity of the measurement model.

Construct	Standardized loading	t-value	Cronbach's alpha value
Place identity			
PI1. I feel my personal values are reflected in this destination.	.762	14.863**	.950
PI2. I identify strongly with this destination.	.710	13.515**	
PI3. This destination means a lot to me.	.790	A	
PI4. I am very attached to this destination.	.840	16.918**	
PI5. I feel a strong sense of belonging to this destination.	.880	18.017**	
PI6. If I were to stop visiting or be away from this destination, I would lose contact with many friends.	.938	19.127**	
PI7. Many of my friends/family prefer this destination over other places.	.875	17.869**	
PI8. I have a lot of fond memories with friends/family at this destination.	.743	14.417**	
PI9. I have a special connection to the people who visit or live in this destination.	.879	17.994**	
Place dependence			
PD1 This destination is the best for the recreation/leisure activities that I enjoy.	.578	A	.816
PD2. I prefer this destination over other places for recreation/leisure activities that I enjoy.	.820	9.979**	
PD3. I could not imagine anything better than the setting of this destination for what I like to do for leisure.	.820	9.982**	
PD4. Other places cannot compare to this destination.	.685	9.030**	
PD5. When others suggest alternatives to this destination for the recreation/leisure activities that I enjoy, I still choose this destination.	.527	7.500**	
Satisfaction			
S1. Overall, I am satisfied with the travel experience at this destination.	.865	A	.943
S2. I am happy about my decision to visit this destination.	.879	26.540**	
S3. I have positive feelings regarding this destination.	.807	18.147**	
S4. My visit to this destination is worth my time and effort.	.931	23.825**	
S5. I believe I did the right thing when I chose to visit this destination.	.885	21.496**	
Revisit intention			
RI1. I intend to revisit this destination.	.949	A	.966
RI2. I will visit again this destination in the future.	.964	38.722**	
RI3. My next trip will most likely be this destination.	.943	34.983**	
Word-of-mouth intention			
WOM1. I intend to say positive things about this destination.	.934	35.456**	.969
WOM2. I intend to recommend this destination to others.	.922	33.454**	
WOM3. I intend to share my positive experiences at this destination with others.	.951	38.930**	
WOM4. I will recommend this destination to someone who seeks my advice.	.960	A	

Note: ** $p < .001$; A = regression weight was fixed at 1.

Table 2. Measurement model results and correlations.

Constructs	PI	PD	S	RI	WOM	Mean	SD	AVE
PI	1.000					3.82	.551	.717
PD	.302 ^a (.091) ^b	1.000				3.08	1.128	.574
S	.356 (.127)	.298 (.089)	1.000			3.50	1.074	.816
RI	.208 (.043)	.180 (.032)	.767 (.588)	1.000		3.57	1.312	.937
WOM	.289 (.084)	.194 (.038)	.819 (.671)	.783 (.613)	1.000	3.38	1.248	.915
Composite reliability	.958	.870	.957	.978	.977			

Goodness-of-Fit Statistics: $\chi^2 = 548.821$ (df = 285, $p < .001$, $\chi^2/\text{df} = 1.926$), RMSEA = .055, CFI = .968, IFI = .968, TLI = .963, NFI = .935.

^aCorrelations between constructs.

^bSquared correlations.

Note: PI = Place Identity, PD = Place Dependence, S = Satisfaction, RI = Revisit Intention, WOM = Word-of-mouth Intention.

Ramkissoon, Smith, and Weiler (2013) to measure the individuals' satisfaction with a holiday on the Black Sea Coast. In order to assess the individuals' loyalty toward Black Sea coastal destinations, three items of the revisit intention and four items of the word-of-mouth intention were adapted from Cong (2016). The study constructs (i.e., place identity, place dependence, satisfaction, revisit intentions, and word-of-mouth intentions) were evaluated with multiple items using a 5-point Likert's scale that ranged from strongly disagree (1) to strongly agree (5). In addition, the values of Cronbach's alpha for study constructs were all above the minimum threshold of .700, ranging from .816 to .969 (see Table 1). The last section consists of questions about the demographic profiles of the respondents and a question regarding the Black Sea Coast's visitation frequency of the survey participants for the last three years.

Data collection and sample profile

A self-administered questionnaire was developed for the present research. The population of interest included Romanians who were 18 years of age and older and have visited the Black Sea Coast for a summer holiday at least once in the last three years. Given the difficulty of reaching the target population due to the lack of adequate statistical data, a non-probability, convenience-based sampling technique was employed in which respondents are chosen because of their proximity and accessibility. An invitation was initially sent by e-mail to 2500 subjects. The eligible respondents (i.e., who met the criteria of visiting the Black Sea Coast at least once in the last three years) were subsequently sent an online version of the questionnaire survey. E-mail reminders were sent to all participants who had not returned a completed form of the questionnaire after two weeks in order to increase the response rate. The questionnaires were administered from March 25, 2018 to April 24, 2018. A total of 310 responses were returned from the survey participants, which resulted in a response rate of 12.40%.

Among the respondents, approximately 49% were male and 51% were female, which is similar to the Romanian population of 49% male and 51% female (NIS 2018). Their ages ranged from 18 to 65 years, and their average age was 31 years. About 38% of the survey participants reported that their monthly incomes per family member was \$526

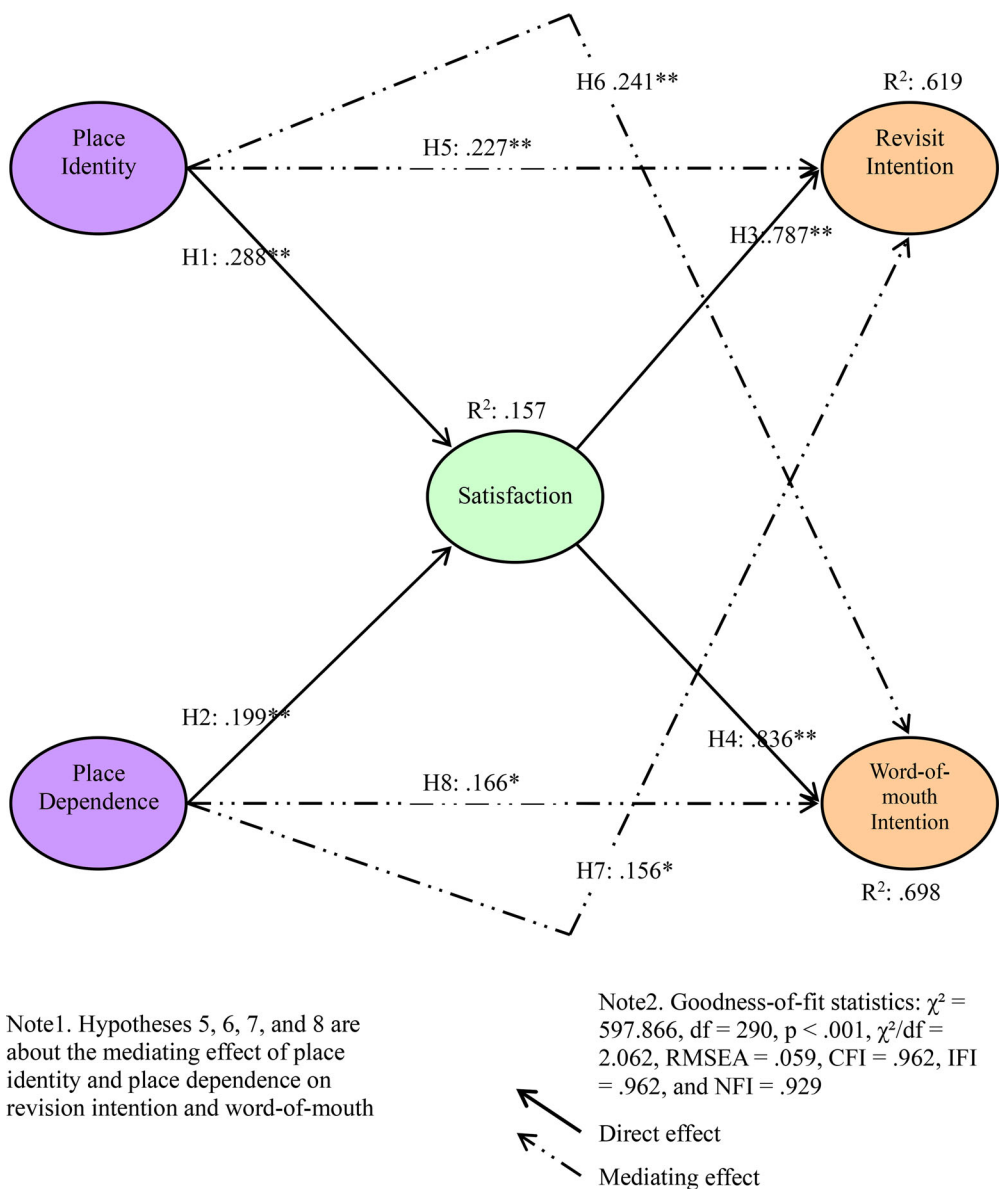


Figure 2. Structural model result. Note 1. Hypotheses 5, 6, 7, and 8 are about the mediating effect of place identity and place dependence on revision intention and word-of-mouth intention.

or less, followed by between \$527 and \$789 (29.7%), and \$790 or more (19.3%). In terms of education, the largest proportion of the survey respondents had a bachelor's degree (68.4%) and 31.6% were high school graduates, which is not similar to the Romanian population of 23.2% high school graduates and 14.8% bachelor graduates (NIS 2017). In addition, the survey participants were required to indicate the frequency of their visits on the Black Sea Coast. The majority of the respondents (57.1%) reported visiting the Black Sea Coast at least four times in the last three years, and 42.9% indicated three times or less.

Table 3. Results of structural equation modeling and hypotheses testing.

Hypothesized paths		Standardized coefficients	t-values	Results of hypotheses testing
H1: Place Identity	→ Satisfaction	.288	4.775**	H1: Confirmed
H2: Place Dependence	→ Satisfaction	.199	3.083*	H2: Confirmed
H3: Satisfaction	→ Revisit intention	.787	16.315**	H3: Confirmed
H4: Satisfaction	→ Word-of-mouth intention	.836	18.187**	H4: Confirmed
Total variance explained:	Indirect impact:	Goodness-of-Fit Statistics: $\chi^2 = 597.866$		
R ² of satisfaction = .157	$\beta_{PI-S-RI} = .227^{**}$	(df = 290, p < .001, $\chi^2/df = 2.062$),		
R ² of revisit intention = .619	$\beta_{PI-S-WOM} = .241^{**}$	RMSEA = .059, CFI = .962, IFI = .962,		
R ² of word-of-mouth intention = .698	$\beta_{PD-S-RI} = .156^*$	TLI = .958, NFI = .929.		
	$\beta_{PD-S-WOM} = .166^*$	* p < .05, ** p < .01		

Note: PI = Place Identity, PD = Place Dependence, S = Satisfaction, RI = Revisit Intention, WOM = Word-of-mouth Intention

Table 4. Summary of findings from the measurement-invariance models.

Models	χ^2	df	RMSEA	CFI	IFI	$\Delta \chi^2$	Full-metric invariance
<i>Measurement-invariance models for the high and low groups on frequency of visits</i>							
Non-restricted model	968.961	570	.048	.951	.952	$\Delta \chi^2(21) = 17.002$, p > .10 (insignificant)	Confirmed
Full-metric invariance	985.963	591	.047	.952	.952		

Data analysis and results

The data was analyzed with SPSS and AMOS 20. Following Anderson and Gerbing (1988) two-step approach, a measurement model was first estimated using a confirmatory factor analysis (CFA) in order to ensure the reliability, convergent validity, and discriminant validity of the latent constructs. Furthermore, structural equation modeling (SEM) was assessed in an attempt to understand the causal relationships among the studied constructs and a mediating role of satisfaction. Finally, tests for metric invariances were performed in order to evaluate the hypothesized moderating effect of visitation frequency in the proposed framework (see the Appendix for detailed results of the analysis).

Discussion

The findings this research indicate that the two dimensions of place attachment for Black Sea coastal destinations positively and significantly influence satisfaction and loyalty toward such destinations. They reiterate the idea that attachment dimensions have different effects on satisfaction and that place identity for Black Sea coastal destinations exerts the strongest influence on customer satisfaction judgements, confirming the results of other research (Yüksel, Yüksel, and Bilim 2010). In the case of Romanian visitors who traveled to the Black Sea coastal destinations during the communist era, these destinations may be associated with their own identity as these were the only available options to access coastal experiences in the past. Higher identification with a place may also increase place satisfaction (Fleury-Bahi, Félonneau, and Marchand 2008). Moreover, the present research showed that satisfaction has a positive and significant impact on intention to revisit the destination and on word-of-mouth intention, which is consistent with prior studies (Kwenye and Freimund 2016; Martínez González, Parra-Lopez, and

Table 5. Summary of findings from the structural-invariance models.

Paths	High group		Low group		Baseline model (freely estimated)	Nested model (constrained to be equal)
	Coefficients	t-Values	Coefficients	t-Values		
Structural-invariance model for the high (N =177) and low groups (N =133) of frequency of visits						
PI→S	.324	3.244*	.289	4.094**	$\chi^2(601) = 1039.668$	$\chi^2(602) = 1041.484^a$
PD→S	.211	2.528*	.192	2.009**	$\chi^2(601) = 1039.668$	$\chi^2(602) = 1039.772^b$
S→RI	.738	11.886**	.848	13.745**	$\chi^2(601) = 1039.668$	$\chi^2(602) = 1042.690^c$
S→WOM	.777	13.026**	.909	16.557**	$\chi^2(601) = 1039.668$	$\chi^2(602) = 1050.223^d$

Chi-square difference test:

^a $\Delta \chi^2(1) = 1.816, p > .10$ (H9a – not confirmed).^b $\Delta \chi^2(1) = .104, p > .10$ (H9b – not confirmed).^c $\Delta \chi^2(1) = 3.022, p > .05$ (H9c – not confirmed).^d $\Delta \chi^2(1) = 10.555, p < .01$ (H9d – confirmed).

Note: PI = Place Identity, PD = Place Dependence, S = Satisfaction, RI = Revisit Intention, WOM = Word-of-mouth Intention

* $p < .05$, ** $p < .01$.

Buhalis 2017). They indicate that the more satisfied a tourist is with a destination, the more likely is that he/she will revisit and/or recommend it to others.

Furthermore, the study's results highlight that satisfaction exerts a significant mediating role on the relationship between place attachment for Black Sea coastal destinations and loyalty intentions toward these destinations. These results confirm previous studies, which indicate that satisfaction mediates the relationship between place attachment and loyalty intentions (Campón-Cerro, Baptista Alves, and Hernández-Mongollón 2015). Therefore, coastal managers need to consider two aspects that may induce visitors' desire to return and to recommend the destination to other people. They need to create and promote destination experiences that can increase visitor attachment to the place or to enhance the memories that visitors already have regarding the coastal destination and stimulate a feeling of nostalgia regarding previous experiences. Furthermore, coastal managers need to pay special attention to ensuring visitor satisfaction regarding the destination. Such an initiative needs to start with careful satisfaction monitoring and be based on the results of this process, and specific improvement measures may be implemented in correlation with aspects indicated by visitors as less satisfactory.

Finally, the empirical results indicated that in the case of individuals who have a higher visitation frequency to the Black Sea Coast, satisfaction has a higher influence on word-of-mouth intention compared with individuals with a low visitation frequency. This is an original finding that was not revealed in other studies, according to the best of the authors' knowledge. Based on this result, we may assume that visitors are more likely to be satisfied with their experiences and to recommend the place to other people when they have visited the analyzed coastal destinations at least four times in the last three years.

Theoretical and managerial implications

This research provides several important implications for both academics and practitioners. Regarding the theoretical implications, the present study supposes the first empirical application of visitation frequency as a moderating factor in the relationship between place attachment components (i.e., place identity and place dependence for

Black Sea coastal destinations), satisfaction and loyalty intentions (i.e., revisit intention and word-of-mouth intention) toward Black Sea coastal destinations. The results show that tourists who have a higher visitation frequency to a certain destination show a stronger positive influence of satisfaction on word-of-mouth intention. Moreover, the present paper provides a new perspective on destination loyalty studies as it is focused on a post-communist country from Eastern Europe, where domestic visitors are still loyal to Black Sea coastal destinations in their country, despite the large variety of international alternatives. Their loyalty toward Black Sea coastal destinations is proved to be influenced by both place attachment dimensions (i.e., place identity and place dependence for Black Sea coastal destinations) and satisfaction.

The results of this research also provide several managerial implications for destination managers in coastal destinations, which may be particularly important during the COVID-19 pandemic, which is affecting all tourist destinations worldwide. The current crisis generated by the COVID-19 pandemic offers an opportunity for countries to reevaluate their domestic tourism and implement policies that encourage domestic travel. The Romanian Economy, Energy, and Business Environment Ministry has already launched a campaign meant to support the local hospitality industry, promote it online, and encourage Romanians to rediscover the country as a tourist destination. The campaign, published on the ministry's social media channels, entitled "Be an ambassador of Romanian tourism!," features video messages from various personalities supporting local tourism. However, there is no similar initiative focused on Black Sea coastal destinations.

Therefore, based on the results of the present study, coastal destination managers should focus on strengthening domestic visitors' PA, providing a satisfied experience for these tourists at this type of tourist destinations and stimulate their loyalty intentions (i.e., intention to return and intention to recommend it to other people).

First, the results indicate the significant influence of place identity and place dependence for Black Sea coastal destinations on individuals' satisfaction and loyalty intentions toward such destinations (i.e., intention to return and word of mouth intention). Therefore, destination marketers should focus on strengthening these dimensions because satisfaction and loyalty toward Black Sea coastal destinations increases when a tourist identify him/herself with the destination. In particular, destination managers could enhance tourist interactions with the destination surroundings by developing interpretation techniques, giving tourists the opportunity to discover in the local culture, and encouraging meetings between tourists and residents through events that reflect the traditional culture of the region/country. The dimensions of place attachment – place identity and place dependence for Black Sea coastal destinations – may influence what visitors see, think and feel. Furthermore, the emotional connection and the increased knowledge of Black Sea coastal destinations may induce positive evaluations and loyalty toward such destinations (Yüksel, Yüksel, and Bilim 2010). During the communist regime, Romanians faced international travel restrictions and mostly visited domestic tourist destinations. Therefore, current visitors, who have lived those times, may associate positive memories with Black Sea coastal destinations based on these types of experiences. Recreating and using these associations between the past and the present of Romanian coastal destinations in different marketing initiatives may enhance visitors' attachment to these places.

For example, a possible post-visit communication initiative may be based on stimulating visitors to a specific coastal destination to post old pictures with the place or themselves visiting the place, from their personal photo archive on the destination's social media channels. In addition, coastal managers may position interpretative panels within the destinations, using stories and pictures from different stages of their history.

In order to induce tourists' sense of belonging and connect the Black Sea Coast to their self-identity, both destination and tourism businesses managers must first conduct regular surveys in order to collect personal information about visitors. Based on the results of such research, specific measures may be implemented, aimed at reflecting the personal values indicated by most participants to the surveys (i.e., planning specific sport fields and activities, child-friendly amenities, youth recreational events & facilities, and fine acoustics concert areas). Furthermore, they need to facilitate contexts in which visitors may create and restore positive experiences with their friends and family members (i.e., hosting weddings, anniversary events, and thematic parties, festivals) and generate significant memories about a specific place.

