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CONTENTS

Articles

TRULS ERIC JOHAN ENGSTRÖM, MITJA GORENAK, TOMI ŠPINDLER, GREGOR JAGODIČ – Have we been wrong? Generation Z's tourism students' complex relationship with work-related preferences	7
M. FARID WAJDI, NOVEL IDRIS ABAS, ANTON AGUS SETYAWAN, DEWITA PUSPAWATI – Virtual tourism for cultural heritage: Transforming Generation Z's engagement and visit intentions	21
SELDA GÜVEN, SELIN YILMAZ BALKANER, BAYRAM ŞAHİN – Artificial intelligence in higher education and research: A sample of tourism academic opinions.....	33
MRUDHUSHA MOHANAN, SURAJ KUSHE SHEKHAR – Green tourism intentions driven by social media: The influence of electronic word-of-mouth and environmental awareness	51
NOVA EVIANA, LENNY YUSRINI – Do they return for food? Exploring the role of memorable food experiences and destination image	65
MAZNI SAAD, NUR FARRADILLA MURAD, NORMALINI MD KASSIM, AZNITA AHMAD – Travel hurdles and dark tourism destinations: Unraveling Malaysian tourists' visit intentions.....	75
KRISTÍNA PANČÍKOVÁ, JÁN VESELOVSKÝ, NORBERT BETÁK – Factors influencing visitor satisfaction at selected caves in Slovakia.....	87
GRZEGORZ BORKOWSKI, KRZYSZTOF PIOTROWSKI, ILONA POTOCKA, MATEUSZ ROGOWSKI – Educational challenges for tour leader candidates in tourism and recreation studies: The case of Adam Mickiewicz University in Poznań	103
PETRA KOZÁKOVÁ, FILIP DĚCHTĚRENKO, SIMONA ČINČALOVÁ, LENKA LÍZALOVÁ – Factors determining the economic performance of businesses in the accommodation, catering and hospitality sector in the Czech Republic during the COVID-19 pandemic.....	115
ZEHRA YARDI, EMRE OZAN AKSÖZ – Cost leadership strategies in low-cost airlines: A deep learning-based comparative analysis of Ryanair and Pegasus	125
NURAY TÜRKER – Factors affecting visitors' memorable wine tourism experiences at the Urla Vineyard Route (Türkiye – Aegean coast)	141
NURZEHAN ABU BAKAR, MARLISA ABDUL RAHIM, NOR MAIZANA MAT NAWI, NIK ALIF AMRI NIK HASHIM, SATHISH KUMAR VELAYUTHAN – Memorable sustainable tourism experiences (MSTE): A mixed-method study	155
MOHAMED AMIN BARDAA – The role of emotional intelligence in shaping entrepreneurial intentions among Tunisian women in sustainable tourism	171



HAVE WE BEEN WRONG? GENERATION Z'S TOURISM STUDENTS' COMPLEX RELATIONSHIP WITH WORK-RELATED PREFERENCES

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ABSTRACT

The article investigates the work preferences of Generation Z tourism students, emphasising their distinct expectations towards work-related preferences. Generation Z, born between 1995 and 2012, has now extensively entered the labour market and is currently marked as a generation with a strong demand for flexibility, digitalisation and teamwork. A survey involving 142 Generation Z tourism students from three European faculties explored their preferences regarding working time flexibility, remote work and value orientation. The findings reveal that Generation Z tourism students prefer a combination of fixed and flexible working hours and favour on-site over remote work. Interestingly, despite being open to dynamic challenges, they enjoy routine tasks specific to the tourism industry and, moreover, they are highly teamwork-oriented and seek meaningful work beyond just financial goals. This article provides valuable insights into the needs of Generation Z tourism students and highlights the gap between employers' expectations and the actual desires of these future workers regarding employment in tourism. Adapting job roles to align with these preferences could significantly attract more members of Generation Z to the tourism sector.

KEYWORDS

Generation Z students, work preferences, tourism industry, flexibility, teamwork

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1. INTRODUCTION

The tourism industry, one of the largest sectors globally, has long been characterised by its dynamic nature and demand for flexibility (Rangus et al., 2020) and creativity (Alegro & Turnšek, 2021). As the industry continues to evolve, so too do the preferences of its workforce, particularly among younger generations. Generation Z, born between 1995 and 2012 (Barhate & Dirani, 2022), is now strongly entering the labour market, bringing new expectations and values that differ from those of previous generations (Špindler et al., 2022). Understanding their complex attitudes towards work is crucial for the future of tourism, as these workers will play a central role in shaping the sector's competitiveness and resilience (Yan et al., 2024). Previous studies suggest that Generation Z prioritises work-life balance, sustainability of values and corporate social responsibility, while seeking personal fulfilment and career growth (Goh & Lee, 2018; Kong et al., 2020; Lanier, 2017). However, there remains a gap in the literature, particularly regarding the specific work preferences of this generation within the tourism industry. Unlike other sectors, tourism is often seasonal, demanding high levels of flexibility and adaptability, which may challenge Generation Z's preferences for stability and balance (Benítez-Márquez et al., 2022). Given the sector's rapid digital transformation, the question arises: are existing employment models adequately meeting the needs of this new generation, or have we misjudged what they truly want from a career in tourism?

This article explores Generation Z tourism students' relationship with work in the tourism sector, aiming to understand their preferences and the implications for tourism businesses. By examining key factors such as work conditions, flexibility, work organisation and orientation of business, this research seeks to uncover whether current presumptions about the expectations of such students align with their preferences. In doing so, it contributes to ongoing discussions on the future of work in tourism, offering insights that may help shape more sustainable and competitive employment models for the industry (Calderón-Fajardo et al., 2024). Understanding Generation Z's complex work-related preferences is academically significant and practically valuable for tourism employers. As the industry faces growing challenges in attracting and retaining skilled labour, adapting to the expectations of this tech-savvy, socially conscious and career-oriented generation is essential (Haid et al., 2024). Ultimately, aligning employment practices with the values of Generation Z could be a crucial factor in ensuring the long-term success of the tourism sector in an increasingly competitive and uncertain global landscape.

2. WORKING IN TOURISM

The United Nations 2030 Agenda for Sustainable Development (United Nations, Department of Economic and Social Affairs, 2015, p. 19) emphasises the importance of "full and productive employment and decent work" and highlights challenges in attracting and retaining hospitality and tourism personnel. As one of the fastest-growing industries, tourism offers many opportunities and employs many people worldwide (Rangus & Brumen, 2016), therefore, understanding changes in work is vital to modern tourism (Gorenak et al., 2024). With the increased demand for travel, working in tourism is attractive to those looking for diverse experiences, cross-cultural contacts and a contribution to global connectivity. However, working in tourism also brings challenges, especially with rapid changes in the worldwide environment (Bertocchi et al., 2020; Zeng et al., 2022).

Tourism work is highly seasonal, resulting in temporary and fluctuating employment (Baum et al., 2020) that provides opportunities for short-term work but, at the same time, creates instability for employees. Employees must be flexible and constantly adapt to new roles and technology transforming tourism, from digital reservations to artificial intelligence in hotel services (Stankov & Gretzel, 2021). Innovations such as online platforms, mobile applications and artificial intelligence are automating routine tasks while creating new jobs in digital marketing and data management (Alegro et al., 2023; Gretzel et al., 2020). In addition to traditional skills, employees must be technologically literate to thrive in this environment (Xiang et al., 2015). A high level of customer interaction requires interpersonal skills, cultural sensitivity, and emotional and intellectual intelligence (Engström et al., 2003). Employees must balance customer satisfaction with operational efficiency, often in high-pressure environments such as hotels and airports, while adaptability is vital to mastering various tasks, such as problem-solving and crisis-solving (Baum et al., 2016). As tourism is a global industry, language skills and cultural competence are valuable while cooperation with international tourists improves the quality of services, and sustainability becomes increasingly important (Lin et al., 2021). Employees contribute to environmental efforts by promoting sustainable practices (Font & McCabe, 2017). External events such as crises and pandemics have significantly impacted tourism with the COVID-19 pandemic causing massive job losses and changing consumer behaviour, bringing a greater focus on health and safety (Sigala, 2020). The sector now strives for more sustainable and stable employment with better worker conditions (Baum et al., 2020). Employers are increasingly attracting young workers, mainly

from Generation Z, who are looking for flexibility, opportunities for development and compliance with ethical practices (Goh & Lee, 2018). Understanding these preferences is vital to retaining talent in a high-turnover industry.