Second, destination managers should actively monitor and improve tourist satisfaction, an important factor of loyalty toward Black Sea coastal destinations. This implies continuous efforts aimed at satisfying tourist needs by encouraging increased standards of hospitality and tourism service quality. These efforts will favor positive recommendations, which do not involve costs and are more credible than other promotional techniques (Wondirad and Agyeiwaah 2016). Consequently, increasing tourist satisfaction guarantees loyalty toward Black Sea coastal destinations, which would boost incomes for tourism businesses (Babakus, Bienstock, and Van Scotter 2004). Organizing media/familiarisation trips for bloggers and influencers may stimulate them to create positive content about coastal destinations on their online channels. Using the results of such analyses, destination marketers should focus on implementing post-visit strategies that may encourage highly satisfied tourists to return to the same destination.

Third, tourism managers should not neglect the role of visitation frequency in the association between place attachment for Black Sea coastal destinations, satisfaction, and loyalty intentions toward such destinations. Tourism managers should get more data about repeat visitors and, consequently, develop strategies adapted to the needs of loyal tourists from both the high and low groups. Also, satisfaction most influences word-of-mouth intention of tourists with a low visitation frequency, which is consistent with other studies indicating that when visitors are satisfied with a destination, there is a higher probability of recommending it to other people (Kani et al. 2017). This means that tourism businesses managers need to focus on satisfying the needs of tourists with a low visitation frequency in order to influence them to recommend the destination to a greater extent.

Limitations and future research directions

The current paper has certain limitations that offer possibilities for future studies. First, the outcomes cannot be generalized to other countries or other forms of tourism because only domestic tourists visiting Romanian coastal destinations participated in the survey. Therefore, future studies should determine whether these findings may be applied to different cultural settings. A similar model can be examined in other types of

tourist destinations to augment the current finding, which could include mountains, cultural, and rural destinations. Second, considering that the present study examined only two components of place attachment (i.e., place identity and place dependence for Black Sea coastal destinations), future research could test whether constructs such as social bonding, affective attachment, and place memory are dimensions of place attachment. Including these types of dimensions of place attachment in future studies could provide useful results that may be helpful to increase visitors' satisfaction and loyalty. Moreover, linking visitors' cultural, social characteristics or behavioral control factors to their specific place attachment to coastal destinations may provide useful information which coastal managers may use in destination planning and marketing.

Third, satisfaction was examined from an overall level. Consequently, future studies may conceptualize satisfaction at an attribute-level in order to better explain the interdependencies between the dimensions of place attachment and satisfaction. Fourth, demographic variables could be included in future models, considering their potential influence on destination loyalty. Fifth, given that a convenience sample of Romanians was utilized, the respondents' demographic characteristics (i.e., age, education, and income) are different than those in the Romanian population. Consequently, generalization of the study results is limited, and any conclusions drawn must be considered with caution. Sixth, respondents were surveyed in the pre-season period, from March to April, in their home location based on their memories regarding their previous holidays at Black Sea coastal destinations. Therefore, future studies may consider surveying respondents at their holiday locations and identify the differences with visitors' opinions in the high versus the low tourism seasons.

ORCID

Elena-Nicoleta Untaru  <http://orcid.org/0000-0003-4419-6933>
 Heesup Han  <http://orcid.org/0000-0001-6356-3001>

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Appendix

Data analysis and results

a. The measurement model

The measurement model was estimated using a confirmatory factor analysis with the maximum likelihood estimation method. The results of the CFA revealed that the measurement model represents the data well ($\chi^2 = 548.821$, $df = 285$, $p < .001$, $\chi^2/df = 1.926$, RMSEA = .055, CFI = .968, IFI = .968, and NFI = .935). In order to assess the internal consistency of the items for each dimension, a composite-reliability test was carried out. As shown in Table 2, all values for the composite reliability varied from .870 to .978, which exceeded the suggested threshold of .60 (Bagozzi and Yi 1988). All item factor loadings were greater than .527 and statistically significant ($p < .01$) (see Table 1). Convergent validity was evident because all average variance extracted (AVE) values for all constructs ranging from .574 to .937 exceeded the recommended cutoff of .50 (Fornell and Larcker 1981). In addition, these AVE values for each construct were greater than the squared correlations between any pair of constructs, which indicated that discriminant validity was achieved (see Table 2).

b. Structural model results and hypotheses testing

Structural equation modeling (SEM) was carried out in order to test the proposed theoretical framework. As shown in Figure 2, the structural model was found to fit the data well ($\chi^2 = 597.866$, $df = 290$, $p < .001$, $\chi^2/df = 2.062$, RMSEA = .059, CFI = .962, IFI = .962, and NFI = .929).

The results revealed that place identity and place dependence for Black Sea coastal destinations accounted for 15.7% of the variance in individuals' perceived satisfaction, and this perception and its antecedents explained 61.9% and 69.8% of the variance in revisit intention and word-of-mouth-intention, respectively.

The hypothesized relationships among the study constructs were also investigated. As shown in Table 3, the regression paths from place identity and place dependence for Black Sea coastal destinations to satisfaction were positive and significant ($\beta_{PI-S} = .288$, $p < .01$; $\beta_{PD-S} = .199$, $p < .01$). Thus, Hypotheses 1 and 2 were confirmed. This result is consistent with those from previous research (Kani et al. 2017), which indicated that enhancing place identity and place dependence for Black Sea coastal destinations will determine an increase in individuals' perceived satisfaction. In addition, satisfaction was found to be a statistically significant predictor of revisit intention and word-of-mouth intention ($\beta_{S-RI} = .787$, $p < .01$; $\beta_{S-WOM} = .836$, $p < .01$). Hypotheses 3 and 4 were therefore confirmed. These results aligned with previous studies (Martínez González, Parra-Lopez, and Buhalis 2017), which implied that increasing individuals' perceived satisfaction will result in an increase in their revisit intention and word-of-mouth intention, respectively.

Next, to examine the potential mediating effect of satisfaction between place attachment (i.e., place identity and place dependence for Black Sea coastal destinations), and loyalty intentions toward Black Sea coastal destinations, which includes revisit intention and word-of-mouth intention, a bootstrapping procedure recommended by Jose (2013) was run. The number of bootstrap samples was set at 2000 with a confidence level of 95%. As reported in Table 3, place identity and place dependence for Black Sea coastal destinations had a significant indirect effect on revisit intention and word-of-mouth intention. More specifically, place identity for Black Sea coastal destinations positively affected revisit intention and word-of-mouth intention through satisfaction ($\beta_{PI-S-RI} = .227$, $p < .01$; $\beta_{PI-S-WOM} = .241$, $p < .01$). In addition, place dependence for Black Sea coastal destinations had a significant and positive indirect effect on revisit intention and word-of-mouth intention through satisfaction ($\beta_{PD-S-RI} = .156$, $p < .05$; $\beta_{PD-S-WOM} = .166$, $p < .05$). These outcomes showed that satisfaction exerts a significant mediating role in the relationship between place attachment for Black Sea coastal destinations and loyalty intentions toward these destinations. Thus, Hypotheses 5-8 were confirmed.

c. Moderating role of visitation frequency

The hypothesized moderating role of visitation frequency (H9a-H9d) was carried out by examining a series of modeling tests for metric invariance. First, the subjects were divided into high- and low-visitation frequency groups by employing a K-means cluster analysis. The high-visitation frequency group comprised a cluster of 177 respondents, while the low-visitation frequency group consisted of 133 respondents. The respondents in the high-visitation frequency group had visited the Black Sea Coast for summer holidays at least four times in the last three years, and the individuals in the low-visitation frequency group had visited this destination at most three times in the last three years.

A non-restricted model using CFA was first employed without constraining any factor loading across groups. The findings indicated that it satisfactorily fits the data ($\chi^2 = 968.961$, $df = 570$, $p < .001$, $\chi^2/df = 1.699$, $RMSEA = .048$, $CFI = .951$, $IFI = .952$). Next, a full-metric invariance model that constrained the factor loadings across the groups was evaluated. This model also had a good fit to the data ($\chi^2 = 985.963$, $df = 591$, $p < .001$, $\chi^2/df = 1.668$, $RMSEA = .047$, $CFI = .952$, $IFI = .952$). The non-restricted model was compared to the full-metric invariance model using a chi-square difference test in order to identify any difference between the measurement structures. As displayed in Table 4, the difference between the two models was not significant ($\Delta \chi^2(21) = 17.002$, $p > .10$). Therefore, the full metric invariance model was confirmed and further used to conduct the structural invariance test.

Further, a baseline model was examined by adding the hypothesized paths among the study constructs to the full-metric invariance model. As shown in Table 5, the baseline model had a

good fit to the data ($\chi^2 = 1039.668$, $df = 601$, $p < .001$, $\chi^2/df = 1.729$, $RMSEA = .049$, $CFI = .947$, $IFI = .947$). Furthermore, using a chi-square difference test, the baseline model was compared to a series of nested models to test invariance in the hypothesized paths across the high and low visitation frequency groups.

Results from the structural invariance test highlighted that the interdependencies between place identity for Black Sea coastal destinations and satisfaction and between place dependence for Black Sea coastal destinations and satisfaction were not statistically significantly different across the high and low groups ($\Delta \chi^2(1)$ PI-S = 1.816, $p > .10$; $\Delta \chi^2(1)$ PD-S = .104, $p > .10$). Thus, Hypotheses H9a and H9b were not confirmed. In addition, the path coefficient from satisfaction to revisit intention was not significantly different across the groups ($\Delta \chi^2(1)$ S-RI = 3.022, $p > .05$). Accordingly, Hypothesis H9c was not confirmed. However, the link from satisfaction to word-of-mouth intention was found to be statistically significantly different across the high and low groups ($\Delta \chi^2(1)$ S-WOM = 10.555, $p < .01$), confirming hypothesis H9d, which states that individuals who have a higher visitation frequency to the Black Sea Coast show a stronger positive influence of satisfaction on word-of-mouth intention.

Article

From Clicks to Trips: Examining Online Destination Brand Experience in Ecotourism Decision Making

Adina-Nicoleta Candrea ^{1,*}, Ioana-Simona Ivasciuc ¹, Ana Ispas ¹, Cristinel-Petrișor Constantin ¹
and Florin Nechita ^{2,*}

¹ Faculty of Economic Sciences and Business Administration, Transilvania University of Brașov, 500036 Brașov, Romania; simona.ivasciuc@unitbv.ro (I.-S.I.); ispasana@unitbv.ro (A.I.); cristinel.constantin@unitbv.ro (C.-P.C.)

² Faculty of Sociology and Communication, Transilvania University of Brașov, 500036 Brașov, Romania

* Correspondence: adina.candrea@unitbv.ro (A.-N.C.); florin.nechita@unitbv.ro (F.N.)

Abstract: Destination Management Organizations (DMO) increasingly harness social media to foster favorable online destination brand experiences (ODBEs) during travelers' pre-trip planning. However, empirical knowledge about such experiences in ecotourism contexts remains limited. This study addresses the gap by proposing and validating an ODBE measurement scale adapted to ecotourism destinations. An online questionnaire was administered to Facebook users following seven certified Romanian ecotourism destinations, yielding 281 valid responses. Through exploratory factor analysis and confirmatory composite analysis, the scale was refined into three components—hedonic, utilitarian, and spatio-temporal—capturing emotional immersion, rational evaluation, and destination-specific spatial perceptions. Structural equation modeling further demonstrated that ODBEs exert a strong, positive effect on two key behavioral intentions: visiting the destination ($\beta = 0.913$) and sharing destination information online ($\beta = 0.875$). This study advances theories on tech-mediated pre-travel experiences by emphasizing nature and local culture. The findings provide DMOs with practical guidance for creating effective social media content to enhance destination branding and support sustainable tourism.

Keywords: social media; destination management organizations; online destination brand experience; scale; pre-travel phase



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1. Introduction

In recent years, sustainable travel has garnered increasing attention, driven by rising environmental awareness, consumer demand for responsible tourism, and the global push for sustainability across various industries. Within this context, ecotourism has emerged as a key area of focus. Defined by [Ecotourism Australia \(2025\)](#) as “ecologically sustainable tourism with a primary focus on experiencing natural areas that fosters environmental and cultural understanding, appreciation, and conservation,” ecotourism has gained significant traction worldwide. Beyond offering breathtaking landscapes and diverse flora and fauna ([Thong, 2024](#)), ecotourism emphasizes authentic engagement with local communities, small-scale infrastructure, and respectful stewardship of natural resources. Such principles resonate with travelers seeking to balance enjoyment with active conservation efforts. The existence of a wide range of stakeholders with multiple and varied concerns gives rise to the need to find solutions that combine all environmental, social, and governance aspects ([Anton et al., 2024](#)).

As competition in the global tourism market intensifies, DMOs have increasingly turned to social media as a strategic tool to engage potential visitors. Social media provides a unique platform for creating ongoing dialogues and building relationships with tourists (Jabreel et al., 2017). Over the past few decades, social media has revolutionized how tourist destinations communicate with potential travelers (Xiang & Gretzel, 2010).

The relationship between travel and pre-travel experiences has evolved significantly with the rise of social media and smartphones. As a result, DMOs are increasingly using these platforms to create positive ODBEs (Jiménez-Barreto et al., 2019). Although limited studies have examined multidimensional ODBEs (Jiménez-Barreto et al., 2019, 2020; Khan & Fatma, 2021), most have adapted experience modules from product branding (Brakus et al., 2009; Schmitt, 1999). These studies identified sensory, affective, intellectual, and behavioral experiences that contribute to the overall ODBE. A qualitative study by Jiménez-Barreto et al. (2019) emphasized that social experiences—specifically the communicative elements of interacting with destination websites—are also key to shaping ODBEs. Furthermore, the unique focus of ecotourism on conservation, community engagement, and sustainability calls for a reconsideration of existing ODBE measurement tools (The International Ecotourism Society [TIES], 2015). To address this gap, the present study adapts and expands existing ODBE dimensions—incorporating social and spatio-temporal factors (Köchling, 2020)—to explore how Facebook-based interactions shape users' perceptions and behaviors regarding Romanian ecotourism. This study focuses on the pre-travel phase, during which tourists assess whether the potential experiences align with their travel expectations and preferences.

In the digital era, ODBE plays a critical role in shaping tourist perceptions and influencing their decisions to visit and recommend destinations. Recent studies (Jiménez-Barreto et al., 2019; Lin et al., 2024) emphasize the importance of online interactions in cultivating a positive image of destinations and driving visitors' intention to travel.

Despite the growing attention on social media marketing in tourism research (Cheng et al., 2016; Abbasi et al., 2023), empirical studies investigating how ODBE influences visitors' behavioral intentions in the context of ecotourism destinations remain limited. This study aims to fill this gap by exploring the impact of ODBE on the decision-making process regarding Romanian ecotourism destinations, focusing on key components that drive engagement, potential visits, and the sharing of destination information. In line with this aim, the general objectives of the study are to (1) explore the dimensions of the ODBE for ecotourism destinations and (2) study the influence of ODBE on Facebook users' behavioral intentions. In order to address these two goals, the study is guided by the following specific objectives: (O1) to identify specific dimensions of the ODBE for ecotourism destinations; (O2) to explore how the dimensions of ODBE are grouped in specific components; (O3) to highlight the influence of Facebook users' intention to visit the destination; and (O4) to emphasize the influence of Facebook users' intention to share information about the destination. To guide this exploration, the following research questions are addressed:

RQ1: What are the dimensions of the ODBE for ecotourism destinations?

RQ2: How are the dimensions of ODBE correlated with specific components (e.g., hedonic and utilitarian experiences)?

RQ3: Does ODBE influence Facebook users' intention to visit the destination?

RQ4: Does ODBE influence Facebook users' intention to share information about the destination?

By addressing these questions, the study aims to deepen the understanding of how ecotourism destinations can leverage social media engagement to influence potential tourists' decision-making processes. It contributes to both theory and practice: theoretically, by extending the concept of ODBE to the ecotourism domain through an experience economy lens; and practically, by offering actionable insights for destination marketing

organizations (DMOs) seeking to enhance their digital communication strategies. The findings are expected to reveal how different engagement dimensions—such as emotional resonance, perceived authenticity, and informational value—relate to users' intentions to visit and promote ecotourism destinations.

The remainder of the paper is structured as follows: the next section reviews the relevant literature on destination brand engagement and ecotourism marketing; this is followed by the theoretical framework and methodology; results are then presented and discussed in relation to the research questions; and finally, implications, limitations, and future research directions are outlined.

2. Literature Review

2.1. *The Specificity of Ecotourism Destinations*

The International Ecotourism Society (TIES) defined ecotourism as “responsible travel to natural areas that conserves the environment, sustains the well-being of the local people, and involves interpretation and education” ([The International Ecotourism Society \[TIES\], 2015](#)). Despite the abundance of academic focus on ecotourism, there is no universally accepted definition of ecotourism destinations, so this concept term can be interpreted in many different ways. For example, [Krider et al. \(2010\)](#) outlined that ecotourism destinations should (1) feature the natural environment as a central attraction, (2) offer the prospect of learning or education, and (3) at least intend to be sustainable environmentally, culturally, and economically. Considering the present study's focus on the Romanian ecotourism context, the authors embraced the definition of ecotourism destinations provided by Romanian tourism authorities, which is in line with TIES' vision.

The [Romanian Ministry of Economy, Entrepreneurship and Tourism \(2025\)](#) requires ecotourism destinations to promote responsible marketing, support sustainable businesses and local communities, raise environmental awareness, and enforce nature conservation. Based on existing international standards (Nature and Ecotourism Accreditation Program and Nature's Best), the [Association of Ecotourism in Romania \(2025\)](#) proposes a set of principles for ecotourism development and planning: (1) focus on natural areas; (2) interpretation of the ecotourism product; (3) environmental sustainability; (4) ecotourism assists in the preservation of nature; (5) ecotourism adds constructive input in the development of local communities; (6) ecotourism raises the tourists' degree of satisfaction; and (7) adequate marketing.

In the last decade, online marketing has become one of the main challenges of ecotourism development worldwide. The Internet and related technologies have transformed the way DMOs interact with their target audience and promote tourist destination brands ([Khan & Fatma, 2021](#)). The use of official destinations' social media accounts provides an interactive real-time experience between tourists and destination brands and may become a key element in the decision-making and planning phases. As ecotourism destinations hold several particularities compared to other types of tourism sites, their DMOs need to adapt the social media approach according to the characteristics and expectations of target visitors. Subsequently, there has been an increasing interest in researching how tourists use the internet to search for information related to ecotourism ([Sadiq & Adil, 2021](#); [Nogueira & Carvalho, 2024](#)).

2.2. *Conceptualizing Pre-Travel ODBE*

The experience economy, coined by [Pine and Gilmore \(1998\)](#), emphasizes the idea of consumers valuing brands for their ability to create unique experiences. [Lindstrom \(2005\)](#) extended this idea to branding, advocating for a multisensory approach beyond traditional two-sense strategies, as brand experience design plays a crucial role in brand management.

S. Lee et al. (2018) argued that sensory marketing shapes customer expectations by helping them visualize future experiences, making them more tangible. With the rise of online brands due to ICT advancements, traditional brands also expanded their digital presence. In this context, Morgan-Thomas and Veloutsou (2013) defined online brand experience as a holistic consumer response to website stimuli, highlighting the evolving nature of brand engagement in the digital landscape. The tourist experience unfolds in three stages: before, during, and after the trip. During the inspiration and planning stage, prospective travelers engage in “distant” experiences, often mediated by digital technology (Sundbo & Dixit, 2020; Sundbo & Hagedorn-Rasmussen, 2008). Official destination platforms (official websites, social media networks) managed by DMOs play a key role in this process (S. Lee et al., 2018). These platforms aim to create engaging ODBEs that encourage future visits and enhance the destination’s competitiveness.