3. GENERATIONS AND THEIR CHARACTERISTICS

Generations represent an essential sociological and cultural phenomenon, as individuals born in specific periods experience similar circumstances that shape their values, behaviour and attitudes towards society (Mannheim, 1952). According to the theory of Karl Mannheim (1952), individuals who mature at the same time are influenced by events and this leads to the formation of generational identities. Mannheim laid the groundwork for understanding how the socio-political environment and technological progress shape generational groups.

Later studies expanded Mannheim's theories, e.g. Strauss and Howe (1991) with the "generational cycle" theory, which argues that generations follow a cyclical pattern of archetypes based on historical events. Modern research (George et al., 2024) also considers technological progress essential in shaping generational views on work, communication, and social interactions. Understanding these differences is vital to effective management and intergenerational cooperation (Lyons & Kuron, 2014), so that organisations can reduce conflict and increase collaboration with appropriate management strategies, enabling a thriving work environment (Hershatter & Epstein, 2010).

The baby boom generation was born after World War II during economic prosperity, which shaped their values of security, loyalty and a work ethic (Leach et al., 2008; Yang & Guy, 2006). Generation X grew up in a social change marked by increased female employment and technological advances such as personal computers. They are known for their independence and pragmatism (Brown et al., 2015). Generation Y or millennials, who grew up with digital technology, are socially aware and prioritise inclusion and collaboration (Twenge et al., 2010). Generation Z is highly technologically savvy, mental health-oriented and has been shaped by events such as the 2008 financial crisis and the COVID-19 pandemic (Schroth, 2019; Seemiller & Grace, 2017).

Each generation brings different values to the workplace (Draxler et al., 2023). Baby boomers value loyalty and security, while Generation Xers seek work-life balance and flexibility. Millennials challenge traditional hierarchies and seek purpose at work, while Generation Z prioritises mental health and flexibility. Whereas older generations value traditional structures,

younger generations demand greater flexibility and inclusion. We will now explore in more detail the work preferences of Generation Z, which are becoming essential in modern work environments.

4. GENERATION Z AND THEIR EXPECTATIONS TOWARDS WORKING IN TOURISM

Each generation has specific characteristics that also affect the workplace. The characteristics of Generation Z are different from those before and are perceived as socially oriented (Dębski & Borkowska-Niszczota, 2020). Entrepreneurs of this generation are not limited to conventional corporate thinking, they are technologically savvy, ready to take risks and have good management skills (Yazici & Arslan Ayazlar, 2021). Therefore, Generation Z brings unique expectations, especially in the tourism sector.

Several factors shape Generation Z's motivation, and Fratričová and Kirchmayer (2018) emphasise that enjoyment of work, team support, and opportunities for growth and learning are essential. Dissatisfaction with work, poor team dynamics and lack of purpose reduce motivation. Atmosphere and satisfaction can act as both motivators and barriers, reflecting the complexity of expectations – the social environment is vital – Generation Z thrives in those that encourage collaboration and open communication rather than rigid hierarchies (Dangmei & Singh, 2016). They value independence, self-confidence and happiness at work and if this is not possible, they will look for other opportunities. For them, work is not just a job but a way to achieve dreams and happiness. An essential characteristic of Generation Z is its dependence on technology, which is also expected in the workplace (Prensky, 2001), and it can either help or hinder tourism depending on its use (Monaco, 2018). It is essential because it enables more efficient work and corresponds to their knowledge of digital tools. While the first members of Generation Z entered the labour market shortly prior to COVID-19 or right at its beginning, many have started their careers being solidly welded to remote work (Dhar, 2024). Based on this there is no surprise that some studies have shown that up to two thirds of Generation Z workers opt for remote and hybrid work ("Two thirds of UK Gen Zs and millennials opt for remote and hybrid working", 2023), which goes with the fact that Generation Z members also value work-life balance and work flexibility (Kirchmayer & Fratričová, 2018). Enjoying work and achieving personal goals are more important to them than workload or job security and they are looking for jobs that embrace innovation and allow for flexibility. They value autonomy but

also feedback and instructions from superiors, while they are motivated by meaningful work, contributing to the community, and making a positive impact. Unlike older generations, Generation Z does not see salary as the main factor when looking for a job (Goh & Lee, 2018), they are more attracted to recognition, a good working environment and the feeling that they contribute to a company's success. They are attracted to jobs where they can make a real difference, such as tourism (Agarwal & Vaghela, 2018). Many young members of Generation Z are attracted to jobs in tourism because of the excitement, travel and personal fulfilment (Goh & Lee, 2018), while their decision to pursue such a career, especially in their hometowns, is often linked to the reputation of the companies that want to employ them (Martínez González et al., 2017). Employers who promote a positive work environment and community development can attract Generation Z workers. Their sense of community and attachment to their hometowns, especially those designated as World Heritage Sites, strongly influences their career choices (Bermúdez-González et al., 2023). Based on this we could conclude that Generation Z prefers flexible working hours, autonomy, and on-site work if there is personal interaction and tasks that involve technology. They seek dynamic challenges, value teamwork, and like to work with meaning over financial gain.

Although Generation Z is often portrayed as a globally homogeneous 'digital native' cohort, comparative surveys show notable variation in work values and socio-political attitudes across countries (e.g., de Boer & Bordoloi, 2022; Faber, 2025). Such differences reflect local labour-market conditions, policy regimes and cultural norms, reminding us that generational labels do not override national contexts. Moreover, scholars disagree on whether observed gaps are true cohort effects or artefacts of age and period (Lau & Kennedy, 2023; Lyons & Kuron, 2014). Our cross-sectional design cannot disentangle these factors; findings should therefore be interpreted as descriptive of European Generation Z tourism students rather than of a global generation.

5. METHODOLOGY

For this article, we are using data gathered from a broader survey. The data in this part of the article is presented for explanatory purposes so that readers can fully understand the study that was conducted.

5.1. RESEARCH QUESTION AND HYPOTHESIS

The research aimed to answer the following question: How do Generation Z tourism students position themselves across key work dimensions such as flexibility,

work location and task dynamics, and how do these preferences differ from common assumptions? We stated the following hypotheses:

H₁: The majority of Generation Z tourism students prefer flexible working hours.

The preference for flexible working hours reflects Generation Z's broader desire for work-life balance and autonomy, distinguishing them from previous generations (Kirchmayer & Fratričová, 2018). This generation views work as a pathway to personal fulfillment rather than mere employment, making time management autonomy crucial to their job satisfaction (Dangmei & Singh, 2016). Their digitally native background enables efficient work across different schedules, supporting their expectation for temporal flexibility in managing professional and personal responsibilities.

H₂: The majority of Generation Z tourism students prefer remote work.

Despite their digital nativity, Generation Z values in-person interaction and the experiential nature of tourism work. Their preference for on-site work stems from their desire for meaningful customer interactions and cultural sensitivity development, which are essential in tourism (Engström et al., 2003). The dynamic, high-pressure environments of tourism, such as hotels and airports, provide the variety and personal engagement that align with their need for purposeful work and community contribution.