Points of contact between potential visitors and the destination during the pre-travel phase are very important for destination managers, as travelers’ mental and emotional perceptions of their expected on-site experience strongly influence their decision making (Larsen, 2007; Volo, 2010; Tung & Ritchie, 2011). The internet serves as an effective tool for fulfilling not only functional travel needs but also hedonic, aesthetic, innovative, and social desires during the information-seeking process (Gretzel & Fesenmaier, 2009; Vogt & Fesenmaier, 1998). By facilitating positive pre-trip experiences, digital platforms enhance travel planning and anticipation (Buhalis & Law, 2008; Navío-Marco et al., 2018). In this phase, travelers are not only gathering information but also seeking inspiration and envisioning potential experiences (Fesenmaier & Pearce, 2019; Larsen, 2007; Tung & Ritchie, 2011; Volo, 2010).

Social media, as a space for sharing and interaction, has become a significant source of travel inspiration (Fotis, 2015). As the online space is often the first point of contact between potential customers and tourism brands, studies on online tourism experiences have emerged (Vlahovic-Mlakar & Ozretic-Dosen, 2022). Studies have highlighted the significant influence social media has on tourists’ destination choices (Jiménez-Barreto et al., 2019; Boley et al., 2018; Molinillo et al., 2018). In particular, platforms like Facebook play a pivotal role in the pre-trip stage, offering critical information for travel planning and decision making (Jadhav et al., 2018). Although ecotourism destinations have exceptional biodiversity and cultural heritage, little empirical research has examined how these destinations utilize Facebook to create online brand experiences that align with ecotourism values (Dwivedi et al., 2021). This study addresses that gap by examining the role of social media, particularly Facebook, in creating favorable online destination brand experiences for Romanian ecotourism destinations.

While previous research has focused primarily on evaluating website features (Sun et al., 2017; Tang et al., 2012), fewer studies have examined the experiential aspects of destination online presence. Choi et al. (2016) explored how telepresence—defined as the sensation of “being there” in a virtual environment (Steuer, 1992)—impacts users’ experiences on destination websites. Their findings suggest that engaging website features foster telepresence, which in turn influences both hedonic and utilitarian website performance (Choi et al., 2016). Building on such insights, this paper centres on the virtual experience of ecotourism destinations on Facebook. Specifically, it examines how these online encounters influence prospective travellers in the anticipation phase of their journey. The necessity for DMOs to provide positive ODBE is growing along with the use of internet platforms for informational searches on tourist destinations. According to Li et al. (2017), consumers’ online interaction with official destination platforms (e.g., official websites, social media network: Facebook, Instagram, Twitter) allows them to experience destinations without physically visiting them. Online platforms play a key role in destination branding by creating an immersive environment that helps users form memorable impressions (Khan & Fatma, 2021).

The construct of brand experience was first introduced by Brakus et al. (2009), who argue that it “include specific sensations, feelings, cognitions, and behavioral responses triggered by specific brand stimuli. For example, experiences may include specific feelings, not just an overall liking” (Brakus et al., 2009, p. 53). Initially, Brakus et al. (2009) proposed a comprehensive model that captures four essential dimensions of destination brand experience: sensory, affective, intellectual and behavioral. Barnes et al. (2014) first applied this theoretical concept to destination brands, focused on the concept of destination brand experience.

Previous research suggests that customer experience also encompasses a social dimension (Verhoef et al., 2009). The way tourists interpret the social aspect of the ODBE reinforces recent findings emphasizing the importance of social presence in shaping meaningful online brand experiences (Bleier et al., 2019). Subsequently, Jiménez-Barreto et al. (2019) extended the four-dimensional brand experience scale and proposed two other dimensions that deepen the understanding of an ODBE: interactive and social. Their results indicate that the ODBE involves a more complex set of dimensions, as it reflects the way tourists process brand-related stimuli and engage in simulated experiences within online environments, particularly during the pre-visit phase. However, in a subsequent study, Jiménez-Barreto et al. (2020) employed the four-dimensional brand experience scale created by Brakus et al. (2009) when they studied the effects of ODBE on users’ behavioral intentions toward the destination when users navigate destination platforms. Jiménez-Barreto et al. (2019) demonstrated that sensory and cognitive experiences resulting from engagement with official destination websites positively influence tourists’ attitudes and their intention to visit and recommend the destination. Similarly, Lin et al. (2024) showed that the sensory and affective dimensions of brand experience significantly impact tourists’ visit intentions. In the context of ecotourism, where authenticity and sustainability are core values, ODBE plays an even more important role in shaping decisions and promoting the sharing of destination information, thereby enhancing organic promotion through user-generated content. Köchling (2020) went beyond the brand focus and analyzed pre-travel ODBEs among German millennials in a qualitative multi-method approach. Consistent with other scholars (Beritelli & Laesser, 2018; Kladou et al., 2017; Tasci, 2011), Köchling (2020) argued that the complexity of tourist destinations impedes destination branding and challenges ODBEs. The findings of her explorative study showed that the ODBE dimensions considered so far need to be complemented by a spatio-temporal dimension (perceived accessibility of expected experiences and experience density in the destination) and a social dimension. The social dimension of ODBE involves interactions with locals, other tourists, and travel companions, influencing on-site experiences and perceptions of prestige. Given the increasing complexity of these interactions, previous research recommends further exploring this evolving aspect of brand experience (e.g., Andreini et al., 2019; Jiménez-Barreto et al., 2019; Köchling, 2020).

Furthermore, Köchling and Lohmann (2022) suggest that pre-travel ODBEs have particularities such as a spatio-temporal component and higher interrelation of singular experience aspects, and a more context-specific measurement instrument is needed. They proposed two interrelated experience dimensions—hedonic and utilitarian—which can be explained by the dual-process theory (Holbrook & Hirschman, 1982) and have also been used to explain general website performances (Huang, 2005). Items expressing sensory and affective aspects as well as space-time aspects are included in the hedonic dimension, which is especially reliant on the online experiential design (e.g., video, pictures) (Köchling & Lohmann, 2022). The utilitarian experience value includes an assessment of the anticipated destination experience’s benefits, encompassing intellectual, behavioral, and affective components (Köchling & Lohmann, 2022).

We can conclude that ODBE is a multidimensional construct that requires specific measurement tools and its testing in various contexts and destinations (Barnes et al., 2014; Jiménez-Barreto et al., 2019). Therefore, the present paper proposes a scale for the measurement of ODBEs, adapted to the specificities of ecotourism destinations, aiming to enhance the understanding of the dimensionality of this construct in the context of Romania.

2.3. Model Development and Hypotheses

This research seeks to reassess the dimensionality of the ODBE construct and further the development and validation of a measurement tool. The ODBE was conceptualized as a construct consisting of 32 items based on insights from two preliminary studies (Jiménez-Barreto et al., 2020; Köchling & Lohmann, 2022), covering various aspects of the experience (sensory, affective, intellectual, spatio-temporal, social, and behavioral). Specific items that explore the unique online experience of ecotourism destinations have been added by the authors to each dimension, which represents a novel approach to this research (see Table 1). These specific items for ecotourism destinations have been proposed by the authors, based on the principles of ecotourism formulated by the Association of Ecotourism in Romania (2025).

Previous research confirmed that ODBE is a significant determinant of visitor outcomes, specifically intention to revisit and intention to recommend (Barnes et al., 2014). According to Jiménez-Barreto et al. (2020), users who had not yet visited a destination placed greater emphasis on their ODBE when shaping their behavioral intentions compared to those who had already been there. Research adopting an experiential perspective on users' navigation of destination platforms has shown that positive online experiences—whether through websites (Jiménez-Barreto et al., 2019; S. Lee et al., 2018; W. Lee & Gretzel, 2012) or social media (Boley et al., 2018)—play a crucial role in influencing users' intentions to visit. Moreover, recent studies highlight that engaging social media interactions with a destination significantly predict users' likelihood to visit and recommend it (Boley et al., 2018).

Jiménez-Barreto et al. (2020) emphasized that visual stimuli, such as videos and images, are key drivers of sensory ODBEs but require engaging content to effectively motivate travel. Additionally, digital simulations on social media complement physical experiences, reinforcing visit intentions (Jiménez-Barreto et al., 2019). Social media further amplifies ODBE's impact by shaping destination image and influencing travel decisions (Molinillo et al., 2018). Destination marketers can enhance tourist involvement and trust by providing user-friendly, engaging content and encouraging participation, particularly in cognitive aspects such as infrastructure, safety, and sustainability. Aligning social media communication and product development with shareable destination characteristics strengthens a destination's online appeal.

Henceforth, the present study proposes the following:

H1: *ODBE positively influences users' intention to visit the destination within the next two years.*

A positive online user experience not only drives visit motivation but also plays a key role in destination recommendation (Zhang et al., 2018). Khan and Fatma (2021) highlighted a positive association between ODBE and word-of-mouth regarding the destination. Mariani et al. (2016) found that visual content strongly influences engagement, as tourists are drawn to images of destinations they have visited or plan to visit. Additionally, visual content and the average length of posts positively impact user interaction on social media. The intention to share information about the destination must be analyzed, as it significantly contributes to the pre-travel experience of other Facebook users. This study, therefore, proposes the following:

H2: *ODBE positively influences intention to share information about the destination.*

Table 1. Items used for the conceptualization on ecotourism ODBE scale.

Construct	Dimension	Items	Codification
ODBE	Sensitive	<i>The destination impressed me visually with its natural landscapes.</i>	S1
		<i>The destination impressed me visually with its cultural values.</i>	S2
		The presentation of the destination did not particularly attract me (control item).	S3
		The destination looks great.	S4
		The presentation of the destination stimulated my senses.	S5
	Affective	I imagined how good I would feel during a visit to the destination.	A1
		I had positive feelings toward the destination while browsing its Facebook page.	A2
		The destination left me indifferent (control item).	A3
		<i>I felt that nature is well-preserved and protected in this destination.</i>	A4
		<i>I felt that the cultural values specific to the area are preserved in this destination.</i>	A5
	Intellectual	The destination seemed boring to me (control item).	I1
		The Facebook page sparked my curiosity to learn more about the destination.	I2
		The destination seems interesting to me.	I3
		<i>I found the necessary information on the destination's Facebook page for a better understanding of nature.</i>	I4
		<i>I found the necessary information on the destination's Facebook page for a better understanding of the local culture.</i>	I5
	Spatio-temporal	I realized where the destination is located while browsing its Facebook page.	ST1
		The destination seemed difficult to reach (control item).	ST2
		While browsing the Facebook page, I figured out where the main tourist attractions in the destination are located.	ST3
		I learned about the most suitable time to travel to the destination.	ST4
		<i>While browsing the Facebook page, I realized which protected natural areas are located within the destination.</i>	ST5
	Social	<i>I believe it is easy to interact with locals in the destination.</i>	SOC1
		I believe the destination is suitable for a vacation with my family or friends.	SOC2
		I think the destination is crowded (there are too many tourists in the destination) (control item).	SOC3
		I could impress my friends and family if I visit the destination.	SOC4
		I believe that in this destination, one can have memorable encounters with other people.	SOC5
	Behavioral	The Facebook page triggered my desire to visit the destination.	C1
		I could easily imagine myself in the destination while browsing the Facebook page.	C2
		I believe a vacation in this destination is affordable for me.	C3
		I think I could have diverse experiences in the destination.	C4
		I believe the destination's Facebook page creates unrealistic expectations about the experiences tourists can have there (control item).	C5
		<i>I believe the activities promoted on the Facebook page have minimal negative impact on the natural and socio-cultural environment.</i>	C6
		<i>The destination's Facebook page contains information about adopting environmentally friendly behavior.</i>	C7
	Based on the information found on the Facebook page, I intend to visit the destination within the next two years.		INT_visit
	There is a possibility that I will share positive information about the destination.		INT_share

The 32 items of the ODBE construct included in the survey are listed, adapted from Jiménez-Barreto et al. (2020) and Köchling and Lohmann (2022). Italicized text indicates that the item was added by the authors, and it is specific to ecotourism destinations.

The comprehensive conceptual model is presented in Figure 1 and will be discussed in the following section.

Context- Pre-travel, Anticipatory experience phase

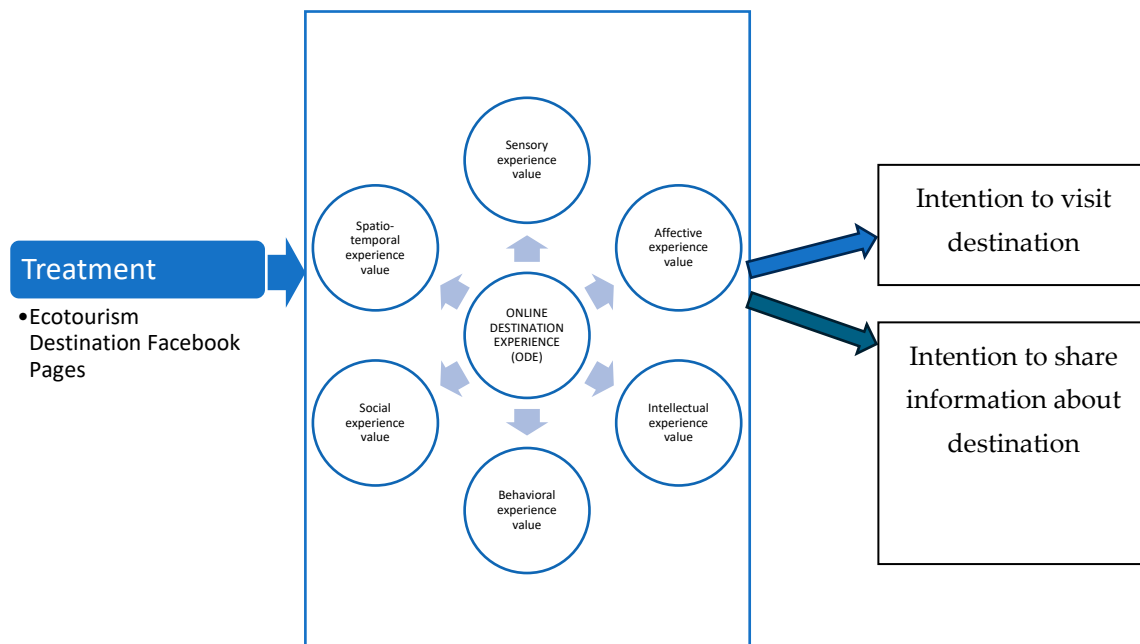


Figure 1. Conceptual model of Online Destination Brand Experience (ODBE).

This model illustrates how ODBE for ecotourism destinations—operationalized through six dimensions (sensory, affective, intellectual, social, behavioral, and spatio-temporal experience values)—serves as the focal “treatment” driving followers’ behavioral intentions on Facebook. Specifically, enhanced ODBE increases users’ intention to visit the destination and their intention to share destination-related content with their networks. The six experience values jointly shape the overall ODBE construct, which in turn exerts direct, positive effects on both intention-to-visit and intention-to-share.

3. Materials and Methods

Romania features a network of ecotourism destinations that reflect a balanced interaction between biodiversity conservation and cultural landscape preservation. Ținutul Zimbrului serves as a critical area for the rewilding of European bison within extensive forest ecosystems. Băile Tușnad and its surrounding area are distinguished by their volcanic geomorphology, therapeutic mineral waters, and the unique glacial Saint Anne Lake. Eco Maramureș offers a model of sustainable tourism rooted in traditional wooden architecture and well-preserved rural customs amid a rich natural setting. Țara Dornelor combines mountainous ecosystems, spa resources, and ecotourism infrastructure to support nature-based recreation. Țara Hațegului-Retezat integrates geological heritage, including notable paleontological sites, with the ecological value of Retezat National Park. Pădurea Craiului is recognized for its karst landscape, hosting numerous caves and a high level of biodiversity, supporting both scientific study and ecotourism. Colinele Transilvaniei exemplifies the synergy between cultural heritage, including fortified Saxon churches, and the conservation of species-rich grasslands within a mosaic of traditional agricultural practices.

In order to respond to the research questions, an online survey was conducted among visitors to the Facebook pages owned by the seven certified Romanian ecotourism destinations: Ținutul Zimbrului, Băile Tușnad și împrejurimile, Eco Maramureș, Țara Dornelor,

Țara Hategului-Retezat, Pădurea Craiului, and Colinele Transilvaniei. Thus, a complex online questionnaire was posted on these Facebook pages with the support of their administrators. Since Facebook pages are important sources of information and inspiration for users about ecotourism destinations, they were considered strong drivers in developing the ODBE.

3.1. Questionnaire Design

Following Churchill's (1979) approach to scale development, the questionnaire contains 32 items, presented in Table 1 (5 items for each dimension of the ODBE, except the behavioral dimension, which was measured using 7 items). A seven-level Likert scale with equal distances, from 1 to 7, was used (where 1 means "strongly disagree" and 7 means "strongly agree"). In literature, such a seven-level scale is considered to perform well in this context (Peng & Finn, 2016). Each scale point was numerically designated, while only the endpoints were labeled. This approach created the perception of equal spacing between response options, allowing participants to interpret the scales as interval measures (Alreck & Settle, 2004; Fowler, 2014). The questionnaire ends with some characterization questions related to the respondents' age, education, and residence.

To eliminate any ambiguity in the wording of the questions (Podsakoff et al., 2012), the questionnaire was pre-tested on 15 individuals. They were asked to evaluate their ODBE using the proposed items and provide feedback on any items that seemed unclear or irrelevant to the task. An expert panel of five ecotourism scholars and practitioners reviewed all 32 items for relevance and clarity. Two independent coders then evaluated the panel's feedback and resolved any discrepancies (Cohen's $\kappa = 0.81$). Item-level CVI ($I\text{-}CVI \geq 0.78$; $S\text{-}CVI/Ave = 0.92$), $Ave \geq 0.50$, and $CR \geq 0.70$ thresholds were used to retain items.

3.2. Data Collection and Sample Members

The data collection process was conducted online by using a web-based questionnaire. With the help of page administrators, the questionnaire was posted on selected ecotourism Facebook pages to collect responses. Users of these pages were invited to participate voluntarily by accessing and completing the questionnaire online.

At the start of the questionnaire, participants were informed about the confidentiality of their responses and that the results of the research would be used only for statistical and scientific purposes, without using any personal data. They were then given the opportunity to opt out of the survey. Those who consented to participate in the research continued to complete the answers to the questions.

Respondents were instructed to imagine they were deciding whether their next trip should be to an ecotourism destination and were asked to explore the assigned Facebook page for 5 min to gather information about the destination and form an impression of their potential vacation. For the ODBE assessment, participants reviewed the Facebook page and evaluated the destination and the associated vacation experience using the 32-item scale.

After cleaning the data, 281 fully completed questionnaires were retained for analysis. Since the Facebook pages can serve as forming ODBE without visiting the destination, the individuals who have previously visited the destination were not excluded from the study.

3.3. Operationalizing the ODBE

The ODBE was designed as a construct of 32 latent variables, evaluated by the respondents based on their attitudes after viewing the ecotourism destination's Facebook pages. Thus, to avoid strong multicollinearity, the dimensionality of the construct was assessed by using the Exploratory Factor Analysis. Before analysis, the negatively worded control items were reverse-coded. A principal component analysis (PCA) with Equamax rotation was

computed. Exploratory factor analysis via PCA was conducted in International Business Machines Statistical Package for the Social Sciences (IBM SPSS) Statistics 20 vs. Equamax rotation was chosen because it balances factor- and variable-level simplicity. This suited our ecotourism items that showed no single dominant factor—thereby enhancing interpretability of all reflective constructs (Costello & Osborne, 2005). The results returned three components with an eigenvalue higher than 1. Therefore, according to the research results, the number of initially proposed dimensions was reduced to three components. These components were labeled according to their content as follows: hedonic (immersive experience), utilitarian (rational experience), and spatio-temporal (space- and time-related experience).

The ODBE was conceptualized as a higher-order reflective-reflective construct for several reasons. First of all, the hedonic, utilitarian, and spatio-temporal constructs were modeled as reflective first-order constructs, where the latent variable influences its observed indicators. This implies that higher levels of a given experience result in consistently higher ratings across its corresponding indicators, confirming the reflective nature of the constructs.

Preliminary studies (Jiménez-Barreto et al., 2020; Köchling & Lohmann, 2022) indicated that individual experience elements are strongly correlated in the context of online destinations, which is expected to hold true for the three proposed ODBE components. This approach ensures conceptual consistency, measurement reliability, and comparability with prior research. At the first-order level, each ODBE dimension is treated as a composite latent construct, with its indicators influenced or caused by the underlying latent variable (J. F. Hair et al., 2020). At the second-order level, the ODBE itself is considered a latent construct that manifests through the identified components, rather than being formed by them.

Furthermore, modeling the ODBE as a reflective-reflective construct offers advantages over formative models, particularly in terms of interpreting the reliability and validity of the scale (J. F. Hair et al., 2020). Empirical findings further support this conceptualization. Preliminary studies indicate a strong correlation among the first-order dimensions—Hedonic, Utilitarian, and Spatio-Temporal—confirming that they are manifestations of a broader ODBE construct rather than distinct formative elements (Jiménez-Barreto et al., 2020; Köchling & Lohmann, 2022).

To evaluate the dimensionality and validity of the developed ODBE scale, a Confirmatory Composite Analysis (CCA) was conducted with the reflective measurement models (J. F. Hair et al., 2020), using SmartPLS 4.0 software for Partial Least Squares Structural Equation Modeling. The model was developed using the repeated indicators approach proposed by Sarstedt et al. (2019). We incorporated the three components and their corresponding underlying items identified through PCA as first-order constructs, while the overall ODBE was treated as a second-order construct.

We also estimated the impact of ODBE on behavioral intentions (“intention to visit” and “intention to share”) using Partial Least Squares Structural Equation Modeling (PLS-SEM) in SmartPLS 4.0. For each endogenous construct, we report R^2 and adjusted R^2 , assess overall fit via SRMR (<0.08), and examine path coefficients (β) to evaluate the strength and significance of the hypothesized relationships.

4. Results

To provide context for the study’s findings, it is important to first describe the demographic and experiential characteristics of the survey participants. Table 2 outlines key attributes of the respondents, including their age, education level, place of residence, and prior visitation experience.

Table 2. Sample structure.

Category	Percent
Age	
18–24 years	61.9%
25–35 years	7.8%
26–45 years	15.7%
46–55 years	7.1%
56–65 years	6.0%
Above 65	1.4%
Education	
High school	28.5%
Bachelor	39.1%
Master	25.6%
Doctorate	6.8%
Residence	
Urban	73.3%
Rural	26.7%
Have visited the destination before	
Yes	56.6%
No	43.4%

The age distribution indicates a predominant representation of young adults aged 18–24 (61.9%). Educational attainment reveals a balanced spread, with 28.5% of respondents holding a high school diploma, 39.1% possessing a bachelor’s degree, 25.6% completing a master’s degree, and 6.8% having a doctorate. In terms of residency, a majority of respondents (73.3%) reside in urban areas, with the remaining 26.7% in rural locations. Additionally, prior visitation patterns show that 56.6% of respondents have visited the destination before, while 43.4% are first-time visitors.

4.1. Descriptive Statistics

Overall, most variables exhibit high mean values (above 5 on a 1–7 scale), suggesting a generally positive perception of the online experience of the analyzed destinations (Appendix A). For instance, S1 (“The destination impressed me visually with its natural landscapes”) has a mean of 6.36, indicating a strong agreement with this statement. Conversely, variables such as C6 (“I believe the activities promoted on the Facebook page have minimal negative impact on the natural and socio-cultural environment”) show lower mean values (3.99), suggesting a less favorable perception of the sustainability of promoted activities. Standard deviations range from approximately 1 to 2.3, indicating varying levels of response dispersion. A higher standard deviation, such as for C6 (2.381) or C5 (2.268), suggests greater diversity in participants’ opinions, while lower standard deviation values, such as for S1 (0.973) or I3 (1.042), indicate stronger consensus among respondents.

4.2. Scale Development

To enhance the clarity of the ODBE assessment measure and examine the dimensionality of the construct, the full dataset ($n = 281$) was utilized. A principal component analysis (PCA) with equamax rotation was performed on all 32 items (refer to Table 1). Equamax rotation was applied to maximize variance distribution across components while balancing factor independence and interpretability (Table 3). This approach, which combines elements of both Varimax (orthogonal) and Oblimin (oblique) rotations, was chosen to enhance the differentiation of components while allowing for some flexibility in factor

correlations. The rotation converged in eight iterations, producing a clear structure where the extracted components align with the theoretical dimensions of ODBE.

Table 3. Rotated component matrix.

	Component			
	1	2	3	4
S4	0.742			
I3	0.721			
S5	0.708			
S1	0.707			
A2	0.665			
I2	0.638			
A1	0.631			
A5		0.707		
C7		0.685		
A4		0.669		
SOC1		0.663		
SOC4		0.608		
I5				
SOC5				
ST3			0.768	
ST4			0.755	
ST1			0.738	
ST5			0.697	
A3				0.793
C5				0.697
I1				0.686
ST2				0.650
S3				0.647

Extraction method: principal component analysis. Rotation method: Equamax with Kaiser Normalization (rotation converged in 8 iterations).

The suitability of the data for analysis was confirmed using the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy, which yielded a value of 0.940 (Kaiser & Rice, 1974). Additionally, Bartlett's test of sphericity was significant ($\chi^2(496) = 0.000, p < 0.001$). Following Kaiser's criterion (Kaiser & Rice, 1974), three components (hedonic, utilitarian, and spatio-temporal) with eigenvalues exceeding one were identified, accounting for 55.12% of the total variance.

The scree plot (Appendix B) and parallel analysis (Horn, 1965) suggested that three components should be retained. The initial PCA revealed four components with eigenvalues greater than 1. However, the fourth component included only negatively worded control items (A3—The destination left me indifferent; C5—I believe the destination's Facebook page creates unrealistic expectations about the experiences tourists can have there; I1—The destination seemed boring to me; ST2—The destination seemed difficult to reach; S3—The presentation of the destination did not particularly attract me). These reverse-phrased items often cluster due to their wording, not because they reflect a true construct. This is known as a method factor (Van Dam et al., 2012; Suárez-Álvarez et al., 2018). It reflects response style or cognitive processing differences rather than substantive meaning. Such effects can distort the true factor structure. Therefore, we retained only three components that represent meaningful constructs. The fourth component is reported for transparency but was not included in the final interpretation.

Two items (SOC3 and C6) were removed due to low communalities (≤ 0.7), while nine additional items (S2, I4, I5, SOC2, SOC5, C1, C2, C3, C4) were excluded because of

high cross-loadings (i.e., loadings > 0.3 on multiple components with a difference of ≤ 0.3 between them).

In the revised analysis, five items (S3, A3, I1, ST2, C5) were excluded from the scale after the second PCA run, as they did not load onto any of the components explaining most of the covariance. Additionally, the items primarily functioned as a control variable, further supporting its removal to enhance the scale's conceptual clarity and measurement validity.

The resulting three-component solution explained 55.8% of the variance (see Table 4). Although the three-factor solution accounted for 55.0% of cumulative variance—below the 60–65% guideline—such levels (50–60%) are considered acceptable in behavioral-science research (J. F. Hair et al., 2020; Tabachnick & Fidell, 2013; Comrey & Lee, 2013; Worthington & Whittaker, 2006). The first component represents the predominantly affective immersive part (hedonic value). The second component represents its rational evaluative part (utilitarian value) of the ODBE, while the third component represents the spatial-temporal part (spatio-temporal value).

Table 4. Extraction sums of squared loadings.

Component	Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %
1	9.858	39.431	39.431
2	2.717	10.868	50.300
3	1.379	5.516	55.816

4.3. Confirming the Measurement's Validity and Reliability

To evaluate the dimensionality and validity of the developed ODBE scale, the full dataset ($n = 281$) was utilized to perform a Confirmatory Composite Analysis (CCA) (J. F. Hair et al., 2020) using Smart PLS 4 (Ringle et al., 2014). CCA, a variance-based structural equation modelling (SEM) approach, was selected over Confirmatory Factor Analysis (CFA), a covariance-based SEM method, due to the early stage of theory development for the ODBE construct. Given this phase, the analysis prioritized content validity, which is better supported by CCA, as it tends to yield higher item loadings and retains a greater number of indicators compared to CFA (J. F. Hair et al., 2020).

The research model evaluation based on PLS analysis was carried out in two phases: (1) testing the reliability and validity of the measurement model; and (2) evaluating the structural model.

4.3.1. Testing the Reliability and Validity of the Measurement Model

The inter-component correlations ranged from 0.486 to 0.703, indicating a moderate to strong relationship among the extracted components. This supports the assumption that the components are interrelated, justifying the use of oblique rotation (e.g., Direct Oblimin). Furthermore, the results confirm that the hedonic, spatio-temporal, and utilitarian components function as reflective subdimensions of a higher-order construct.

Additionally, all three components demonstrated high reliability, with Cronbach's alpha (CA) and composite reliability (CR) exceeding 0.8, ensuring internal consistency. The average variance extracted (AVE) was greater than 0.5, confirming convergent validity (Table 5).

The measurement model exhibited favorable reliability and validity, as all values exceeded the commonly accepted thresholds of 0.8 for composite reliability (CR) (Nunnally, 1978), 0.7 for Cronbach's alpha (CA) (J. Hair et al., 1998), and 0.5 for average variance extracted (AVE) (Fornell & Larcker, 1981).

Table 5. Reliability and Convergent Validity Metrics for the Hedonic, Utilitarian, and Spatio-temporal components.

Dimension	Hedonic	Utilitarian	Spatio-Temporal
Cronbach's alpha (CA)	0.915	0.832	0.865
Composite reliability (CR)	0.921	0.880	0.908
Average variance extracted (AVE)	0.663	0.596	0.711

To ensure that multicollinearity was not a concern, collinearity was assessed using the Variance Inflation Factor (VIF). All VIF values remained below 3.0, confirming the absence of multicollinearity issues and ensuring the stability of the structural model relationships (J. F. Hair et al., 2020). Since all VIF values are below 3.0, collinearity is not a concern, supporting the robustness of the measurement model.

Discriminant validity was assessed using the Heterotrait–Monotrait ratio (HTMT). All HTMT values remained below the commonly accepted threshold of 0.85 (Henseler et al., 2015), confirming that the constructs are sufficiently distinct.

The hedonic and utilitarian constructs exhibited strong correlations with ODBE. Additionally, the spatio-temporal and utilitarian components demonstrated moderate correlations, indicating some interconnectedness while maintaining their distinctiveness. Since none of the HTMT values exceed 0.85, there are no substantial concerns regarding construct redundancy in the model.

To further confirm discriminant validity, bootstrapped 95% confidence intervals (CIs) for the HTMT ratios were examined (Henseler et al., 2015). The results indicated that for all construct pairs, the upper bound of the HTMT confidence intervals remained below 1.00 (0.000). This provides additional support that the constructs are sufficiently distinct.

4.3.2. Evaluating the Structural Model

We expected positive ODBE values to be a predictor of the visit to the destination within the next two years (H1) and share positive information about the destination (H2).

The structural model was assessed by examining the R-square (R^2) values, which indicate the proportion of variance explained by the ODBE construct in its three components: hedonic, spatio-temporal, and utilitarian experiences. The adjusted R-square accounts for potential model complexity, ensuring a more precise estimate of explanatory power. The results reveal that the ODBE construct explains 45.8% of the variance in the hedonic component ($R^2 = 0.458$, adjusted $R^2 = 0.456$), making it the most strongly predicted component. In contrast, the spatio-temporal component exhibits a moderate level of explained variance ($R^2 = 0.275$, adjusted $R^2 = 0.272$). The utilitarian component has the lowest explained variance ($R^2 = 0.236$, adjusted $R^2 = 0.233$). Despite differences in explained variance across the three components, the small difference between R^2 and adjusted R^2 in all cases suggests that the model is well-structured and stable. This implies that additional predictor variables would not substantially improve the explanatory power of the model, reinforcing the robustness of the current construct structure. Additionally, overall model fit was assessed via the Standardized Root Mean Square Residual (SRMR = 0.045), which is well below the recommended 0.08 threshold and thus supports the adequacy of the model.

Additionally, the path coefficients indicate strong relationships between ODBE and its components: hedonic ($\beta = 0.677$), utilitarian ($\beta = 0.486$), and spatio-temporal ($\beta = 0.524$). These values suggest that the hedonic component is the most strongly associated with ODBE, followed by spatio-temporal and utilitarian components.

The final model (Figure 2) also examined the impact of ODBE on behavioral intentions, specifically intention to visit ($\beta = 0.913$) and intention to share ($\beta = 0.875$). Both path coefficients are strong and positive, suggesting that users' experience with an online

destination significantly drives both their likelihood to visit and share information about the destination. Therefore, both hypotheses are confirmed.

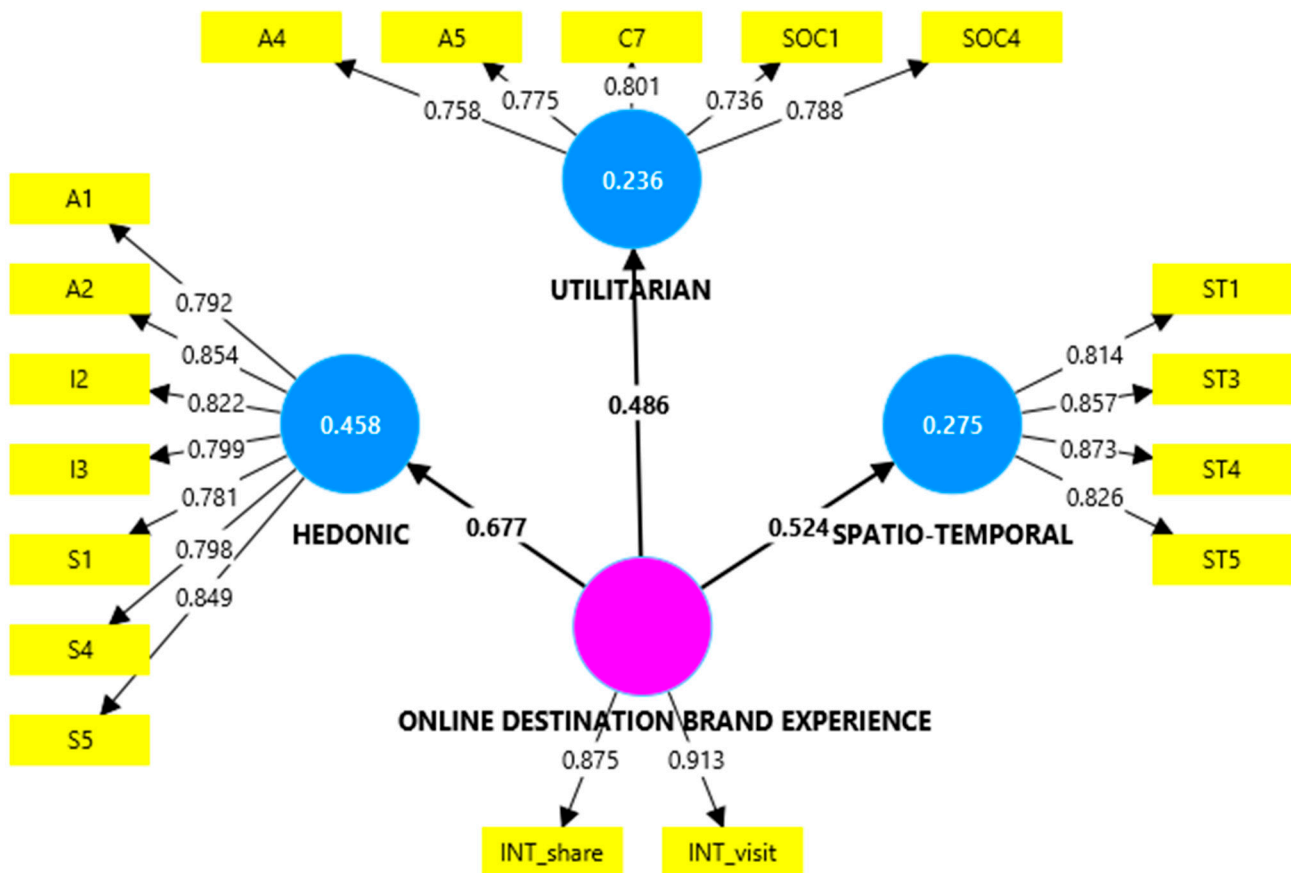


Figure 2. The impact of ODBE on behavioral intentions.

Moreover, the individual indicator loadings for each component exceeded the commonly accepted threshold of 0.7, confirming strong construct validity. Table 6 presents the factor loadings.

Table 6. Factor loadings.

	Hedonic	ODBE	Spatio-Temporal	Utilitarian
A1	0.792	0.538	0.529	0.564
A2	0.854	0.545	0.568	0.659
A4	0.566	0.298	0.460	0.758
A5	0.597	0.343	0.476	0.775
C7	0.516	0.423	0.557	0.801
I2	0.822	0.670	0.550	0.585
I3	0.799	0.524	0.489	0.533
INT_share	0.578	0.875	0.412	0.372
INT_visit	0.630	0.913	0.518	0.489
S1	0.781	0.504	0.510	0.520
S4	0.798	0.466	0.412	0.538
S5	0.849	0.568	0.570	0.598
SOC1	0.486	0.309	0.485	0.736
SOC4	0.559	0.456	0.495	0.788
ST1	0.512	0.398	0.814	0.501
ST3	0.547	0.476	0.857	0.542
ST4	0.582	0.487	0.873	0.536
ST5	0.514	0.394	0.826	0.598

Factor loadings above 0.70 indicate strong associations between indicators and their respective constructs, while cross-loadings above 0.40 suggest potential construct overlap. The hedonic construct exhibited strong loadings for affective, sensory, and intellectual components, supporting its role as the most experience-driven aspect of ODBE. Items A1 (0.792), A2 (0.854), I2 (0.822), I3 (0.799), S1 (0.781), S4 (0.798), and S5 (0.849) loaded significantly on this component, confirming its emotional and immersive nature.

The ODBE construct showed high loadings for behavioral intention indicators: INT_share (0.875) and INT_visit (0.913), suggesting that users' engagement with online destination content significantly influences their intent to visit and share information about the destination. Moderate loadings across multiple dimensions suggest that ODBE integrates hedonic, spatio-temporal, and utilitarian components while maintaining its distinctiveness.

The spatio-temporal component demonstrated strong loadings, particularly for indicators related to users' spatial and temporal awareness of the destination. Items ST1 (0.814), ST3 (0.857), ST4 (0.873), and ST5 (0.826) exhibited high loadings, reinforcing the importance of spatial perception in shaping the pre-travel experience. The acceptable cross-loadings support construct validity, confirming that spatial awareness is distinct from purely hedonic or functional evaluations.

The utilitarian component showed high loadings for items A4 (0.758), A5 (0.775), C7 (0.801), SOC1 (0.736), and SOC4 (0.788), supporting its role in rational and functional evaluations of the destination. However, A4 and A5 also exhibited moderate cross-loadings with the hedonic component, suggesting conceptual overlap between affective engagement and practical evaluations. This indicates that users' rational perceptions of a destination may still be influenced by emotional and sensory elements, rather than purely functional considerations.

Also, the Bayesian Information Criterion (BIC) was used to evaluate the goodness-of-fit and complexity of the statistical model. The hedonic component exhibits the best model fit ($BIC = -161.871$), confirming that pre-travel online engagement is primarily emotional and immersive. The spatio-temporal component ($BIC = -80.025$) shows a moderate fit, suggesting that ODBE influences users' spatial and temporal perceptions, but additional contextual factors may contribute. The utilitarian component ($BIC = -65.436$) presents the highest BIC, indicating that rational evaluations rely on broader decision-making factors beyond ODBE.