H₃: The majority of Generation Z tourism students prefer digital work tasks.

As digital natives who expect technology integration in the workplace, Generation Z naturally gravitates toward digital work tasks (Prensky, 2001). Their technological literacy enables them to thrive in tourism's digital transformation, from online platforms to artificial intelligence applications (Gretzel et al., 2020). This preference reflects their comfort with digital tools and their expectation that technology should enhance work efficiency and correspond to their existing digital competencies.

H₄: The majority of Generation Z tourism students prefer dynamic work.

Generation Z's attraction to dynamic work aligns with their entrepreneurial mindset and readiness to take risks while seeking variety over routine (Yazici & Arslan Ayazlar, 2021). Their preference for creative challenges reflects their desire for work that provides excitement, personal growth and learning opportunities rather than repetitive tasks (Fratričová & Kirchmayer, 2018). The tourism industry's inherent variability and problem-solving requirements match their expectation for engaging, non-conventional, work experiences.

H₅: The majority of Generation Z tourism students prefer teamwork.

Generation Z thrives in collaborative environments that encourage open communication rather than rigid hierarchies, reflecting their socially oriented nature (Dangmei & Singh, 2016). Their preference for teamwork stems from valuing team support and collective problem-solving as essential motivational factors (Fratricová & Kirchmayer, 2018). This collaborative orientation aligns with their broader social consciousness and desire to contribute meaningfully to group achievements rather than pursuing individual success.

H₆: The majority of Generation Z tourism students prefer value-oriented work.

Unlike previous generations, Generation Z does not prioritize salary as the main job selection factor, instead seeking recognition and meaningful contribution to company success (Goh & Lee, 2018). Their preference for value-oriented work reflects their attraction to jobs where they can make a real difference and contribute to community development (Agarwal & Vaghela, 2018). This orientation toward purpose over profit demonstrates their desire for work that aligns with their social consciousness and provides personal fulfillment beyond financial rewards.

5.2. INSTRUMENT

The questionnaire consisted of three parts, containing a total of six semantic differentials asking respondents about their work preferences. The statements used a seven-point Likert scale where value four (4) shows the exact *middle*. In contrast, value one (1) suggests a *very traditional working environment*, and value seven (7) indicates a *working environment presumed to be favourable* to Generation Z workers. We see the Likert scale as quasi-continuous (Chimi & Russell, 2009; Wu & Leung, 2017), allowing us to use selected statistical methods for conducting our research. The final part of the questionnaire consists of demographic questions concerning gender, age, education, study level and type of study.

5.3. SAMPLE AND VALIDITY

As noted above, the survey was conducted amongst tourism students in three different faculties in Europe where 928 students belonging to Generation Z were studying in the academic year 2023/2024. We emailed all of them, asking them to complete the online survey we had prepared. Thirty days were allowed to fill in the survey and we acquired a total of 142 responses representing 15.3% of all students contacted. Basic demographics are represented in Table 1.

Table 1. Analysis of demographic data (average age: 22,2)

Variable		<i>n</i>	%
Gender	Male	42	29.6
	Female	97	68.3
	Did not want to disclose	3	2.1
Study level	Bachelor's degree	118	83.1
	Master's degree	24	16.9
Type of study	Full time	126	88.7
	Part-time	16	11.3

Source: authors.

From Table 1, we can observe several of the respondents' demographic characteristics. The average age is 22.22. Regarding gender distribution, most are female, with 97 (68.3%), while 42 are male, representing 29.6% of the sample. A small proportion, three individuals (2.1%), chose not to disclose their gender. The data also highlights the educational background of the participants. The vast majority, 118 (83.1%), are pursuing a bachelor's degree, while 24 (16.9%) are enrolled in a master's program. Regarding the type of study, most are full-time students, accounting for 126 (88.7%), whereas 16 (11.3%) are studying part-time.

When analysing the fit between the sample and the population, we decided to compare the sample to the population using three different demographic data sets: gender, average age and type of study.

We obtained data on students from European Statistical Office portal (Eurostat, 2025). For the comparison between sample and population regarding gender we found that a total of 116,590 students were studying '1015 – Travel, tourism and leisure'. A total of 32.3% were male, and 67.7% female. When comparing this to our sample that includes 30.2% male and 69.8% female, we decided to perform a chi-square goodness-of-fit test. The test statistic was calculated at 0.89 with one degree of freedom, giving a *p*-value of 0.35. Since this is above 0.05, the difference is not statistically significant or in other terms, our sample adequately represents the population. The second comparison we did was based on average age. The European Statistical Office portal unfortunately does not provide age categories for students in '1015 – Travel, tourism, and leisure', thus we took information about students in general. Considering only students of Generation Z, so only those aged 18–28 at the time of data collection we have calculated that the average age of students in Europe is 22.06 (Eurostat, 2025), while our sample average age is calculated at 22.22. The one-sample *t*-test yielded a value of 1.949 and a significance *p*-value of 0.052. Although very close to the limits these numbers indicate that the sample represents population adequately. The

third comparison we did was based on type of study. The European Statistical Office portal unfortunately does not provide this information for students in '1015 – Travel, tourism, and leisure' either, thus we took the information about students in general. While amongst European students that represent our population, in this case 85.9% study full-time while 14.1% study part-time (Eurostat, 2025), there are 88.7% in our sample that study full-time and 11.3% that study part-time. In this final step, we performed a chi-square goodness-of-fit test on the sample and population data regarding the type of study. The calculated chi-square value is 0.941, which is less than a critical value of 3.841; thus, we can conclude that based on this parameter, the sample also fits the population. While we do acknowledge that we have compared sample to population directly to tourism students only in the aspect of gender, the other two comparisons because of the unavailability of data were made between the sample and general student population.

6. RESEARCH ANALYSIS

To test the internal consistency, we used Cronbach's alpha test, which is commonly used to assess the reliability of a set of scaled or test items.

We have included the six variables used in our survey, and the result showed a value of 0.771. Values of Cronbach's alpha in the range between 0.70 and 0.79 indicate acceptable reliability, while values above 0.90 indicate excellent reliability (Cronbach, 1951; George & Mallery, 2000).

6.1. DESCRIPTIVE STATISTICS OF VARIABLES

For this article, we will analyse the six statements we created based on semantic differentials. In Table 2 we present the descriptive statistics of these statements.

Table 2. Descriptive statistics for the analysed variables
($n = 142$)

Variable	$\bar{X}$	SEM	s^2	Skew
Fixed / flexible work	3.67	1.90	3.76	0.088
On-site / remote work	3.84	1.63	2.66	0.106
Analogue / digital work	3.80	1.58	2.50	0.112
Routine / dynamic work	3.73	1.60	2.55	−0.080
Individual / teamwork	4.62	1.52	2.32	−0.347
Profit / value-oriented work	4.66	1.57	2.47	−0.282

Note: $\bar{X}$ – sample mean, SEM – standard error of the mean, s^2 – sample variance, Skew – skewness.

Source: authors.

As we can see from Table 2, we received responses from 142 respondents to all six semantic differentials created. In the first variable, we asked the respondents to determine if they prefer fixed working hours (working a fixed schedule) or variable working hours (working schedule varies from week to week). The mean value was 3.67 with a standard error of 1.90 and a skewness coefficient of 0.088. In the second variable, we asked respondents if they would prefer on-site work (working from a designated location) or remote work (working from home or any remote location). The mean value of responses was 3.84, with a standard error of 1.63, and a skewness coefficient of 0.106. For the third variable, we asked whether respondents preferred analogue work (traditional working methods) or digital work (using digital tools and platforms). The mean value was 3.80, with a standard error of 1.58, and a skewness coefficient of 0.112. In the fourth variable, respondents were asked if they preferred routine work (structured and predictable tasks) or dynamic work (varied and changing tasks). The mean value was 3.73, with a standard error of 1.60, and a skewness coefficient of −0.080. For the fifth variable, we asked respondents to choose between working individually (solo tasks) or in teams (collaborative tasks). The mean value was 4.62, with a standard error of 1.52, and a skewness coefficient of −0.347. In the sixth variable, respondents were asked if they prioritised profit-oriented work (focused on financial outcomes) or value-oriented work (focused on meaningful or purpose-driven outcomes). The mean value was 4.66, with a standard error of 1.57, and a skewness coefficient of −0.282.

The results presented in Table 2 were, in some cases, somewhat surprising. Thus, we decided to look deeper into each variable described above, and the results are shown in Tables 3 to 8.

As we can see from Table 3, the responses indicate a balanced distribution of preferences regarding fixed versus flexible working hours. A total of 33.8% (those selecting 1 and 2) lean toward fixed working hours (working schedule is fixed), with another 14.1% (those selecting 3) slightly favouring fixed hours. Meanwhile, 12.0% (those selecting 5) slightly prefer flexible working hours, and 24.6% (those selecting 6 and 7) lean toward more flexible schedules (working schedules vary from week to week). Notably, 15.5% chose 4, reflecting a completely neutral stance, indicating no clear preference between fixed or flexible working hours. This suggests a relatively even spread of opinions, with no overwhelming consensus, however, respondents lean slightly more towards fixed working hours in general.

Table 3. Detailed analysis of the responses for the variable analysing fixed vs flexible working hours

Variable	<i>n</i>	%
1 – Fixed working hours	26	18.3
2	22	15.5
3	20	14.1
4	22	15.5
5	17	12.0
6	26	18.3
7 – Flexible working hours	9	6.3
Total	142	100.0

Note: Values 2–6 were not given to the respondents, however for the purpose of following the guidelines of the journal, they could be labelled as: 2 – Mostly fixed with minor adjustments; 3 – Fixed core hours with some flexibility; 4 – Moderate flexibility; 5 – Significant flexibility with some constraints; 6 – High flexibility with minimal restrictions.

Source: authors.

As we can see from Table 4, the responses indicate a varied distribution of preferences regarding on-site versus remote work. A total of 22.6% (those selecting 1 and 2) lean toward on-site work (working from a designated location), with another 18.3% (those selecting 3) slightly favouring on-site work. Meanwhile, 14.1% (those selecting 5) slightly prefer remote work, and 17.6% (those selecting 6 and 7) lean toward more remote work (working from home or another location). Notably, 27.5% chose 4, reflecting a completely neutral stance, indicating no clear preference between on-site or remote work. This suggests that while opinions are spread across the spectrum, a significant portion remains neutral, with no overwhelming consensus toward either working mode, however, respondents lean slightly more towards on-site work in general.

As we can see from Table 5, the responses indicate a broad distribution of preferences regarding analogue versus digital work tasks. A total of 22.5% (those selecting 1 and 2) lean toward analogue work tasks (traditional, non-digital methods), with another 18.3% (those selecting 3) slightly favour analogue work. Meanwhile, 12.7% (those selecting 5) slightly prefer digital work tasks, and 16.9% (those selecting 6 and 7) lean toward more digital work (using digital tools and platforms). Notably, 29.6% chose 4, reflecting a completely neutral stance, indicating no clear preference between analogue or digital work tasks. This suggests a relatively even spread of opinion, with a significant portion of respondents remaining neutral and no strong inclination toward either approach to work tasks, however, respondents lean slightly more towards analogue work tasks.

Table 4. Detailed analysis of the responses for the variable analysing on-site vs remote work

Variable	<i>n</i>	%
1 – On-site work	12	8.5
2	20	14.1
3	26	18.3
4	39	27.5
5	20	14.1
6	16	11.3
7 – Remote work	9	6.3
Total	142	100.0

Note: Values 2–6 were not given to the respondents, however for the purpose of following the guidelines of the journal, they could be labelled as: 2 – Mostly on-site with occasional remote; 3 – On-site with some remote flexibility; 4 – Hybrid with more on-site; 5 – Balanced hybrid; 6 – Mostly remote with occasional on-site.

Source: authors.

Table 5. Detailed analysis of the responses for the variable analysing analogue work vs digital work tasks

Variable	<i>n</i>	%
1 – Analogue work tasks	11	7.7
2	21	14.8
3	26	18.3
4	42	29.6
5	18	12.7
6	17	12.0
7 – Digital work tasks	7	4.9
Total	142	100.0

Note: Values 2–6 were not given to the respondents, however for the purpose of following the guidelines of the journal, they could be labelled as: 2 – Mostly analogue with minimal digital tools; 3 – Analogue-focused with some digital support; 4 – Mixed analogue and digital methods; 5 – Digital-focused with some analogue elements; 6 – Mostly digital with minimal analogue tasks.

Source: authors.

As we can see from Table 6, the responses indicate a varied distribution of preferences regarding routine versus dynamic work tasks. A total of 24.0% (those selecting 1 and 2) lean toward routine work tasks (structured and predictable tasks), with another 16.2% (those selecting 3) slightly favouring routine work. Meanwhile, 18.3% (those selecting 5) slightly prefer dynamic work tasks, and 13.4% (those selecting 6 and 7) lean toward more dynamic work (varied and changing tasks). Notably, 28.2% chose 4, reflecting a completely

neutral stance, indicating no clear preference between routine or dynamic work tasks. That suggests that while there is a diversity of opinion, many respondents remain neutral, with no strong preference toward either type of work task, however, respondents lean slightly more towards routine work tasks.

Table 6. Detailed analysis of the responses for the variable analysing routine vs dynamic work tasks

Variable	<i>n</i>	%
1 – Routine work tasks	17	12.0
2	17	12.0
3	23	16.2
4	40	28.2
5	26	18.3
6	14	9.9
7 – Dynamic work tasks	5	3.5
Total	142	100.0

Note: Values 2–6 were not given to the respondents, however for the purpose of following the guidelines of the journal, they could be labelled as: 2 – Mostly routine with occasional variations; 3 – Routine-focused with some dynamic elements; 4 – Mixed routine and dynamic tasks; 5 – Dynamic-focused with some routine elements; 6 – Mostly dynamic with minimal routine tasks.

Source: authors.

As we can see from Table 7, the responses indicate a varied distribution of preferences regarding individual versus teamwork. A total of 9.1% (those selecting 1 and 2) lean toward individual work (solo tasks), with another 11.3% (those selecting 3) slightly favouring individual work. Meanwhile, 18.3% (those selecting 5) slightly prefer teamwork, and 33.1% (those selecting 6 and 7) lean toward more teamwork (collaborative tasks). Notably, 28.2% chose 4, reflecting a completely neutral stance, indicating no clear preference between individual and teamwork, which suggests that while there is a diversity of opinion, and although many respondents remain neutral, more favour teamwork.

As we can see from Table 8, the responses indicate a varied distribution of preferences regarding profit-oriented versus value-oriented work. A total of 11.3% (those selecting 1 and 2) lean toward profit-oriented work (focused on the financial outcome), with another 9.9% (those selecting 3) slightly favouring profit-oriented work. Meanwhile, 18.3% (those selecting 5) slightly prefer value-oriented work, and 34.5% (those selecting 6 and 7) lean toward more value-oriented work (focused on meaningful or purpose-driven outcomes). Notably, 26.1% chose 4, reflecting a completely neutral stance, indicating no clear preference between profit- and value-oriented work. This suggests that while there

is a diversity of opinion, many respondents remain neutral, however more respondents favour value-oriented work.