5. Discussion

The developed scale is intended to differentiate the overall experiential values along these three components, as generated by ecotourism destination Facebook pages, rather than describing specific individual experiences (e.g., particular emotions). This approach aligns with the brand experience scale (Brakus et al., 2009).

In this study, ecotourism ODBEs are represented through three underlying components that incorporate elements identified in previous research (Jiménez-Barreto et al., 2019; Köchling & Lohmann, 2022) while also reflecting the unique characteristics of ecotourism destinations. The first component pertains to the hedonic value of the destination experience, encompassing sensory, affective, and intellectual dimensions. This hedonic ODBE component is anticipated to be particularly prominent during the inspiration phase. Then, Facebook users engage in fantasizing about potential holidays without immediate travel plans or specific needs (Dai et al., 2022), and their involvement is relatively low (Petty & Cacioppo, 1986; Tang et al., 2012). The term "intellectual" in this context refers to the cognitive dimension of the destination experience. It encompasses the stimulation of visitors' thinking, curiosity, and mental engagement through activities such as exploring local culture, learning about the history of the destination, or participating in experiences that provoke reflection and deeper understanding. Intellectual experiences contribute to the

overall hedonic value by fostering opportunities for personal growth and the acquisition of knowledge, complementing the sensory and emotional aspects of the experience. This interpretation contrasts with the findings of Köchling and Lohmann (2022), who categorized intellectual items from the evaluation scale as part of the utilitarian component rather than the hedonic component.

The second ODBE component, which complements the hedonic component, aligns with utilitarian thinking as described by Holbrook and Hirschman (1982). The second component focuses on social and behavioral aspects. It aligns with utilitarian thinking during the information phase. However, the affective items indicate that emotions still play a role in shaping responses to the destination experience. These affective elements likely contribute to the way individuals connect emotionally with the information they process, reinforcing their engagement and decision making. This reflects a more nuanced understanding of the information phase, where higher involvement and cognitive processing coexist with emotional influences, as users evaluate content with both rational and affective considerations. This phase follows the inspiration stage, where the content of Facebook pages is processed in a more cognitively driven manner, with higher levels of involvement (Petty & Cacioppo, 1986; Tang et al., 2012).

The third ODBE component addresses spatio-temporal aspects, as ecotourism destinations are deeply tied to place because the main motivation of their visitors is to observe and enjoy nature and local customs regarding nature (Association of Ecotourism in Romania, 2025). This includes considerations such as the uniqueness of the destination's landscapes and the interplay between human activity and natural ecosystems. These aspects shape the visitor's experience by emphasizing a sense of place and fostering a connection with nature. Understanding this component is very important in ecotourism, as it influences both the experiential quality and the conservation efforts tied to these destinations.

The results of the CCA confirm the robustness and validity of the developed ODBE measurement model. The findings indicate that the three identified components—hedonic, utilitarian, and spatio-temporal—function as reflective subdimensions of a higher-order construct. This aligns with prior research on experiential consumption, which suggests that online experiences are multidimensional and interrelated (Jiménez-Barreto et al., 2020; Köchling & Lohmann, 2022).

A critical aspect of model evaluation is ensuring the absence of multicollinearity. The Variance Inflation Factor (VIF) values, all below 3.0, suggest that multicollinearity is not a concern, reinforcing the stability of the model. This further strengthens the argument that the developed ODE scale provides distinct and non-redundant measures of the online destination experience. However, the relatively strong correlation between the hedonic and utilitarian components (HTMT = 0.805) suggests some conceptual overlap. This is consistent with previous studies indicating that affective and cognitive evaluations of an experience are often interlinked, particularly in tourism and brand experience research (Brakus et al., 2009; Jiménez-Barreto et al., 2020).

Interestingly, the spatio-temporal component exhibited moderate correlations with both the hedonic and utilitarian components. This suggests that perceptions of space and time in an online tourism context are shaped by both affective and cognitive elements. Users may form an emotional attachment to a destination based on its perceived accessibility and attractiveness while simultaneously assessing its practical aspects, such as ease of access and recommended travel periods. These findings contribute to the growing body of literature on online destination experiences, supporting the notion that online environments can simulate pre-travel engagement in ways that influence future travel behavior (Gretzel et al., 2006; Dai et al., 2022).

The evaluation of the structural model provides strong empirical support for the role of ODBE in shaping both perceived experience dimensions and behavioral intentions. The results demonstrate that ODBE strongly predicts users' intention to visit the destination and share information about it, reinforcing the critical role of online engagement in tourism decision making.

The R^2 values indicate that the hedonic component is the most strongly predicted component of ODE ($R^2 = 0.458$, adjusted $R^2 = 0.456$), confirming that affective and sensory engagement are the dominant aspects of online destination experiences. This finding aligns with previous research suggesting that emotional and immersive content plays a central role in shaping users' perceptions of travel destinations (Jiménez-Barreto et al., 2020; Dai et al., 2022).

In contrast, the spatio-temporal component exhibited a moderate level of explained variance ($R^2 = 0.275$, adjusted $R^2 = 0.272$), suggesting that while online experiences contribute to users' spatial awareness and temporal perceptions of the destination, additional factors (e.g., external sources such as travel guides and user-generated content) may also play a role in shaping these perceptions.

The utilitarian component had the lowest explained variance ($R^2 = 0.236$, adjusted $R^2 = 0.233$), indicating that while practical and rational evaluations of a destination are influenced by ODBE, they are likely supplemented by more fact-based and logistical information sources. This aligns with findings from digital tourism research, which suggests that social media content tends to be more effective for inspiration and emotional engagement rather than purely functional decision making (Tang et al., 2012).

The spatio-temporal component, while moderately associated with ODBE, remains an essential component, particularly in ecotourism contexts where the location of attractions and travel logistics play an important role.

While Jiménez-Barreto et al. (2020) proposed a tripartite model comprising cognitive, affective, and behavioral components, their framework was developed in the context of urban destination branding and emphasized brand-related self-congruence. In contrast, our findings reveal that in ecotourism settings, engagement is more strongly driven by values associated with authenticity, sustainability, and environmental education, which reconfigure how these components manifest and interact. Similarly, Köchling and Lohmann (2022) explored ODBE within mass tourism, focusing on digital touchpoints and customer journey stages. Thus, while structurally similar to existing models, this study contributes to novel conceptual distinctions that better reflect the motivations and behavioral patterns of ecotourism-oriented social media users.

6. Conclusions

The findings of this study highlight that the proposed ODBE scale for ecotourism destinations comprises three components hedonic, utilitarian, and spatio-temporal. This directly addresses RQ1 by demonstrating how these components together capture the emotional, rational, and place/time-based elements of online experiences. Moreover, each component measures different aspects of ODBE (RQ2). For example, affective immersion relates to the hedonic component, while practical evaluations pertain to the utilitarian aspect. Additionally, spatial or seasonal awareness is associated with the spatio-temporal component. Despite these distinctions, the components show moderate to strong correlations. This suggests some overlap between emotional and cognitive evaluations of a destination. Also, it indicates that users approach ecotourism content in a holistic manner, where sensory appeal and logistical considerations both inform their impressions before travel.

Additionally, the findings offer clear evidence in response to RQ3 and RQ4 regarding the relationship between ODBE and key behavioral intentions. First, ODBE exerts a strong

influence on users' likelihood to visit, underscoring the critical role of an engaging, visually compelling, and informative online presence in motivating actual travel. Second, ODBE similarly shapes intentions to share destination information on social media, reflecting how positive interactions with official Facebook pages can transform travelers into advocates who disseminate destination highlights within their own networks.

6.1. Theoretical Contributions

This study contributes to the growing body of research on ODBE by validating a three-dimensional model that includes hedonic, spatio-temporal, and utilitarian components. The findings largely confirm existing theories on experiential consumption in digital tourism but also present key distinctions that refine current models. Moreover, the present paper extends the ODBE framework to conservation-driven ecotourism settings by demonstrating how online brand experiences can both engage potential visitors and reinforce preservation goals. It also identifies spatio-temporal experience value as a third dimension, alongside hedonic and utilitarian factors. It captures users' sense of place and timing, which is vital for observing and conserving natural and cultural environments. This three-factor structure is important because it shows how experiential, functional, and place-bound elements uniquely influence intention-to-visit and intention-to-share, enhancing the understanding of ODBE in nature-based contexts. First, the study reinforces the dominance of hedonic experiences in shaping online engagement with destinations, aligning with prior research on digital tourism experiences (Jiménez-Barreto et al., 2020; Dai et al., 2022).

The introduction of the spatio-temporal dimension refines previous ODBE models, which have traditionally focused on sensory, affective, and cognitive aspects. The results indicate that spatial awareness and time perception play a distinct role in pre-travel engagement, particularly for ecotourism destinations where geographic and seasonal factors are important. While previous studies on destination branding have emphasized functional and emotional attributes (Brakus et al., 2009; Khan & Fatma, 2021), this research demonstrates that users also form impressions based on perceived accessibility and travel timing, which may impact their decision-making process.

Additionally, this study provides empirical evidence that ODBE strongly predicts behavioural intentions. The high path coefficients for intention to visit ($\beta = 0.913$) and intention to share ($\beta = 0.875$) confirm that online engagement translates into real-world actions, reinforcing Gretzel et al.'s (2006) argument that digital experiences drive tourism behaviour. Based on these outcomes, we consider that ecotourism destinations should enhance their online presence with immersive experiences like virtual tours and real visitor stories, as these significantly boost the intention to visit. To further increase engagement and visibility, destinations should promote user participation through hashtag campaigns and content sharing initiatives.

6.2. Practical Implications

From a managerial perspective, the results highlight the importance of creating immersive and informative online experiences for tourism destinations. Since the hedonic component exhibits the strongest reliability and validity, destination marketers should prioritize emotionally engaging content, such as high-quality visuals, storytelling, and interactive features, to enhance the pre-travel experience. Additionally, the correlation between spatio-temporal and utilitarian components suggests that practical information, such as travel logistics and seasonal highlights, should be seamlessly integrated into engaging narratives rather than presented as standalone factual content.

Furthermore, the strong relationship between the ODBE construct and behavioral intentions (e.g., intention to visit and share information) confirms that ODBE significantly

influences user engagement and decision making. Tourism boards and digital marketers should leverage this insight by designing social media campaigns that encourage interaction and sharing, as this can enhance both destination awareness and visit intent.

Given that the hedonic component is the most influential component of ODBE, online content should prioritize visual storytelling, user-generated experiences, and immersive multimedia formats to evoke positive emotions and enhance user engagement.

The moderate role of the spatio-temporal component suggests that destination marketers should also include relevant geographic and seasonal information within engaging content formats. For example, incorporating interactive maps, live videos, and seasonal recommendations could enhance the impact of spatial and temporal perceptions without sacrificing emotional engagement.

Since the utilitarian component has the weakest association with ODBE, marketers should recognize that practical details such as pricing, accommodation, and transportation are better presented through direct website links, FAQs, or interactive chat support rather than relying solely on social media content.

6.3. Limitations and Future Research Directions

While the current study provides strong empirical support for the validity and reliability of the ODBE scale, some limitations should be acknowledged. First, the study focuses exclusively on Facebook pages as the online platform of analysis. Future research should explore whether similar dimensional structures apply to other social media platforms (e.g., Instagram, TikTok) or virtual reality experiences in tourism. The sample may over-represent engaged Facebook users, and missing demographic data limits external validity. Future studies should include this information.

Additionally, while the findings suggest a strong relationship between ODBE and behavioral intentions, future studies should incorporate longitudinal approaches to assess whether online experiences translate into actual visits over time. Future research should explore how to communicate safety effectively—especially via social media—in pre-travel planning and destination marketing.

The study was conducted within the context of Romanian ecotourism destinations, with limited survey respondents. Future research should examine whether the same model applies to different cultural and regional contexts to determine the generalizability of the findings. They could also analyze secondary data from various panels or years. Relying on self-reported data poses a bias risk, so incorporating clickstream data could validate observed destination-brand engagement (ODBE). Also, using a longitudinal or two-wave panel approach would better track behavioral changes over time. Comparative research in high-volume or Global South ecotourism markets would further test the model's cultural robustness and scalability.

Bui et al.'s (2024) concept of "AI-thenticity" highlights how the perceived authenticity of AI-generated images affects trust and tourist patronage. Future research could explore how different types of AI-generated content, such as text, images, and virtual influencers, influence user engagement across various platforms.

Recruiting participants exclusively through official ecotourism Facebook pages may skew the sample toward younger, tech-savvy users. These individuals often exhibit stronger digital engagement and more positive attitudes toward online platforms, potentially limiting the study's representation of travelers who rely on traditional information channels (e.g., travel agencies or print media). Future research could diversify participant recruitment—for instance, by distributing surveys at visitor centers or through local communities—and compare respondent demographics to national tourism data to gauge the extent of this bias and refine the study's generalizability.

Despite these limitations, this study advances scholarship by providing a validated ODBE scale that integrates emotional, cognitive, and contextual dimensions of online ecotourism experiences. It deepens understanding of how digital engagement shapes traveler intentions, highlighting the pivotal role of online brand experience in influencing both visitation and information-sharing behaviors. The key findings of this study include the following: (1) an ODBE measurement scale with specific dimensions for ecotourism destinations; (2) an ODBE construct in ecotourism, including hedonic, utilitarian, and spatio-temporal components; (3) a strong prediction of ODBE on users' intention to visit ecotourism destinations; and (4) the effect of ODBE on users' online information-sharing intention. This framework offers a valuable tool for future research and practical strategies in sustainable tourism marketing.

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Appendix A

Table A1. Descriptive statistics.

Items	N	Mean	Std. Deviation
S1	281	6.36	0.973
S2	281	5.95	1.255
S3	281	5.24	2.169
S4	281	6.23	1.075
S5	281	5.74	1.375
A1	281	6.04	1.239
A2	281	6.23	1.045
A3	281	5.92	1.764
A4	281	6.09	1.140
A5	281	6.09	1.136
I1	281	6.14	1.575
I2	281	5.88	1.379
I3	281	6.31	1.042
I4	281	5.74	1.450
I5	281	5.70	1.448
ST1	281	5.66	1.664
ST2	281	4.85	1.758
ST3	281	5.26	1.615

Table A1. Cont.

Items	N	Mean	Std. Deviation
ST4	281	5.53	1.524
ST5	281	5.78	1.402
SOC1	281	5.86	1.243
SOC2	281	6.21	1.102
SOC3	281	4.38	1.590
SOC4	281	5.57	1.513
SOC5	281	5.85	1.281
C1	281	5.96	1.353
C2	281	5.83	1.396
C3	281	5.86	1.208
C4	281	6.11	1.141
C5	281	4.83	2.268
C6	281	3.99	2.381
C7	281	6.10	1.214
INT_visit	281	5.83	1.477
INT_share	281	6.02	1.324
Valid N (listwise)	281		

Appendix B

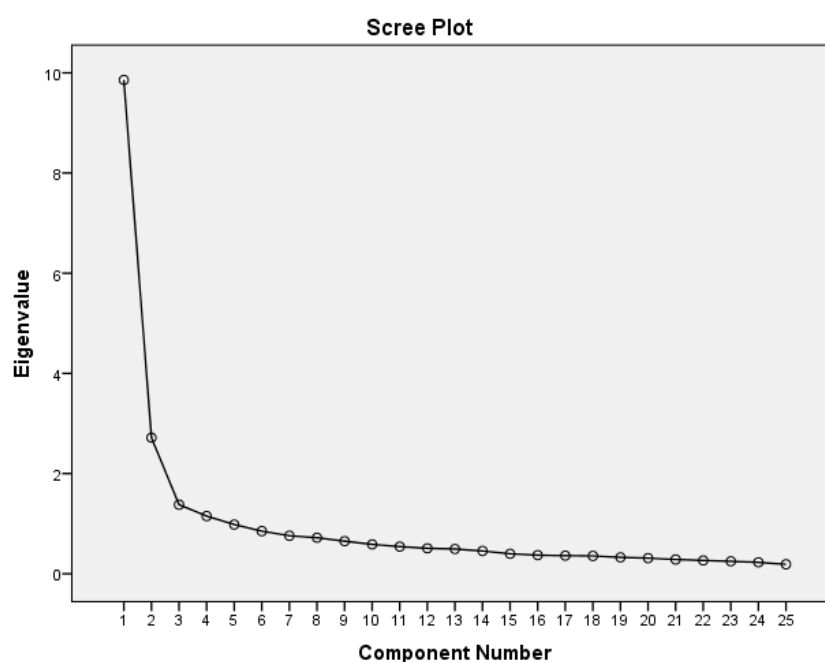


Figure A1. Scree plot.

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Article

Digital Landscapes: Analyzing the Impact of Facebook Communication on User Engagement with Romanian Ecotourism Destinations

Ioana-Simona Ivasciuc , Cristinel Petrișor Constantin , Adina Nicoleta Candrea and Ana Ispas 

Faculty of Economic Sciences and Business Administration, Transilvania University of Brașov, 500068 Brașov, Romania; simona.ivasciuc@unitbv.ro (I.-S.I.); adina.candrea@unitbv.ro (A.N.C.); ispasana@unitbv.ro (A.I.)

* Correspondence: cristinel.constantin@unitbv.ro

Abstract: In the rapidly evolving digital landscape, the use of social media, particularly Facebook, by destination management organizations (DMOs) for promoting tourism destinations has become increasingly significant. However, the particularities of using this powerful tool in promoting ecotourism destinations have not been sufficiently debated in the literature. To fill this gap, the present study brings a new perspective with the aim of understanding how the Facebook communication strategies of ecotourism destinations in Romania affect user reactions. This research was based on secondary data obtained by examining Facebook posts from seven Romanian ecotourism destinations during a period of six months. The initial step was to analyze the Facebook posts of the selected destinations and to extract major themes present in the posted content. These posts are categorized into themes such as nature, leisure, culture, and hospitality, providing a comprehensive view of the content strategy adopted by these destinations. The findings reveal that posts related to culture and nature are predominant and receive higher user interactions in the form of likes, comments, and shares. Most user reactions were expressed in the form of likes, while the number of comments and shares was quite modest. The analysis of factors influencing user reactions reveals that only the number of posts has a significant impact. Moreover, the post content and post format do not have a significant influence on users' reactions to destinations' posted content on Facebook. This study concludes that for the effective online promotion of ecotourism destinations, DMOs should focus on increasing the number and frequency of posts, and on creating content that aligns with audience preferences, particularly emphasizing the main features of the destination. These insights are crucial for DMOs in strategizing their online communication to enhance user reactions and promote their destinations effectively in the competitive sphere of global tourism.

Keywords: ecotourism marketing; social media interaction; Facebook content analysis; destination management organizations; user reactions



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1. Introduction

In the context of a dramatic growth of Web 2.0, social media has completely changed how tourist destinations communicate online in recent decades [1]. Social media platforms are usually classified into social networks (e.g., Facebook), professional networks (e.g., LinkedIn), video-sharing websites (e.g., YouTube), picture-sharing platforms (e.g., Flickr), social bookmarks (e.g., Delicious, Digg), review websites (e.g., TripAdvisor), wikis (e.g., Wikipedia), microblogging (e.g., Twitter), blogs (e.g., Blogger), and user forums [2,3]. Within social media, Facebook is the most used social network, with 3.05 billion monthly active users in September 2023 [4]. Roughly, 37.6% of the world's total population uses Facebook each month, placing it first in among the world's most 'active' social media platforms [5].