Table 7. Detailed analysis of the responses for the variable analysing individual work vs teamwork preferences

Variable	<i>n</i>	%
1 – Individual work	5	3.5
2	8	5.6
3	16	11.3
4	40	28.2
5	26	18.3
6	32	22.5
7 – Teamwork	15	10.6
Total	142	100.0

Note: Values 2–6 were not given to the respondents, however for the purpose of following the guidelines of the journal they could be labelled as: 2 – Mostly individual with occasional collaboration; 3 – Individual-focused with some team interaction; 4 – Mixed individual and team tasks; 5 – Team-focused with some individual work; 6 – Mostly teamwork with minimal individual tasks.

Source: authors.

Table 8. Detailed analysis of the responses for the variable analysing profit-oriented vs value-oriented work

Variable	<i>n</i>	%
1 – Profit oriented work	3	2.1
2	13	9.2
3	14	9.9
4	37	26.1
5	26	18.3
6	30	21.1
7 – Value oriented work	19	13.4
Total	142	100.0

Note: Values 2–6 were not given to the respondents, however for the purpose of following the guidelines of the journal they could be labelled as: 2 – Mostly profit-driven with some value considerations; 3 – Profit-focused with some value integration; 4 – Mixed profit and value objectives; 5 – Value-focused with some profit considerations; 6 – Mostly value-driven with minimal profit focus.

Source: authors.

7. FINDINGS AND PRACTICAL IMPLICATIONS

The study provides a comprehensive exploration of the work preferences of Generation Z tourism students, addressing six key dimensions: flexibility, work

location, task dynamics, individual versus teamwork and value-oriented versus profit-driven work. As we have used a quasi-continuous Likert scale, we have combined answers 1–3 on one side and 5–7 on the other, with answer 4 being completely neutral thus being analysed separately.

The data show that Generation Z tourism students exhibit a relatively balanced preference between fixed and flexible work hours. Table 3 reveals that 47.9% of respondents prefer fixed working hours, while 36.6% lean toward flexible schedules, with 15.5% remaining neutral. This result rejects the first hypothesis (H_1), that the majority of Generation Z tourism students prefer flexible working hours. Referring to Kirchmayer and Fratričová (2018), Generation Z values autonomy and appreciates workplaces that allow them to balance their personal and professional lives while prioritising flexibility. They also value independence (Dangmei & Singh, 2016). In fact, a substantial portion of respondents in this work demonstrate a preference for fixed schedules, suggesting that flexibility may not be as critical for Generation Z tourism students as previously assumed. This may be influenced by the structured nature of the tourism industry, where operating hours often require adherence to specific schedules. The results show that they value their free time and want to draw a strict line between it and working hours. Also, as Kirchmayer and Fratričová (2018) state, how working hours are organised matters less to them compared to enjoying their work and reaching personal goals.

Contrary to expectations that Generation Z tourism students would prefer remote work in the second hypothesis (H_2), that the majority of Generation Z tourism students prefer remote work; the findings show a slight inclination toward on-site work. Table 4 indicates that 40.9% prefer on-site work, while 31.7% favour remote work, with 27.5% remaining neutral, thus rejecting the hypothesis. This distribution implies that Generation Z tourism students may value the in-person, experiential aspects of their jobs, which aligns with the nature of the tourism industry. Although Generation Z is looking for new experiences and adventures that come with a career in tourism (Brown et al., 2015; Buzinde et al., 2018), the sector often demands physical presence, especially in customer-facing roles where interaction with clients and immersion in the local culture are essential. Thus, while remote work has gained prominence in many industries, Generation Z tourism students seem to prioritise the hands-on experiences that comes with being on-site.

Regarding the preference between analogue and digital work tasks, the results show a slight preference for analogue tasks. Table 5 reveals that 40.8% prefer analogue tasks, while 29.8% favour digital tasks, with 29.6% remaining neutral. The third hypothesis (H_3), that

the majority of Generation Z tourism students prefer digital work tasks, is also rejected. A significant trait of Generation Z is their reliance on technology; they have grown up surrounded by it, so they expect to see it in their work environment (Prensky, 2001). However, despite the general assumption that Generation Z is more comfortable with digital technologies due to their upbringing in the digital age, this slight preference for analogue tasks might reflect the specific demands of the tourism industry, where personal, face-to-face interactions are often valued over digital solutions. Furthermore, the neutral responses from 29.6% of the sample may indicate a willingness to work in analogue and digital environments, suggesting that Generation Z tourism students are adaptable and open to various task formats.

In terms of task variety, the findings show a relatively neutral stance among Generation Z tourism students, with a slight preference for routine tasks over dynamic ones. Table 6 shows that 40.2% prefer routine tasks, while 31.7% lean toward dynamic tasks, and 28.2% expressing neutrality. This result rejects the fourth hypothesis (H_4), that the majority of Generation Z tourism students prefer dynamic work. Many representatives of Generation Z are attracted to tourism jobs because they offer excitement, travel opportunities, and personal fulfilment (Goh & Lee, 2018). However, the tourism industry often involves repetitive tasks such as administrative duties or customer service interactions, which may explain why some respondents prefer routine tasks. However, the significant neutral responses suggest that Generation Z tourism students are open to a balance between routine and dynamic tasks, potentially thriving in environments where both are present.

A stronger preference is observed for teamwork over individual work. This supports the fifth hypothesis (H_5), that the majority of Generation Z tourism students prefer teamwork. Table 7 shows that 51.5% favour teamwork, while 20.4% lean toward individual work, the remaining 28.4% are neutral. These results compare well with the findings of Dangmei and Singh (2016), who state that this generation thrives in settings that encourage teamwork and open communication rather than rigid hierarchies. The preference for teamwork may reflect Generation Z's inclination toward collective problem-solving and collaboration, which aligns well with the tourism industry, where teamwork is often essential for delivering seamless customer experiences. The significant proportion of neutral responses (28.4%) also suggests that while teamwork is valued, some respondents are open to individual tasks, particularly in roles that require a combination of both. That aligns with the findings of Fratričová and Kirchmayer (2018), who point out that enjoying their work, having a supportive team, opportunities for career growth, and continuous learning are crucial for this generation.

The results of this research also support the final sixth hypothesis (H_6), that the majority of Generation Z tourism students prefer value-oriented work. These findings align with previous research that Generation Z does not see salary as the main factor when looking for a job (Goh & Lee, 2018). As Kirchmayer and Fratričová (2018) state, they desire meaningful work, community engagement, and the chance to create a positive impact. Table 8 shows that 52.8% of respondents lean toward value-oriented work, while only 21.2% favour profit-oriented work, with 26.1% expressing neutrality. This finding aligns with broader research on Generation Z, which consistently shows that they are more purpose-driven in their career choices and value the pursuit of happiness at work (Dangmei & Singh, 2016). As Goh and Lee (2018) further point out, they care more about being recognised for their efforts, having a good work environment, and feeling like they are helping the company succeed.

In the tourism industry, where experiences and meaningful interactions are central, organisations that emphasise sustainability, social responsibility and meaningful customer experiences will likely appeal more to such students and future workers. Based on the findings of all six hypotheses, we have created a spider diagram based on mean values indicated in Table 2, which shows the preferences of Generation Z tourism students, the results of which are shown in Figure 1.