Social media is becoming more and more relevant as a destination marketing tool, and accordingly must be effectively managed by destination management organizations

(DMOs) looking to create a sustainable competitive advantage for their destinations within the competitive arena of global tourism [6]. DMOs at local level need to pay attention to how they use social media, as this can play a crucial role in effectively promoting and marketing a tourist destination in a global context, characterized by hyper-competition among places [7,8]. According to some scholars [9], social media extends the marketing environments of DMOs by enabling them to reach, persuade, and attract potential tourists as well as shape their experiences [10]. Therefore, many DMOs have begun to use social media, primarily Facebook, in their communications, due to the importance of these platforms as marketing and communication tools [10,11]. However, many tourist destinations lack the expertise to effectively manage these platforms to reach their target audiences and to understand what information to provide or what communications tactics to use [3].

Although there are several studies that have analyzed the importance of social media for destination marketing purposes [2,7,12–14], they have generally focused on traditional tourism activities carried out in different countries and contexts. To the best of the authors' knowledge, the literature debating the role of social media in promoting ecotourism destinations is poor. Thus, this shortage could be considered a specific gap in the existing literature, which should be filled by finding ways in which social media marketing strategies could be applied and adapted to ecotourism destinations. Such an initiative becomes necessary if we consider the distinctive features of ecotourism, such as the dominant importance of landscapes and natural attractions, alongside local traditions and other cultural peculiarities. Moreover, it is essential to extend the geographical scope of the existing literature and to spotlight the distinctive features of marketing dynamics in Romanian ecotourism destinations. This differentiation highlights the innovative angle of our research, offering novel insights into the utilization of social media for enhancing Romania's attractiveness as an ecotourism destination. Therefore, we aimed to fill this gap by conducting a study focused on the content posted on Facebook by DMOs from Romanian ecotourism destinations. This specific angle is not widely covered in the existing research, especially considering the unique challenges and characteristics of ecotourism destinations. In the context of increasing competition among these destinations worldwide, it becomes crucial to promote ecotourism through digital marketing strategies and boost awareness through destination image development [15]. DMOs that use social media marketing to portray a realistic and culturally relevant ecotourism experience are more likely to engage tourists and provide positive outcomes from the experience [9]. In the case of ecotourism destinations, it may be challenging to carry out such an analysis due to the complex variety of tangible and intangible entities that represent them and provide leisure activities, education, and recreation [16]. More specifically, in ecotourism destinations, the social media content must be tailored, considering that the touring experience takes place within a natural environment, and is directly linked to environmental features [17].

The message and format of social media content posted by ecotourism destinations' DMOs imply continuous activity to establish and maintain constant interaction with the target audience [18]. This raises the question of the practicality and effectiveness of social media activities carried out by DMOs and the need to assess the results of their social media communications [3,10]. Moreover, it takes more than the DMO's mere presence on social media to enhance traveler intentions and promote the destination's image [19]. Social media may become a tactical tool for gaining a holistic comprehension of the visitor experience [20]. To tackle this challenge, users should be encouraged to interact with the social media content posted by DMOs [12]. In this context, the term 'engagement' refers to the process of interactions within and among groups [21]. By attaining users' online engagement, DMOs can promote the dynamic creation and evolution of the destination's brand and image, which can result in a continuous feedback process [22].

This paper focuses on the setting of ecotourism in Romania because this form of tourism has grown significantly in this country in the last decade, evolving from isolated ecotourism programs proposed by local/national tour operators to integrated ecotourism destinations [23], which are developed through strategic partnerships (between govern-

mental authorities, local communities, and private investors) and promoted through the efforts of local or national (eco) tourism associations [24]. The Association of Ecotourism in Romania (AER) is the main organization that created the framework and implemented most initiatives for the development and promotion of ecotourism in the country. In addition, there are several non-governmental organizations (NGOs) that are aiming to sustain the development of ecotourism at the local or regional level including DMOs (e.g., Țara Dornelor Ecotourism Association, Retezat Tourism Association, and Mioritics). Grasping the opportunity of promoting ecotourism destinations on social media, seven DMOs have created dedicated pages on Facebook. However, there are significant differences between these pages both from a quantitative (e.g., number of fans and number of posts) and a qualitative perspective (e.g., type of posted content: picture/link/video; the mention of ecotourism activities).

Therefore, this study seeks to analyze the content posted on Facebook by DMOs managing Romanian ecotourism destinations and to determine which posts elicit, on average, more reactions and, as a result, more user–destination interaction. For this purpose, the following research objectives were formulated:

O1: To analyze the content of the Facebook posts made by Romanian ecotourism destinations.

O2: To identify user reactions to the content posted by Romanian ecotourism destinations on Facebook.

O3: To determine the main factors that influence user reactions to the messages posted by Romanian ecotourism destinations on Facebook.

A graphical diagram illustrating the research question and research objectives is presented in Figure 1.

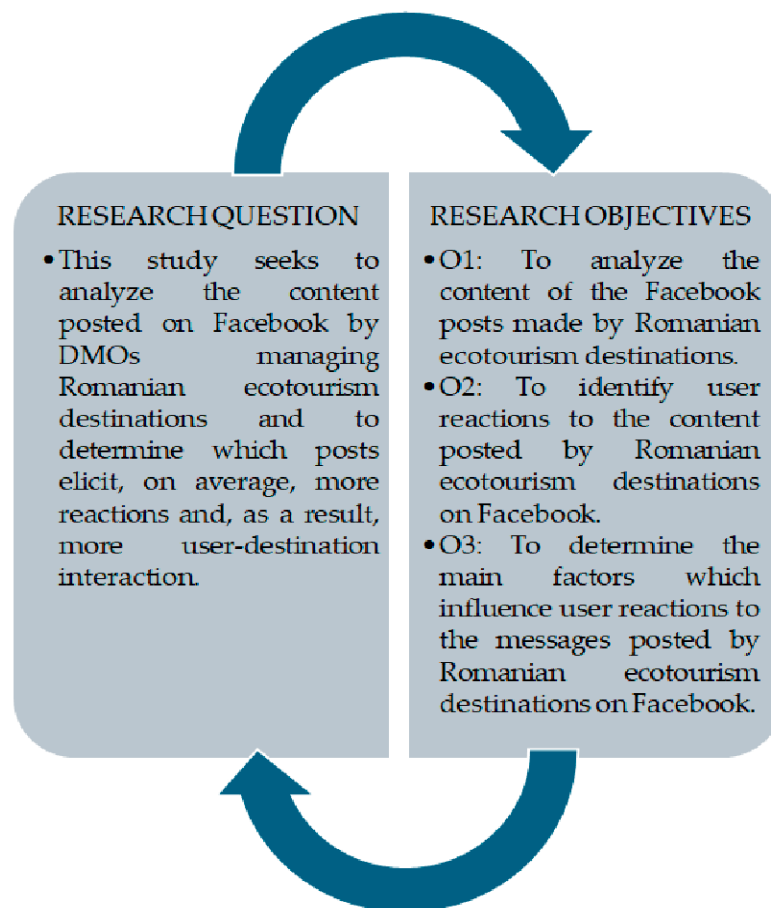


Figure 1. Graphical diagram illustrating the research problem and research objectives.

This study introduces a novel exploration into the strategic use of social media by destination management organizations (DMOs) in Romania for promoting ecotourism destinations. Unlike the broader literature on social media's role in tourism, which predominantly focuses on well-researched regions, our investigation delves into the relatively uncharted territory of Romanian ecotourism. This focus not only fills a significant gap in the current literature but also highlights the unique challenges and opportunities faced by Romanian DMOs in leveraging platforms like Facebook for destination marketing.

In order to achieve the research objectives, the messages posted by the analyzed destinations over a period of six months were processed using content analysis. The format of posts (picture, link, or video) was considered and the common themes defining ecotourism activities were identified in the content of these posts. Furthermore, a systematic analysis was conducted based on user reactions to the posts (number of likes, shares, and comments), and the main indicators of user interaction were computed. Finally, the regression model, boxplot analysis and ANOVA were applied to identify the main factors influencing user reactions to the posted content. The results provide theoretical and practical insights for academia and policy makers.

2. Literature Review

2.1. DMO-Generated Content on Social Media

Tourists extensively utilize social media during the planning phase before their trips, searching for information about destinations, accommodations, dining options, facilities, recreational activities, transportation, and more, as supported by various studies [25–27]. To engage and inform tourists, thereby encouraging them to consider visiting certain destinations (as demonstrated by [28,29], DMOs create content on social media, including text, images, advertisements, and videos. To effectively draw tourists to their destinations, marketers must understand what information is vital to tourists during the destination selection phase, enabling them to make this essential information readily accessible to tourists on digital platforms (as emphasized by [30]).

The content shared on social media plays a critical role in attracting potential tourists, as indicated by Pino et al. [31]. Message content contains essential information [32], while message format determines how that information is presented to the audience [18,33]. Message content on social media represents the information conveyed through messages on these platforms, as pointed out by Leung et al. [11] and Molina et al. [13]. Several authors have noted that message content often encompasses various themes within individual posts, as observed by Tafesse and Wien [34].

There are several important aspects related to message content. Some authors emphasize the significance of communicating culture-specific elements of tourism products, such as food, entertainment, and sports activities, through social media [35–37]. Others stress the need to present a complex sequence of attractions, events, activities, tours, or hotels, among other things, as demonstrated by Govers and Go [38]. Nature-related content is also considered an important factor that stimulates the reactions [12]. Some authors also focus on various elements aimed at capturing customers' attention, as suggested by Kiralova and Pavlicecka [39]. As a result, interactivity, including calls to action, can be seen as one of the outcomes of an effective social media strategy [10,40,41]. Another example is the potential for rewards or opportunities to win something, as indicated by Molina et al. [13].

The literature examining message content reveals that the most utilized characteristics include the following: a call to action, incentives or rewards, cultural activities, culinary experiences, recreational activities, sports-related content, children-focused activities, and appeals to social causes [13,31,42]. This is significant as consumer reactions to posts about products or pricing differ from responses to informational or entertaining content [29,43].

Message format pertains to the visual design of the message, and message content can adopt a variety of formats. Using images for promotional purposes on social media is becoming a prominent mode of online communication to engage tourists with a des-

tionation [29,44]. Images related to a destination garner more attention and convey more meaningful information. Tourism destination organizations utilize social media to share images that provide destination-specific details, such as the beauty, scenery, and cleanliness of a place, assisting consumers in deriving value and making informed travel decisions, as emphasized by He et al. [45]. Additionally, organizations also post non-tourism-related images that encompass general information about the destination, including its culture, people, safety, and overall quality of life, aiming to attract tourists and encourage them to visit a destination [46].

Furthermore, message content can be effectively conveyed using innovative emerging technologies like virtual tours, which can influence the format of the message [38]. Some scholars highlight the importance of photographs for capturing authentic experiences [47–49]. Meanwhile, various researchers propose alternatives to photos, such as the relevance of maps or videos on social media platforms [3,10,39,40,50].

According to Kim and Fesenmaier [51], there are individuals who are goal-oriented in their information searches and highly value message formats like maps, local event calendars, and similar resources. Hays et al. [10] expand the scope of their content analysis to include other categories for studying message formats, such as links, tags, hashtags, as well as materials like fact sheets, brochures, newsletters, and news.

Therefore, based on the above literature review, the first objective of the present paper is to analyze the content of the Facebook posts made by Romanian ecotourism destinations (O1).

2.2. User Reactions and Interactivity

Social media serves as a crucial platform for building relationships with destinations. Analyzing the content conveyed through social media messages and evaluating user responses to various types of content are key aspects when assessing interactivity and destination communication on social media platforms [2,3,52]. Typically, user reactions to posted content involve expressions like likes/dislikes, comments, and shares. Among these user reactions, likes are the most used type, but comments and shares generate higher interactivity than do likes [2,7,12]. Social media communication is crucial for fostering dialogues and eliciting public responses, particularly in relation to brands. It plays a key role in encouraging audience participation across various platforms. This was highlighted in studies by Valentini [53] and Huertas [2], among others. Researchers like Huertas and Marine-Roig [2,3], as well as Barcelos et al. [54], have investigated the kind of content that most effectively engages social media users. Their findings suggest that content that is unique or specific to a destination tends to attract more interaction, although generic content also has its place. Regarding the analysis of interactivity on social media, there are differing perspectives: some, like Del Chiappa [55], Nusair et al. [56], and Gálvez-Rodríguez et al. [12] focus on the level of engagement generated, while others, such as Fischer and Reuber [57], examine the impact of this interactivity on public opinions and behaviors. Considering the limited literature focused on ecotourism social media communication (e.g., [9,15]), the second objective of the present paper is to identify user reactions to the content posted by Romanian ecotourism destinations on Facebook (O2).

Furthermore, metrics like the count of likes, comments, and shares serve as suitable indicators for assessing marketing success, as suggested by De Vries et al. [40], Huertas et al. [3], Kwok and Yu [58], and Molina et al. [13]. These studies further analyze how different features of posts, including images, videos, and links, influence these key performance indicators.

Facebook allows users to share different types of content, namely (1) statuses, (2) photos, (3) videos, and (4) links, each offering varying degrees of interactivity. Cvijikj and Michahelles [59] categorized these into two groups based on interactivity: statuses and photos were considered to have ‘no interactivity’ due to their static nature, being only viewable or readable, while links and videos were deemed ‘highly interactive’ as they invite users to click through for more comprehensive content, like reading the full text of a link or watching a video. Their research indicated that content that is both entertaining

and informative significantly boosts engagement levels. Additionally, it was observed that fans engage positively with content that offers rewards, though primarily in the form of comments. Interestingly, the study also found that interactivity tends to reduce engagement with posts moderated by page administrators, making photos the most attractive type of post in terms of user interaction. Considering the limited literature within the context of ecotourism destinations' Facebook communication, the third objective of the present study is to determine the main factors which influence user reactions to the messages posted by Romanian ecotourism destinations on Facebook (O3).

3. Materials and Methods

3.1. Ecotourism Destinations Selection

Romania's cultural heritage, deeply embedded in its rich history and diverse landscapes, significantly shapes the promotional strategies employed by destination management organizations (DMOs) for ecotourism. The country is characterized by a strong bond between its people and the natural environment, a relationship that has been preserved through traditions, folklore, and a general ethos of living in harmony with nature. This unique cultural attribute plays a pivotal role in the adoption and impact of social media in promoting Romanian ecotourism destinations. Romania stands out for its vast and varied natural landscapes. These natural settings are not just geographical features but are ingrained in the Romanian cultural identity. Traditional practices and the preservation of natural habitats underscore the importance of nature in Romanian life. Such cultural practices offer a unique backdrop for ecotourism, presenting opportunities for DMOs to highlight the authentic experiences that visitors can expect.

Romania is one of the few countries in the world that has applied an ecotourism destination evaluation system, based on the globally recognized criteria of the Global Standard for Sustainable Tourism (GSTC) [60]. Thus, an ecotourism destination can be conceived at the level of a micro-region that includes at least one protected natural area, covers one or more territorial administrative units (TAUs), has attractive natural and cultural resources, and has a local partnership that determines a clear and unitary development direction for ecotourism. The ecotourism destination status may be obtained for a maximum period of three years, which may be extended at the applicant's request (i.e., a DMO) [60]. The Association of Ecotourism in Romania (AER) promotes ecotourism destinations on its website (www.eco-romania.ro, accessed on 10 March 2023), providing a short description for each of them as well as a link to their dedicated webpage, which is created and managed by a specific DMO in each location.

The initial step of this research involved the identification of seven distinct ecotourism destinations that had a Facebook page when the present study was initiated (March 2023). The designated locations for examination are Țara Dornelor (TD), Băile Tușnad and the surrounding area (BT), Colinele Transilvaniei (CT), Eco Maramureș (EM), Ținutul Zimbrilor (TZ), Pădurea Craiului (PC), and Țara Hațegului și Retezat (TH). The selection of these seven regions was predicated on their capacity to typify Romanian's ecotourism diversity. Figure 2 showcases a map of Romania, highlighting the locations of the destinations.

Băile Tușnad and the surrounding area (BT) attracts visitors for both wellness purposes (considering its mineral springs with healing waters, mofettas, and richly ionized air) and nature activities around the only volcanic lake in southeast Europe (Saint Ana Lake) or within Mohoș Peat Bog, a unique natural area featuring remnants of vegetation from the Ice Age. In this area, wildlife enthusiasts have high chances of observing bears in the wild, in specialized observatories, and beavers that have returned to the Olt River after hundreds of years since their extinction.

Țara Dornelor (TD) is situated in the north-eastern part of Romania, close to Călimani National Park, which has unique natural landscapes, resulting from the activity of an extinct volcano. This destination provides varied opportunities for outdoor activities, such as hiking, mountain biking, horseback riding, easy-rafting, and climbing. Moreover, this

ecotourism destination hosts four nature-themed trails and a rich cultural heritage in its rural area.

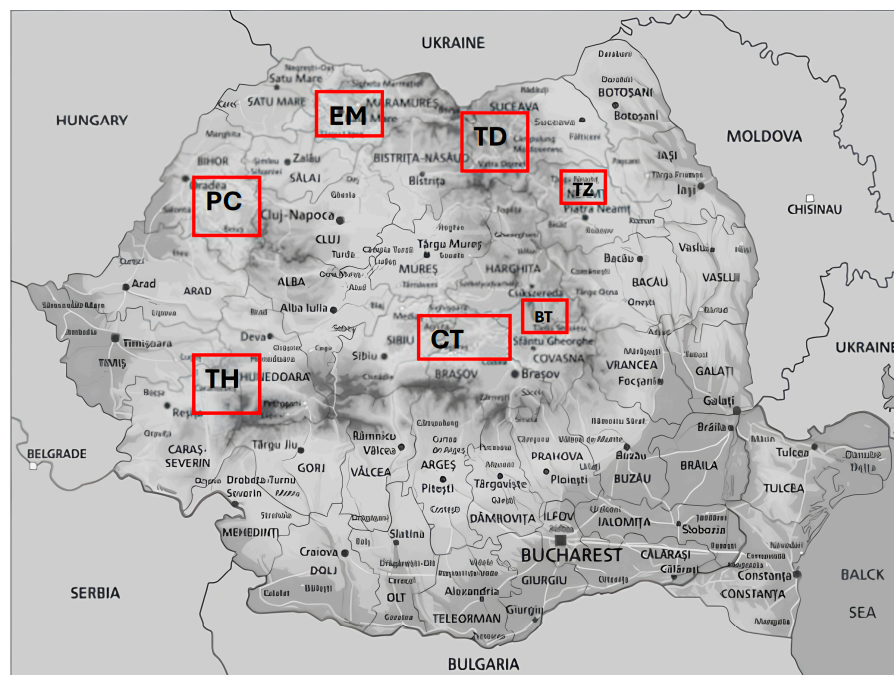


Figure 2. The geographical location of the Romanian ecotourism destinations. Source: developed by authors.

Pădurea Craiului (PC) is an ecotourism destination located in the western Carpathian Mountains, with a diverse offer of nature experiences. Visitors may discover the underground world in four show caves with pathways and lighting installations or continue exploring the depths of the Earth in two caves, equipped as cavers, and accompanied by a specialist guide. Within the destination, there are no less than 17 marked hiking trails, 5 themed trails, interactive playgrounds, many cycling trails, a via-ferrata route, and even an easy rafting route. All of them are designed for families with children and are excellent opportunities to spend active time in nature.

EcoMaramureș (EM) is in the northern part of Romania, and it mainly includes a rural area close to Creasta Cocoșului (The Rooster's Crest), in the Gutâi Mountains, a huge nine-million-year-old cliff made of magmatic rock. Visitors are mainly attracted by the authentic rural life, where nature and the locals have joined hands to create a unique cultural landscape with wooden houses, gates, and churches. The natural tourism resources also include lakes and forests, habitats for birds and mammals, and meadows with unique flora and healing herbs.

Colinele Transilvaniei (CT) (Transylvanian Highlands) is a rural area in central Romania, including villages located between three Romanian cities: Brasov, Sibiu, and Sighisoara. It is promoted as the last truly medieval landscape in Europe, because it encompasses beautiful villages with fortified churches, some of which are included in the UNESCO Heritage list (e.g., Viscri, Biertan, Sighisoara, Saschiz, and Valea Viilor). Moreover, this destination includes seven protected areas that are part of the European Natura 2000 network, making it the second-largest protected area in the country, after the Danube Delta Biosphere Reservation.

Tara Hațegului-Retezat (TH) is situated in south-western Romania, and it includes a national park (Retezat mountains) as well as a UNESCO Global Geopark (Hateg Country Geopark). It is promoted by the AER as a place where visitors may explore lost worlds, dinosaurs, volcanoes, and traces of a former sea, within the geopark. Retezat mountains are perfect for hikes in a unique alpine landscape with lakes and carnivorous plants, all

relics from the Ice Age. From a cultural perspective, tourists may discover the traces left by the Romans in antiquity, at Sarmizegetusa Ulpia Traiana, and the first Christian places of worship—the Densuș Church.

Ținutul Zimbrului (TZ) (Bison Land) is in eastern Romania, and it is promoted by the AER as the place where legends and bison meet. It includes a 180-hectare acclimatization enclosure near the Visitor Centre of the Vânători-Neamț Natural Park, where more than 50 bison roam freely through the secular forests of the land. The cultural heritage of this ecotourism destination includes famous monasteries and hermitages scattered in the mountains, monastic villages, and medieval historical monuments. In recognition of the efforts to preserve the cultural and natural wealth of the area, Bison Land has been, for years, the only sustainable tourism destination in Romania, out of the 100 selected worldwide.

3.2. Research Methodology

This study adopts a multiple-case-study approach, as meticulously outlined by Yin [61], to explore the strategic use of social media by destination management organizations (DMOs) in promoting ecotourism destinations within Romania. This methodological framework is chosen for its robustness in facilitating an in-depth understanding of complex phenomena within real-life contexts, making it particularly suitable for our investigation into social media practices across different Romanian ecotourism settings.

This research was based on exploratory research conducted through secondary data analysis. The data were obtained by consulting the posts of the Romanian ecotourism destinations on their own Facebook pages and the reactions of users to these posts. The official Facebook pages of the analyzed destinations were chosen taking into consideration that this network emerges as the most extensively utilized social media platform. According to Statista [62], Facebook is the most popular social network worldwide, ranked by the number of monthly active users. The data were collected from the 1st of March to the 31st of August 2023. This specific time frame covers the beginning of the spring tourist season in Romania, Easter break, and the summer holiday. In total, 624 significant posts from the analyzed destinations were obtained, as presented in Table 1.

Table 1. Number of posts and fans per destination in the analyzed period.

	Ecotourism Destination							Total
	BT	TD	PC	EM	CT	TH	TZ	
Total posts	45	153	64	84	76	128	74	624
Total fans	16,209	14,161	12,122	10,166	9349	8680	7715	

Total fans—data retrieved on 1 September 2023.

Content analysis was used for data processing based on the extraction of the “context units” and “thematic distinction”, in accordance with Krippendorff [63]. Such analysis is mostly used for processing the results of interviews [64] but is also popular for finding the characteristics of messages posted on social media [2]. Firstly, the format type of the post was extracted (picture, video, and link) to identify the preferred method of communication used by the analyzed ecotourism destinations. Secondly, the thematic analysis of the posts’ content was independently conducted by three members of the research team. The divergences were mediated by another person to reach a consensus.

The common themes that define the tourism activities in ecotourism destinations, according to the information provided by AER, were searched for in the messages posted on Facebook. These themes are hiking; wildlife observation; observation of flora; bird watching; landscape; gastronomic and oenological tourism; cycling tourism; equestrian tourism; cultural activities; water activities; winter activities (cross-country skiing, snow-shoeing, sledding); photo tours; accommodation; events. As the answers to these fourteen themes are quite spread-out and unbalanced across the considered destinations, a reduction

in the dimension number was applied by grouping the themes into four main categories that are partially consistent with other approaches in the literature [12]:

1. Nature: hiking; wildlife observation; observation of flora; bird watching; landscape.
2. Leisure: cycling tourism; equestrian tourism; water activities; winter activities; photo tours.
3. Culture: cultural activities; events.
4. Hospitality: accommodation; gastronomic and oenological tourism.

Consequently, an analysis of the number of posts and other additional analyses were computed in relation to these new main categories to reach the first research objective (O1).

In order to identify the user reactions to messages posted by the ecotourism destinations on Facebook (O2), user responses were analyzed by dividing them into the main types of reactions: likes; comments; and shares. The total number of reactions was computed by summing the likes, comments, and shares, and then this total was normalized by the number of posts and number of fans of each destination using the following formulas:

$$\text{Total Reactions} = \text{Number of likes} + \text{Number of comments} + \text{Number of shares} \quad (1)$$

$$\text{Reactions per post} = \text{Total reactions} / \text{Total post} \quad (2)$$

$$\text{Reactions per fan} = \text{Total reactions} / \text{Total fans} \quad (3)$$

In the last part of the analysis, we aimed to identify the main factors influencing user reactions (O3). The first analysis considered the relationship between the number of posts and the number of reactions. Next, the influences of the content type, particularly that of the format type of the posts on user reactions, were analyzed. The analyses started from the following hypotheses extracted from the literature [2,7,54,59]: the number of posts has a direct and positive influence on the number of user reactions (H1); the content type of the posts influences the number of user reactions (H2); and the format type of the posts influences the number of user reactions (H3).

To test the first hypothesis, the number of monthly posts of each destination in the analyzed period was considered in relation to the number of reactions to these posts. In total, 42 observations were obtained (7 destinations $\times$ 6 months), and a linear regression model was used to determine the influence of the number of posts on the number of user reactions. The equation for this model is shown below:

$$\text{Reactions} = \beta_0 + \beta_1 \text{ Posts} + \varepsilon \quad (4)$$

For the other two hypotheses, the user reactions were counted for each of 624 messages posted by the analyzed destinations. Further, each post was classified according to their content in one of the main themes identified (for H2) and according to the format type (for H3). The results were normalized by removing values considered outliers by using boxplot analysis. The influences of the content type and format type on the number of user reactions were tested by computing an analysis of variances (ANOVA).

To validate the accuracy of the findings, they were compared with the self-presentations available on the analyzed ecotourism destinations' websites and other information provided by AER on its website [65]. This approach aimed at achieving "data triangulation" to validate the reliability of the results [66].

4. Results

4.1. Content Analysis of Facebook Posts from Romanian Ecotourism Destinations

The first research objective of this study was to examine the content of Facebook messages posted by Romanian ecotourism destinations (O1). The resulting dataset consisting of the messages posted by the analyzed ecotourism destinations over a period of six months contains 624 messages. The most active destinations on Facebook during the analyzed period were TD with 153 posts, TH with 128 posts, and EM with 84 posts. We

may notice that in all these cases, the number of posts was less than one post per day. The other destinations posted a limited number of messages, the lowest being recorded for BT (45 posts).

Regarding the format type of these posts, 429 contained pictures (68.8%), 125 contained links (20.0%), and 70 contained videos (11.2%). None of the analyzed posts contained only text. These results indicate that all destinations posts are multimedia-based (see Table 2). Photo-type posts, which exceed 70% of all posts, are mostly in destinations such as BT, EM, and TZ, while link-type posts are mostly used by CT (34.2%), PC (28.1%), or TD (24.8%). Video type content is less present in the posts of ecotourism destinations, but some of the latter preferred such posts quite a lot more compared with other destinations: EM (21.4%) and TH (16.4%).

Table 2. Analysis of format types of posts.

Format Type	Ecotourism Destination							Total
	BT	TD	PC	EM	CT	TH	TZ	
			Number of posts					
Picture	33	103	40	62	49	87	55	429
Link	10	38	18	4	26	20	9	125
Video	2	12	6	18	1	21	10	70
Total	45	153	64	84	76	128	74	624
			% of total posts					
Picture	73.3	67.4	62.5	73.8	64.5	68.0	74.3	68.8
Link	22.2	24.8	28.1	4.8	34.2	15.6	12.2	20.0
Video	4.4	7.8	9.4	21.4	1.3	16.4	13.5	11.2

When performing a content analysis on digital media, certain researchers delineate various themes in communication texts [1,2,67]. In the present study, the content analysis was focused on the “thematic distinction” based on a predetermined set of ecotourism activities, in accordance with the operational framework defined by the Association of Ecotourism in Romania (AER). Thus, the Facebook posts of ecotourism destinations were classified according to their content into one of the categories promoted by AER on their website. These predetermined themes are hiking, wildlife observation, flora observation, bird watching, landscape appreciation, gastronomic and oenological tourism, cycling tourism, equestrian tourism, cultural activities, water-based activities, winter activities (including ski touring, snowshoeing, and sledding), photographic excursions, accommodation, and events (see Table 3).

Table 3. Number of posts on the main ecotourism activities.

	BT	TD	PC	EM	CT	TH	TZ	Total
hiking	0	0	0	0	0	0	0	0
wildlife observation	6	7	2	2	3	5	4	29
observation of flora	0	7	6	2	2	4	2	23
bird watching	0	0	0	0	2	0	0	2
landscape	17	36	24	14	15	38	12	156
gastronomic and oenological tourism	1	21	1	5	5	2	12	47
cycling tourism	3	13	4	7	14	3	2	46
equestrian tourism	0	1	1	0	0	0	0	2
cultural activities	2	16	2	22	12	12	15	81
water activities	0	1	4	0	0	0	0	5
winter activities (cross-country skiing; snowshoeing; sledding)	0	1	1	1	0	0	0	3
photo tours	0	1	0	0	0	0	0	1
accommodation	1	3	6	10	1	1	6	28
events	15	46	13	21	22	63	21	201
Total	45	153	64	84	76	128	74	624

In Table 3, it is revealed that more than a half of the analyzed posts contained messages promoting local events or natural attractions in the destination. Some activities like hiking, bird watching, equestrian tourism, photo tours, etc., are almost absent from the posted messages. TD and TH stand out with the highest number of posts both in total and divided by the most popular activities: landscape and events. Given the high spread and heterogeneity of content across the predetermined themes, four new broader themes were considered by grouping the posted messages, as explained in the methodology section. The results are presented in Table 4.

Table 4. Number of posts and percentages for the main categories.

	BT	TD	PC	EM	CT	TH	TZ	Total
Number of posts								
Nature	23	50	32	18	22	47	18	210
Leisure	3	17	10	8	14	3	2	57
Culture	17	62	15	43	34	75	36	282
Hospitality	2	24	7	15	6	3	18	75
Total	45	153	64	84	76	128	74	624
% of total posts								
Nature	51.1	32.7	50.0	21.4	28.9	36.7	24.3	33.7
Leisure	6.7	11.1	15.6	9.5	18.4	2.3	2.7	9.1
Culture	37.8	40.5	23.4	51.2	44.7	58.6	48.6	45.2
Hospitality	4.4	15.7	10.9	17.9	7.9	2.3	24.3	12.0

The results reveal that the most popular theme is culture, which is dominant in the posts of the analyzed destinations, with two exceptions (BT and PC) that mostly preferred content focused on nature. In fact, these two themes are the most frequently observed and represent 78.9% of all posts. In destinations like EM and TH, culture is present in more than 50% of posts, while nature is prevalent in the post of BT and PC. Overall, cultural content is the most prevalent in the posts (45.2%), followed by nature-related content (33.7%), while leisure (9.1%) and hospitality-related content (12%) sum up smaller proportions of posts. In conclusion, it can be observed that nature, which is the main characteristic of ecotourism, is not the most preferred theme in the messages posted by Romanian ecotourism destinations.

4.2. User Reactions to Content Published by Romanian Ecotourism Destinations on Facebook

This section reveals the outcomes of our investigation on user reactions toward the content shared by Romanian ecotourism destinations on Facebook, responding to the second research objective (O2). Through a systematic analysis of user reactions to each post of the analyzed destinations, the likes, shares, or comments provided by the target audience were identified. All analyzed comments were in Romanian language.

The results in Table 5 show that the most common reactions were likes to post, which accounted for 83.5% of all reactions. In total, 12.8% were shares and 3.7% were comments on posts. A similar pattern can be observed for each destination, which means that users are not highly engaged in interacting with page administrators or other users. Among the Romanian ecotourism destinations, EM stands out from the others with many reactions to their posts (20,757 reactions). It is followed by TD, with 13,906 reactions, and, by a long distance, CT (6141 reactions) and TH (5085 reactions).

An analysis of user reactions was also performed considering the number of posts and the number of fans. The decision to compute average reactions using the ratio of reactions to the number of posts, as well as the ratio of reactions to the number of followers, was motivated by their relevance and transparency in providing distinct metrics of audience engagement with Facebook content. These metrics enable the assessment of post impact and the degree of fan loyalty (see Table 5).

Table 5. Reactions to Facebook content.

	BT	TD	PC	EM	CT	TH	TZ	Total
Number of reactions								
Likes	1026	11,161	3089	17,963	5131	4201	3082	45,653
Comments	38	858	61	506	154	202	177	1996
Shares	142	1887	331	2288	856	682	831	7017
Total	1206	13,906	3481	20,757	6141	5085	4090	54,666
Avg. number per post								
Likes	22.8	72.9	48.3	213.8	67.5	32.8	41.6	73.2
Comments	0.8	5.6	1.0	6.0	2.0	1.6	2.4	3.2
Shares	3.2	12.3	5.2	27.2	11.3	5.3	11.2	11.2
Total	26.8	90.9	54.4	247.1	80.8	39.7	55.3	87.6
Avg. number per fan								
Likes	0.06	0.79	0.25	1.77	0.55	0.48	0.40	0.58
Comments	0.00	0.06	0.01	0.05	0.02	0.02	0.02	0.03
Shares	0.01	0.13	0.03	0.23	0.09	0.08	0.11	0.09
Total	0.07	0.98	0.29	2.04	0.66	0.59	0.53	0.70

The results reveal that the destinations mentioned in the top of the total reactions also included the largest number of reactions per post. EM's posts received significantly higher reactions per post (247 reactions), followed by TD, with 90.9 reactions, and CT, with 80.8 reactions. It should be noted that the most active destination (TD), with the highest number of posts (see Table 4), ranks second in terms of the average reactions per post, while TH, with the second highest number of posts, is ranked second to last in terms of the average number of reactions per post.

Interpreting user reactions to the Facebook posts, calculated as the total number of reactions (likes, shares, and comments) divided by the total number of fans, can also provide valuable insights into audience engagement with the content posted by ecotourism destinations on the Facebook platform, as it can highlight the interest and interaction of the followers of a destination. It is assumed that many fans could generate many reactions. The results again reveal the best position of EM, which achieved the highest average score of more than two posts per fan. All other destinations achieved less than one reaction per fan (ex: TD with 0.98 reactions per fan, CT with 0.66 reactions per fan, and TH with 0.59 reactions per fan). It must be noted that destinations with a high number of fans received low values for this metric. For example, the destination with the highest number of fans (BT) received only 0.07 reactions per fan due to a small number of reactions correlated with a small number of posts.

To have a better image of the two metrics calculated above, a scatter plot was computed to emphasize the correlation between them at the level of the considered ecotourism destinations (see Figure 3).

The results presented in Figure 3 reveal a direct and linear correlation between the analyzed metrics. EM has the best position because it succeeded in generating a high number of reactions, but it is only in third place for the number of posts. The conclusion is that some entities with a small number of fans and low activity on social media platforms could be favored when they occasionally attract many reactions. These results are consistent with other findings in the literature, which state that such metrics should be interpreted with caution because normalizing by the number of posts or by the number of fans can distort the analysis, and the total number of reactions better reveals interactions with the users [13].

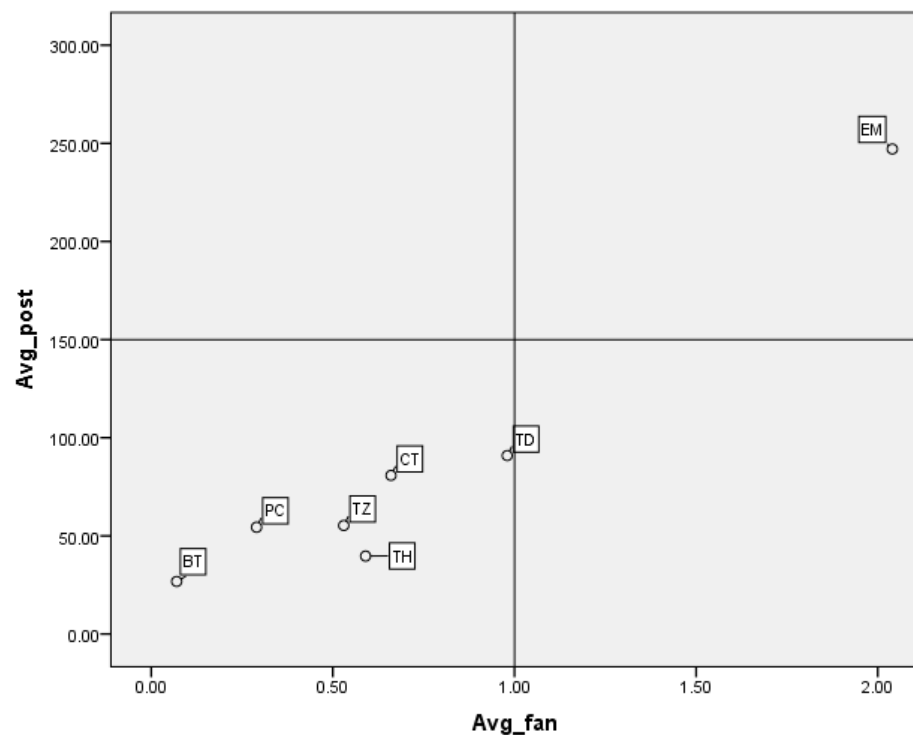


Figure 3. Correlation between the number of reactions per post and reactions per fan.

4.3. The Main Factors That Influence User Reactions

The third research objective of this study was to determine the main factors that influence the user reactions to the messages posted by ecotourism DMOs (O3). One of the influence factors drawn from literature is the number of posts. Our research started from the hypothesis that the higher the number of posts, the higher the number of reactions (H1). In this respect, the linear regression model was used, considering the monthly number of visitors' reactions to the dependent variable, which was obtained by summing the number of likes, comments, and shares for every destination. The number of Facebook messages posted every month by the considered destinations was considered the independent variable. Thus, 42 observations were obtained, on which the regression model was applied. The results are presented in Table 6.

Table 6. Effects of the number of posts on the total reactions.

Factors	Coefficient	Std. Error	t	p-Value
(Constant)	357.12	469.84	0.760	0.452
Posts	63.57	28.15	2.259	0.029

Dependent variable: reactions; R-squared = 11.3%; F = 5.101; p-value = 0.029.

The influence of the number of posts on the total reactions is significant for $p < 0.05$ but the overall explanation of the total variation of the dependent variable is rather modest, as is revealed by the coefficient of determination (R-squared = 11.3%). This means that there are other factors that have an important influence on user reactions to posted messages. However, the administrators of Facebook pages could expect an average increase of about 64 reactions for each new post, resulting from the regression equation below:

$$\text{Reactions} = 357.12 + 63.57 \text{ Posts} + \varepsilon \quad (5)$$

Another research hypothesis was that the post content, according to the major themes identified via content analysis, influences the number of reactions (H2). In this regard, for

better accuracy, each post was categorized according to their content, and the reactions to each post were counted as a new variable. Finally, 624 observations were analyzed.

In order to analyze the normality of data sets for each type of post content, a boxplot analysis was performed. The results presented in Figure 4 reveal many outliers that generate poor representativeness of the means for further comparisons. Consequently, the outliers were eliminated with the aim to obtain the normality of the distributions. The resulting sample comprised 507 observations with the distribution according to the post content presented in Table 7.