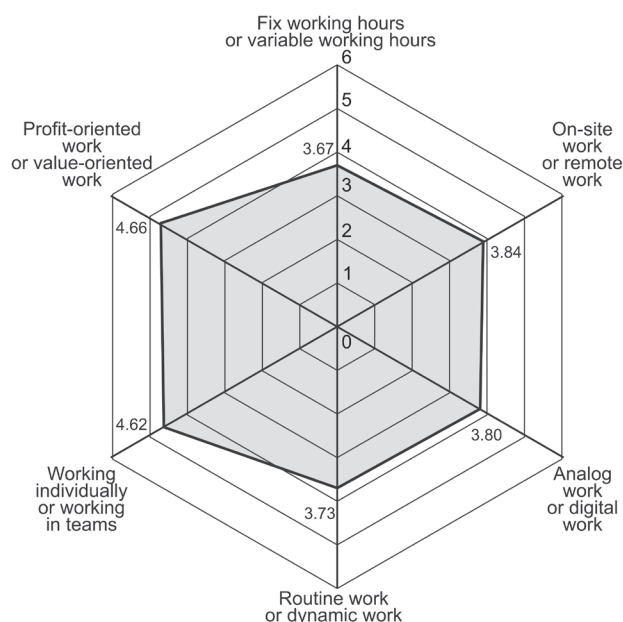


Figure 1. Spider diagram of the key work dimension preferences of Generation Z tourism students

Source: authors

These findings have important implications for tourism organisations seeking to attract and retain Generation Z tourism students and future employees.

The balanced preference for both fixed and flexible work hours suggests that employers should offer varied scheduling options to accommodate diverse employee needs, with some workers thriving on predictable schedules and others valuing flexibility, particularly in roles not requiring constant on-site presence. While remote work is not a top priority for Generation Z tourism students, offering occasional remote or hybrid options, especially in administrative or digital marketing roles, could enhance job satisfaction by appealing to those who value autonomy. Additionally, tourism employers should embrace both analogue and digital work environments, providing digital tools for efficiency while preserving the human-centred interactions central to the industry. Striking this balance will align with Generation Z's adaptability. Furthermore, emphasising teamwork and socially responsible, purpose-driven initiatives in recruitment strategies will likely resonate with such students, who prioritise meaningful work and collaborative environments, helping tourism organisations position themselves as attractive, value-driven employers.

8. CONCLUSIONS

Our research challenges common generalizations about Generation Z by examining the work preferences of tourism students, revealing how industry-specific socialization shapes attitudes differently from broader youth populations. We show how tourism organisations can attract and retain this workforce by examining six key dimensions – flexibility, work location, task dynamics, individual vs teamwork and value- or profit-oriented work.

An important finding is a balanced preference for fixed and flexible working hours, challenging the belief that Generation Z prefers flexibility. Although previous research has identified flexibility as key (Dangmei & Singh, 2016; Kirchmayer & Fratričová, 2018), our study shows that many prefer fixed schedules. This reflects the operational requirements of the tourism industry, where a clear line between professional and private life is valued. Employers should, therefore, offer a variety of schedules (Goh & Okumus, 2020). Also, the slight preference for on-site work is at odds with expectations that Generation Z, brought up in the digital age, will favour remote work. Our findings show they value the personal interaction and cultural immersion essential to tourism. Tourism organisations should offer hybrid options where possible, but the hands-on nature of the industry remains vital to job satisfaction (Halová & Müller, 2021).

Surprisingly, Generation Z tourism students prefer analogue tasks over digital, even though they are

digital natives. That may be due to the emphasis on personal interactions, where digital solutions do not consistently deliver a better experience. Generation Z seems flexible, so a balanced approach between analogue and digital tasks is optimal (Jung & Yoon, 2021). The preference for routine over dynamic tasks emphasises the need for balance. Although tourism is associated with diversity, many Generation Z tourism students are comfortable with routine, reflecting the repetitive nature of some roles. Employers should provide a balance between routine and variety to keep employees engaged. Teamwork is still vital, as Generation Z tourism students that value collaboration and collective problem-solving, which are essential for delivering a great user experience. Employers should encourage a team environment and open communication (Goh & Okumus, 2020). Finally, a strong preference for values over profit emphasises the desire for meaningful employment. This aligns with the tourism industry's increasing emphasis on sustainability and ethics. Employers prioritising social responsibility and community involvement are more likely to attract Generation Z tourism students to become their future employees.

These findings highlight the limitations of broad generalizations about Generation Z work preferences, which often stem from journalistic oversimplification. Our results suggest that work attitudes are significantly influenced by industry-specific socialization and may vary considerably across different national contexts and educational systems.

In short, while some Generation Z members' preferences align with broader assumptions, others, such as flexibility and technology, challenge dominant views. Tourism employers should adopt a flexible approach, offer varied schedules, a mix of analogue and digital tasks, and emphasise teamwork and values. This will help shape sustainable and competitive employment models in tourism.

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VIRTUAL TOURISM FOR CULTURAL HERITAGE: TRANSFORMING GENERATION Z'S ENGAGEMENT AND VISIT INTENTIONS

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ABSTRACT

Applying the stimulus-organism-response (S-O-R) framework, this study's main aim is to analyze the psychological mechanisms through which virtual reality (VR) experiences encourage Generation Z's physical visit intentions to cultural heritage sites. Specifically, the research investigates how key VR features (stimulus: interactivity and telepresence) influence internal states (organism: place satisfaction, perceived authenticity and mental image), and how these states subsequently drive visit intentions (response). The study addresses a critical gap by focusing on these emotional and cognitive pathways. Data from 415 Indonesian Gen Z respondents who experienced Borobudur Temple via VR were analyzed using PLS-SEM. Results reveal that interactivity and telepresence significantly enhance place satisfaction, authenticity and mental imagery. Furthermore, perceived authenticity and a strong mental image are powerful predictors of visit intention, while place satisfaction shows no significant direct effect. These findings highlight the importance of emotional and cognitive factors in engaging Gen Z with cultural heritage tourism (CHT). The study offers valuable theoretical and practical insights, while the findings encourage cultural managers and policymakers to adopt VR technologies.

KEYWORDS

virtual tourism, cultural heritage, Generation Z, visit intention, Indonesia

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1. INTRODUCTION

In recent years, virtual reality (VR) has rapidly advanced and emerged as a transformative technology across various sectors, including tourism. Virtual reality is

renowned for its ability to deliver immersive experiences that significantly enhance individual engagement (Spielmann & Mantonakis, 2018). This technology allows users to actively interact with virtual elements and experience the illusion of physical presence in digitally



rendered locations (Fox et al., 2009). These capabilities establish VR as a powerful tool for influencing human behaviour, particularly for enhancing behavioural intentions (Lee et al., 2022), including its potential to enhance behavioural intentions (Ramires et al., 2022). One of the most promising applications of VR is in tourism marketing, which enables potential travellers to “preview” destinations before making physical trips. This approach effectively builds destination appeal, fosters emotional connections, and increases visitor enthusiasm (Skard, Jørgensen, & Pedersen, 2021).

Although VR applications have been widely studied, research focusing on their role in cultural heritage tourism (CHT) remains scarce. Few investigations have examined how immersive technologies influence tourist behaviour before visiting cultural sites in person (Rodrigues et al., 2024). Scholars have emphasized the need for deeper insights into consumer behaviour within immersive experience contexts (Branca et al., 2024; Pantelidis et al., 2024). A remarkably underexplored topic is the relationship between VR use and CHT for specific generational cohorts, such as Generation Z (Feitosa & Barbosa, 2020). This study builds upon existing literature by focusing on Generation Z's use of VR to determine behavioural intentions related to CHT. Currently, we are dealing with new-generation cultural tourism, characterized by a multitude of needs and interests (Stasiak, 2022). Interestingly, prior research suggests that Generation Z lacks interest in CHT due to insufficient internal motivation and a perceived disconnect with cultural heritage (Agoes & Safari, 2024). Furthermore, this generation often finds traditional approaches to experiencing cultural heritage unappealing. These methods fail to offer engaging or relevant ways to explore historical sites (Sharma et al., 2024). To address this challenge, it is crucial to develop approaches that effectively enhance Generation Z's intention to visit cultural heritage sites through immersive and relevant experiences.