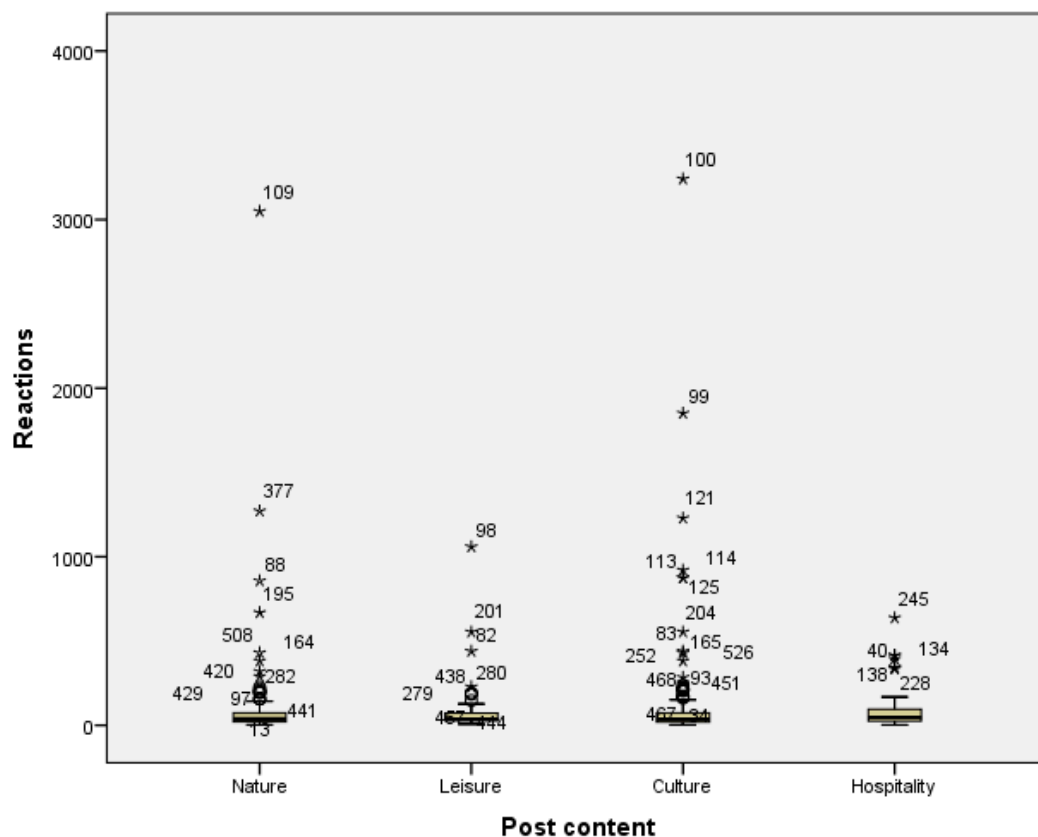


Figure 4. Boxplot analysis for the data sets resulting from every type of post content. (* Cases that are classified as outliers).

Table 7. The influence of post content on the number of reactions, determined using ANOVA.

Post Content	N	Mean	F	p-Value
Nature	174	36.44	1.446	0.229
Leisure	45	36.44		
Culture	231	35.44		
Hospitality	57	42.51		
Total	507	36.67		

Dependent variable: reactions.

The results of the new boxplot analysis are presented in Figure 5. The new data sets contain no outliers, and their skewness and kurtosis values are less than 1 in absolute values in all cases. Therefore, they could be considered to have a normal distribution.

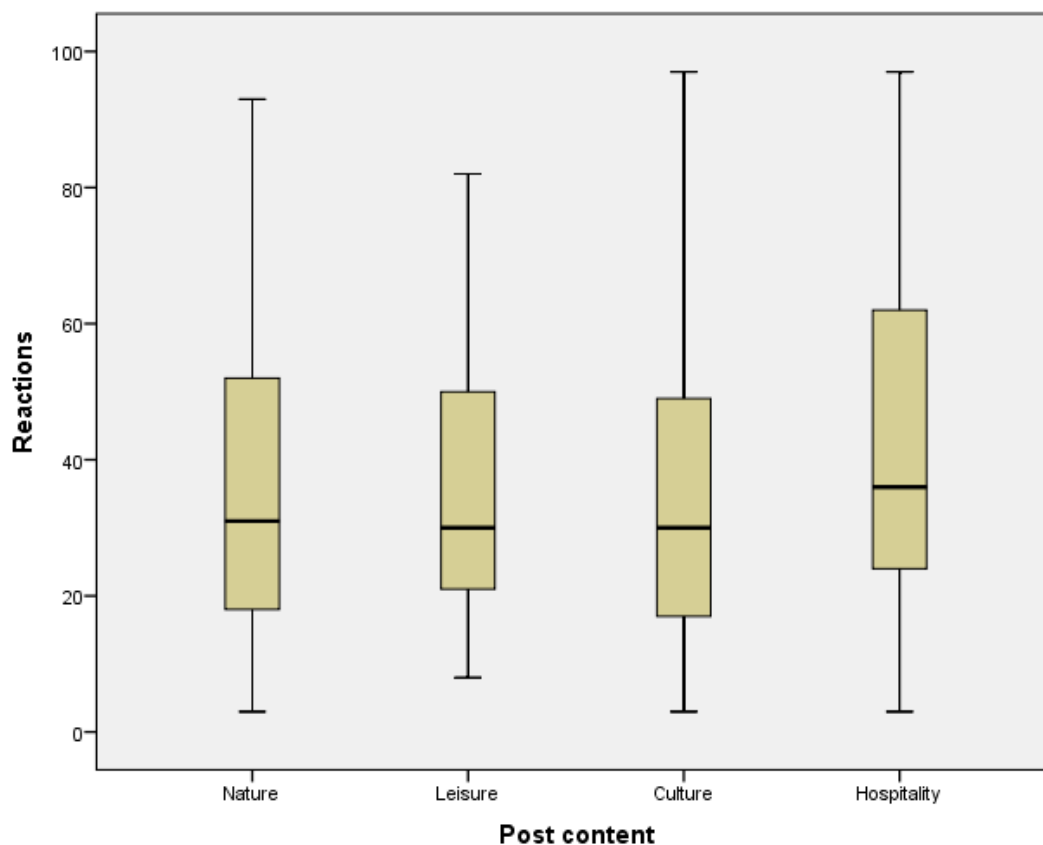


Figure 5. Boxplot analysis for the data sets without outliers.

To identify a statistically significant difference between the means of reactions grouped by post content, an analysis of variances (ANOVA) was computed.

As Table 7 reveals, the means of the analyzed data sets have very close values, which are not statistically significant according to the ANOVA results ($p > 0.05$). Thus, a significant influence of post content on the number of reactions cannot be accepted, and the second research hypothesis was rejected.

The same results were obtained for the influence of content format (picture, link, or video) on the number of posts, which also rejects the third research hypothesis.

In conclusion, based on the available data, the number of posts is the only factor influencing the number of user reactions. Of course, there are many other unknown factors influencing the number of reactions, given that the number of posts only explains a small ratio (11.3%) of the variance in the number of user reactions. Thus, future research should focus on identifying such factors.

5. Discussion

In an age marked by a continuous influx of individuals into social media platforms, the DMOs of ecotourism destinations find themselves compelled to harness the potential of these networks. As emphasized by Bickford et al. [68], social media represents a cost-effective alternative to conventional media channels to effectively target the ideal audience, while playing a pivotal role in enhancing brand recognition and loyalty.

This study responds to the call made by Huertas and Marine-Roig [2] for further research, aiming to assess whether or not specific brand communication, characterized by its attractiveness, elicits increased responses from users. Drawing inspiration from the investigations of Mariani et al. [7], Confetto et al. [18], Galvez-Rodriguez et al. [12], and Hernández-Ortega et al. [69], who examined the usefulness of Facebook as a destination marketing tool in various European destinations, this study deepens the understanding of the online communication on Facebook of seven Romanian ecotourism destinations. The

goal, from a theoretical point of view, was to adapt and modify the framework proposed by the above-mentioned authors from the perspective of Romanian ecotourism destinations. In light of these considerations, the present study analyzes the communication on Facebook from the distinct and authentic characteristics of selected Romanian ecotourism destinations, and the subsequent interactivity they foster among individuals. To the best of our knowledge, no existing study has addressed this specific topic in ecotourism destinations, which highlights the novelty of this paper.

The first operational objective of the study (O1) was to analyze the content of the Facebook posts made by Romanian ecotourism destinations. Regarding the format of the posted messages, a significant number of photo posts were observed (68.8%). The link format was used in 20% of posts, and videos were used in 11.2%. TZ, EM, and BT are the Romanian ecotourism destinations with the strongest preference for posting photos. This finding coincides with previous studies in the context of national destination organizations [2] and regional destinations [7]. Concerning the format type, some authors consider that picture posts are more likely to lead to higher engagement [47–49]. On the contrary, other authors argue that this type of posts is too static and less effective compared with links and videos, which better involve users in reading the message content or watching a video [59].

As regards the content of the messages, the posts were categorized based on a predetermined set of ecotourism activities in accordance with the operational framework defined by the Association of Ecotourism in Romania (AER). These activities encompassed hiking, wildlife observation, flora observation, bird watching, landscape, gastronomic and oenological tourism, cycling tourism, equestrian tourism, cultural engagements, water-based pursuits, winter activities (including ski touring, snowshoeing, and sledding), photographic excursions, accommodation, and events. From this perspective, the present study is also original, since there is no division of posts based on these criteria in the specialized literature. Even if the analyzed activities are characteristic of ecotourism, the posted messages mainly focused on promoting local events and some natural attractions, while there were very few messages regarding other activities of interest to tourists, such as hiking, bird watching, equestrian tourism, photo tours, or water activities.

For ease of interpretation and the possibility to compare the results obtained with those of other researchers, the posts were grouped into the following categories: nature, leisure, culture, and hospitality. Culture-related posts (events and cultural activities) predominated in the Facebook posts of ecotourism destinations in Romania (45.2%). Nature-related posts ranked second in terms of mentions (33.7%), followed by hospitality (12%) and leisure (9.1%). These results are contrary to those obtained by Raacke and Bonds-Raacke [70] and Galvez-Rodriguez et al. [12], whose conclusion was that nature-related topics had the highest number of posts.

The second operational objective of the study, identifying the user reactions to the content published by Romanian ecotourism destinations on Facebook (O2), offers a new dimension of interaction between Facebook pages and their users. The results reveal a large number of likes that dominate with 83.5% of all reactions. This result is consistent with other findings in the literature, which mentioned likes as the most used type of reaction by users [2,7,12]. However, the number of shares and comments provided by users is very low, which represents low user interaction with the posts, as revealed in other works [7].

Looking at the analyzed destinations, we can see that EM generated the highest number of reactions. However, the distribution of reactions is not uniform on the posted messages, as several of them concentrated thousands of reactions, especially likes. TD is ranked second in the number of reactions, but the number of posts is significantly higher than that in the case of EM.

The analysis of the reactions divided by the number of posts and by the number of fans reveals high heterogeneity at the level of the analyzed destinations. EM is at the top for both metrics despite having fewer fans and posts than other destinations. This confirms the findings in the literature, according to which a destination with a low number of fans

or posts is favored and such type of normalization is not suitable for accurate analysis [2,7]. Moreover, it has been found that the pages with many fans tend to have many inactive users, which distorts the number of reactions per fan [7].

The aim of the third operational objective of the study was to determine the main factors that influence user reactions to the messages posted by ecotourism destinations on Facebook (O3). The number of posts is considered one of the main influence factors, able to generate a larger number of reactions (H1). The regression analysis indicates the statistically significant positive impact of the number of posts on user reactions, which confirms the hypothesis, but also, the existence of other influence factors should be considered [2,7,12]. Another influence factor mentioned in the second hypothesis (H2) is the post content according to the major themes considered: nature, leisure, culture, and hospitality. Each post was analyzed individually along with its number of reactions, regardless of the destination, and was categorized by content into one of the four categories. The results reveal no significant influence of post content on the user reactions, so the hypothesis was rejected. This partially confirms the findings in the literature, which mentioned that only nature-related messages have a significant influence on the number of reactions [12]. The format type of the message (picture, link, or video) cannot be considered a significant factor influencing the number of reactions either. Thus, hypothesis H3 was also rejected. This result also aligns with other findings in the literature [12].

5.1. Theoretical Implications

The present article contributes to the development of the theory through the proposed analysis framework, which is specific to the ecotourism destinations and could be applied in tailoring messages according to the peculiarities of each ecotourism destination. Such a proposal is supported by the other findings in the specialized literature that highlighted the importance of communicating specific elements of the destination in ensuring effective communication with the users of social media platforms [35–37]. Thus, the proposed framework provides the DMOs with some message content that could match the most important features of their offer.

Another important finding from the theoretical point of view is the positive influence of the number of posts on user reactions. Thus, by increasing the number and frequency of posted messages, the ecotourism destinations could obtain a larger number of reactions and improve user interactivity. Based on the collected data, we noticed that the Romanian ecotourism destinations have low activity on Facebook, with less than one message posted per day.

Further research, including interviews and surveys among users, could also lead to the identification of new influencing factors that can contribute to the higher effectiveness of messages and to enriching the theory.

5.2. Policy and Management Implications

The findings of this study hold significant practical implications for ecotourism organizations and marketers aiming to enhance their online presence and engagement. Firstly, the results reveal that posts about culture and nature are preferred by the Romanian ecotourism destinations. In line with the study by Galvez-Rodriguez et al. [12], this study concludes that local DMOs should emphasize the natural resources of their destinations to create a favorable image that encourages tourists to visit or revisit the destination. Even if no significant influence of the content type on user reactions was identified, the natural resources appear to meet the information needs of tourists as they are the main specific of ecotourism destinations. Publishing information that emphasizes the identity of the destination can foster users' desire to interact with the Facebook page, but also to encourage them to visit that destination, as is also mentioned in other works [28,29].

Ecotourism DMOs should adapt their content to align with destination specifics and tourist attractions. Understanding the distinctive attributes of each destination and crafting message content accordingly can be a valuable strategy. However, the results of the present

study revealed that five out of the seven analyzed destinations (TD, EM, CT, TH, and TZ) have more posts in the “culture” category and are less focused on “nature”. This outcome can provide a trigger for their DMOs, which should mainly highlight the natural features in their Facebook posts. This strategy can generate more interaction with social media users because nature is the primary attraction of ecotourism destinations. However, this information must be very well connected with the need to assure the preservation of the natural ecosystems of the ecotourism destinations [17]. Given the absence of content on bird watching, equestrian tourism, or photo tours, ecotourism organizations should consider diversifying their content strategy. By addressing these specific ecotourism activities, destinations can attract a broader audience interested in these niches. This diversification may lead to increased interest from enthusiasts of these activities.

The primary aim of communication on social media platforms should not be just to accumulate more fans. Instead, the emphasis should be on eliciting user reactions and fostering a high degree of engagement to transform passive fans into active ones. Organizations should create content that sparks meaningful interactions, such as likes, comments, and shares. Using micro-items (emojis, calls to action, hashtags, geotags, and rewards) in the structure of their posts can be effective in achieving this goal.

According to the results of this study, the most important thing for DMOs’ activity in social networks is to increase their presence by having daily posts that could lead to a higher number of reactions from users. At the moment, most of the analyzed destinations have a low number of posts, which delineates only occasional activity rather than a systematic presence on Facebook. By performing a daily activity, the DMOs can identify the content and format of the messages that generate the most reactions and mainly use such messages. Another goal of the page administrators should be to increase the number of shares by the users, and consequently to multiply the number of people who receive the message.

Moreover, incorporating these practical implications into their social media strategies, the DMOs can harness the power of online communication and Facebook interactivity to foster greater engagement, attract a wider audience, and ultimately promote ecotourism destinations more effectively.

5.3. Empirical and Social Implications

Our study’s findings underscore the significant impact of social media strategies employed by Romanian destination management organizations (DMOs) in promoting ecotourism destinations. The strategic use of platforms such as Facebook has been demonstrated to not only enhance the visibility of these destinations but also to engage potential tourists in meaningful ways, fostering a sense of community and stewardship towards natural and cultural heritage sites.

Empirically, our research contributes to the evolving understanding of digital marketing efficacy within the tourism sector, particularly in emerging markets like Romania. Social media emerges as a powerful tool in bridging the gap between remote or lesser-known ecotourism destinations and the global tourist audience, offering insights into sustainable tourism practices and destination management.

Socially, the implications of our findings highlight the potential for DMOs to leverage social media in promoting responsible tourism practices and environmental awareness. By showcasing Romania’s unique ecotourism offerings, DMOs can play a pivotal role in not only attracting tourists but also in educating them about the importance of conservation and cultural preservation.

6. Conclusions

Romania’s diverse natural landscapes and rich cultural heritage present a unique setting for ecotourism. However, the strategic utilization of social media for marketing these destinations has not been extensively studied. By concentrating on Romanian DMOs, this research sheds light on innovative practices and strategies that could serve as benchmarks for other regions with similar ecological and cultural attributes but limited visibility in

the global tourism market. The impact of social media marketing within the Romanian setting provides meaningful contributions to the discussion on digital tourism marketing strategies and their effectiveness in promoting lesser-known ecotourism destinations.

The current study highlights that DMOs utilize social media not merely for marketing but to engage with potential tourists, build community, and emphasize ecotourism's sustainability, significantly boosting Romania's appeal as an ecotourism destination. Social media's strategic use enhances Romania's global recognition as a site for sustainable tourism, with DMOs creatively using these platforms to showcase the country's natural and cultural assets. This approach educates on conservation and sustainable tourism, benefiting both environmental preservation and local economies. The findings suggest these strategies could guide policy and marketing in similar settings globally, underscoring digital platforms' role in advancing sustainable tourism objectives.

This paper provides new insights into the debate among researchers about user reactions to the online communication of tourist destinations on social media (i.e., Facebook). It explores the insights of social media content generated in the context of ecotourism destinations because their DMOs need to adapt their online communication to the specificities of this market niche, based on environmentally friendly experiences in natural settings. This paper focused on Romania as a country setting due to the dynamic growth of ecotourism in this country within recent decades, supported by a legal framework which clearly defines and designates ecotourism destinations. However, the outcomes of this study provide practical implications in terms of what type of content boosts user reactions and enhances their engagement that may be useful for ecotourism DMOs from around the globe. From a theoretical perspective, this paper proposes a content analysis framework based on a "thematic distinction" of ecotourism activities and four broader themes that may be used for grouping the messages posted by ecotourism destinations on Facebook.

Despite its theoretical and practical contributions, the present research has some limitations that should be considered for future research directions. First, data collection focused on the social media content posted by ecotourism destinations' DMOs during a specific time frame, within the pre-season and high season for ecotourism activities (March–August). Future studies may consider other time frames or comparisons between off-season and high-season social media content and users' reactions. Furthermore, longitudinal studies may be used to analyze changes over time in both the DMOs' posted content and users' reactions. Second, this paper analyzed a limited number of ecotourism destinations from Romania. It would be interesting to include other international ecotourism destinations and to identify cultural differences from other countries. Furthermore, researchers may consider different types of tourist destinations (e.g., coastal, mountain, and cultural destinations) and perform additional comparisons and analyses of the social media content posted by DMOs. Third, this research was concentrated on a single social media platform—Facebook. Future studies may be expanded by considering other social media platforms such as Twitter, YouTube, or Instagram. Moreover, comparisons may be made between destinations' social media content and their official websites or other online communications. Last, it is important to acknowledge that our analysis did not cover paid promotional strategies, and influencer and word-of-mouth promotion. Recognizing the potential impact of this limitation, we suggest that future research should include these promotional tactics. This would provide a more nuanced and complete picture of engagement and marketing effectiveness by examining the full spectrum of marketing strategies' determinants of successful social media campaigns for ecotourism destinations.

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