Generation Z are known as digital natives who are very familiar with technology, including immersive technologies such as virtual reality (VR) and augmented reality (AR) (Abas & Puspawati, 2024; Loureiro et al., 2020). Previous studies have shown that technology-based experiences attract their attention more than traditional approaches (Buhalis & Karatay, 2022; Puspawati, Abas & Permatasari, 2024). Therefore, VR technology can potentially bridge the gap between Gen Z and cultural tourism by presenting relevant experiences digitally.

This research is particularly compelling and important as it investigates Generation Z's perspective on immersive technology and their engagement with cultural heritage. Understanding this relationship is crucial for future cultural heritage tourism development (Rodrigues et al., 2024). Generation Z is

expected to dominate as primary visitors to cultural heritage sites in the coming years (Buhalis & Karatay, 2022; Puspawati, Abas & Ariani, 2024). This study seeks to extend the growing body of literature on the effects of VR on behavioural intentions for cultural tourism. Prior research has employed technology adoption models such as the theory of planned behaviour (TPB) (Huang, 2023), the unified theory of acceptance and use of technology (UTAUT) (Wen et al., 2023), UTAUT2 (Bilynets et al., 2023), and Bayesian network models (Cheng et al., 2014). These models provide valuable insights into the acceptance of new technologies. However, they predominantly focus on rational factors such as perceived ease of use and usefulness while failing to address deeper psychological mechanisms, such as emotional responses, highly relevant in VR and cultural tourism.

This research aims and contributes to understand how VR can be a pre-visit promotional tool to enhance Generation Z's intention to visit cultural heritage sites. No studies have examined the psychological mechanisms through which VR influences behavioural intentions in CHT (Gao et al., 2022). This study offers a novel contribution by examining Generation Z's behavioural responses to VR in CHT through the stimulus-organism-response (S-O-R) approach. It provides actionable recommendations for policymakers, such as tourism ministries, to guide VR adoption, technological advancement, and marketing strategies for cultural tourism. Additionally, it delivers practical insights for destination managers in designing VR experiences to enhance Gen Z's intention to visit cultural heritage sites.

2. LITERATURE REVIEW AND HYPOTHESIS

2.1. STIMULUS-ORGANISM-RESPONSE (S-O-R) MODEL

The theoretical backbone of this study is the S-O-R framework, a seminal model in environmental psychology proposed by Mehrabian and Russell (1974). The model posits that external environmental factors (stimulus) trigger internal processes within an individual, encompassing both cognitive and affective states (organism), which in turn drive their final behavioural (response). The S-O-R model emphasizes causal relationships between stimuli and responses, mediated by cognitive and emotional processes (Duong & Nguyen, 2024). This framework is particularly suitable for understanding how specific stimuli, such as VR interactivity and telepresence, influence emotional and cognitive responses, ultimately shaping behavioural intentions (Elgammal et al., 2023). The S-O-R model has since been widely adopted to

explore online user behaviour (Islam & Rahman, 2017; Kim, Lee & Jung, 2020). In tourism research, it has been employed to investigate travel experiences (Chen et al., 2022; Min et al., 2020), travel intentions (Su et al., 2022), and user engagement (Ali et al., 2021; Yadav et al., 2022).

In alignment with this theoretical precedent, the present study operationalizes the S-O-R framework to deconstruct the Gen Z user journey from virtual experience to physical visit intention. The components are defined according to Sherman et al. (1997) as follows:

1. Stimulus (S): Represents the key technological features of the VR environment that users are exposed to. In this study, the stimuli are interactivity (the user's ability to manipulate the environment) and telepresence (the feeling of "being there"). These act as the primary environmental cues.
2. Organism (O): Encompasses the internal psychological states triggered by the stimuli. This study measures three crucial organismic states: place satisfaction (an affective evaluation), perceived authenticity (a cognitive evaluation of genuineness), and mental image (a cognitive representation of the destination).
3. Response (R): Is the ultimate behavioural outcome resulting from the organismic states. For this research, the primary response measured is the user's physical visit intention to the Borobudur Temple.

By employing this model, this study moves beyond simply asking *if* VR is effective to explaining *how* it works by charting the specific psychological pathways that link virtual features to real-world intentions.

2.2. RELATIONSHIP AMONG INTERACTIVITY, PLACE SATISFACTION, AUTHENTICITY AND MENTAL IMAGE

In a virtual context, interactivity refers to the extent to which users can modify the form and content of an environment in real time (Fatahillah & Asfarian, 2020; Loureiro et al., 2019). According to Steuer (1995), high interactivity is shaped by three features: speed (system responsiveness), mapping (control similarity to real-world actions), and range (manipulability of content). These elements commonly define how interactivity is operationalized. Previous studies have examined the relationship between interactivity and user satisfaction in virtual experiences (Komarac & Ozretić Došen, 2022).

Interactivity is crucial in shaping emotional responses in virtual tourism. Research indicates that user-driven interactivity fosters positive attitudes toward destinations by empowering users to influence their experiences, thereby strengthening their emotional connection to the virtual places they explore (Pantelidis, 2024). Furthermore, engaging and entertaining interactive elements contribute significantly to satisfaction (Bilynets et al., 2023), which highlights the importance of designing interactive features that enhance user experience in virtual environments.

H₁: The interactivity quality of VR experiences positively impacts Generation Z's place satisfaction in the context of cultural heritage tourism.

Interactivity also plays a crucial role in perceived authenticity (Pallud, 2017). Interactivity builds on presence to actively explore and experiment while manipulating virtual objects and environments and makes abstract concepts tangible and memorable, reinforcing the authenticity of the experience (Yim et al., 2017). Furthermore, a study on virtual museum tourism found that VR interactivity boosts engagement and perceived authenticity (Dağ et al., 2024), suggesting that active user participation fosters a stronger sense of connection to the content.

H₂: The interactivity quality of VR experiences positively impacts Generation Z's authenticity in the context of cultural heritage tourism.

Mental imagery is influenced by interactivity (Schlosser, 2021), which is particularly important in helping VR users form mental images, as interactive features encourage active engagement with the environment. This encourages active engagement, producing more vivid mental images than passive observation (Bogicevic et al., 2019). Virtual reality enhances this process by combining vivid visuals and interactivity (Steuer, 1992), strengthening telepresence and users' ability to envision themselves at the destination.

While Hyun and O'Keefe (2012) noted that interactivity bridges virtual content and mental imagery, their focus was on evaluative outcomes (e.g., value for money) rather than the cognitive development of mental images, leaving the underlying process underexplored.

H₃: The interactivity quality of VR experiences positively impacts Generation Z's mental image in the context of cultural heritage tourism.

2.3. RELATIONSHIP AMONG TELEPRESENCE, PLACE SATISFACTION, AUTHENTICITY AND MENTAL IMAGE

High presence in a virtual environment (VE) creates a perceptual illusion of non-mediation that means the user starts experiencing the VE as an actual, physical place, suspending disbelief and forgetting that the virtual environment is being viewed through a computer device (Kuswati & Saleha, 2018; Nicovich, 2017). For tourism, high presence leads users to recall the virtual environment as a real place, not just a series of images (Slater et al., 1999).

Telepresence has a positive connection with satisfaction and previous research has found a positive connection between presence and satisfaction (Sylaiou et al., 2010). In VR tourism, high presence enhances immersion and engagement. Visitors to virtual cultural sites form stronger emotional and cognitive ties, resulting in greater satisfaction through

meaningful experiences (Beck et al., 2019). In reality-based technology, a strong presence fosters emotional connection with the environment, leading to higher visitor satisfaction (Chung et al., 2018).

H₄: The telepresence of VR experiences positively impacts Generation Z's place satisfaction in the context of cultural heritage tourism.

Telepresence and authenticity are closely linked. A strong sense of telepresence enhances authenticity, as users are more likely to view a virtual environment as genuine when fully immersed. Conversely, perceiving an environment as authentic strengthens the feeling of presence within it (Hameed & Perkis, 2024). The interplay between presence and authenticity shows that while telepresence initially captivates users through sensory immersion, extended exposure prompts critical evaluation of the environment's authenticity. At physical sites, interactive and user-friendly displays enhance engagement (Moscardo, 2009). In contrast, VR struggles to replicate these but instead fosters presence to deepen immersion (Guttentag, 2010; Slater & Sanchez-Vives, 2022).

H₅: The telepresence of VR experiences positively impacts Generation Z's authenticity in the context of cultural heritage tourism.

This study posits that the telepresence induced by VR stimulates active engagement in mental imagery processing. Mental imagery refers to "a process [...] by which [...] sensory information is represented in working memory" (MacInnis & Price, 1987, p. 473). Mental imagery is formed from prior experiences or available information and plays a key role in driving positive consumer responses in tourism (Lee & Gretzel, 2012).

Telepresence enhances mental imagery engagement (Skard, Jørgensen & Pedersen, 2021). Moreover, feeling present (telepresence) supports envisioning a trip (mental imagery) (Hyun & O'Keefe, 2012). Thus, immersive virtual experiences are likely to foster mental imagery.

H₆: The telepresence of VR experiences positively impacts Generation Z's mental image in the context of cultural heritage tourism.

2.4. CORRELATION AMONG PLACE SATISFACTION, AUTHENTICITY, MENTAL IMAGE AND PHYSICAL VISIT INTENTION

Results about satisfaction and visit intention have shown inconsistencies, depending on the subject and object of the study. For instance, Van Kerrebroeck et al. (2017) suggested that satisfaction with VR significantly affects visit intention. In contrast, Ravichandran et al. (2024) found no significant impact of satisfaction on visit intention. Despite such divergence, satisfaction has consistently been highlighted as a dominant factor

encouraging tourists to visit and revisit destinations (Tang et al., 2023).

Satisfaction is particularly critical in the museum experience, where meeting visitors' needs and enhancing their engagement are key objectives (Kang et al., 2022). In the cultural heritage tourism (CHT) context, museums represent an essential subset that often relies on satisfying visitor experiences to enhance engagement and attract repeat visits. Kang et al. (2018) demonstrated that satisfying technological experiences contribute significantly to overall museum satisfaction. However, different CHT contexts, such as historical sites, cultural festivals, and intangible heritage, may exhibit unique characteristics that influence the satisfaction-visit intention relationship.

Rahimzhan et al. (2020) emphasized that destination satisfaction shapes intention and behaviour, aligning with prior findings (Han & Hyun, 2015). As heritage and cultural (HC) destinations increasingly adopt new technologies to enhance visitor engagement, exploring how satisfaction influences visit intention across various CHT contexts becomes crucial.

H₇: Generation Z's satisfaction with cultural heritage sites through VR experiences positively influences their intention to visit physically.

Authenticity, characterized as the genuine, accurate or unique quality of an experience (Grayson & Martinec, 2004), has been shown to influence perceptions and behaviour in various tourism settings (Lee et al., 2020). Authenticity in VR applications provides users with immersive and credible representations, enhancing engagement.

In the CHT context, authenticity is critical in attracting visitors by offering meaningful connections to history and heritage (Beverland & Farrelly, 2010). Virtual environments with an authentic approach may replicate this effect by meeting consumer desires for historical accuracy and cultural significance. Given the established role of authenticity in fostering meaningful visitor engagement, this study proposes to investigate its impact in virtual environments as a driver of visit intention to authentic cultural heritage destinations.

H₈: Generation Z's authenticity of cultural heritage sites through VR experiences positively influences their intention to visit physically.

Destination image is a pivotal factor in influencing tourist behaviour and decision-making processes. Tourists' mental images of destinations, encompassing their subjective perceptions, significantly shape their behavioural intentions (Le et al., 2020). According to studies, like those by Chen and Tsai (2007), destination imagery significantly conditions tourists' future behavioural intentions, including destination choice and revisitation.

Recent studies show that in virtual tourism, vivid mental imagery boosts user expectations and visit

intentions (Zhu et al., 2023). This aligns with the findings of Ouerghemmi et al. (2023), who showed that vivid imagery can positively affect purchase intentions. Importantly, Xu et al. (2019) emphasized the systematic nature of the visit experience, underscoring the need to shape positive mental images before the visit to foster visit intentions and enhance in-visit interactions.

This study examines how mental images affect tourists' intentions to visit cultural heritage destinations. Building on the premise that mental imagery determines cultural behavioural intentions (Le et al., 2020), this study seeks to deepen understanding of its role in motivating tourists to engage with cultural heritage tourism.

H₃: Generation Z's mental image of cultural heritage sites through VR experiences positively influences their intention to visit physically.

All the hypotheses are related in Figure 1.

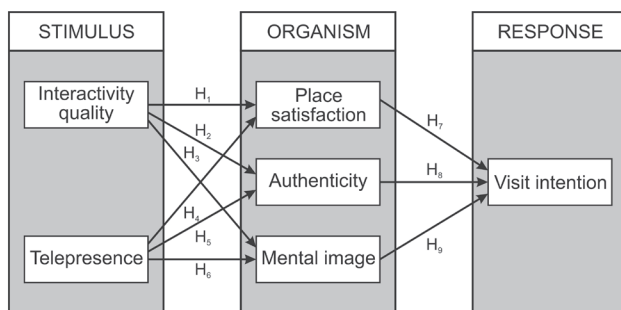


Figure 1. Research model

Source: authors

3. METHOD

3.1. SAMPLE AND DATA COLLECTION

This quantitative study examines variable relationships using non-probability sampling of Indonesian Generation Z participants. Indonesia is recognized as a country rich in cultural tourism due to its diverse ethnicities, traditions, and cultural practices that attract visitors from around the globe (Prajnawrdhi et al., 2015). The minimum required sample size was determined using the inverse square root table proposed by Hair et al. (2013) and Kock and Hadaya (2018). Given that the research model contains nine arrows leading to constructs, the minimum sample size was calculated to be 181 participants. The sample size was increased accordingly to address the large population and avoid heterogeneity (Hair et al., 2019).

Data was collected online using a Google Form questionnaire through WhatsApp, Instagram and email. The process involved several stages. First, an instruction document was prepared in Google Docs, including survey guidelines, a consent form, a VR

content provider's website link, and the survey form itself. Second, this document was shared on social media, targeting Generation Z individuals who had not visited cultural heritage sites in the past two years. Third, respondents who agreed to the instructions completed the consent form, confirming their eligibility and participation. Finally, eligible respondents explored Indonesia's cultural heritage via VR platforms, including virtual tours of Borobudur Temple on sites like *360Indonesia* ("Candi Borobudur", n.d.), *Indonesia Virtual Tour* ("Candi Borobudur", 2022), and *360Cities* (Broomfield, 2009).

Borobudur Temple was selected for its prominence as one of Indonesia's most iconic cultural heritage sites. Finally, after exploring the VR content, respondents completed the post-exploration survey. The data collection process lasted three months, yielding 430 completed questionnaires. However, after excluding incomplete responses, the final dataset consisted of 415 valid responses.

The demographic details of respondents are presented in Table 1. Most were female (57.1%, 237 respondents), while males accounted for 42.9% (178 respondents). A majority (63.9%, 265) had prior VR experience, while 36.1% (150) did not, indicating general familiarity with VR. Notably, only 49.6% (206) had participated in virtual tours, while 50.4% (209) had not, suggesting that VR's use for virtual tours is still underutilized despite familiarity with the technology.

Table 1. Respondent information

Question	Information	Total	Percent
Gender	Male	178	42.9
	Female	237	57.1
Have you ever tried virtual reality technology?	Yes	265	63.9
	No	150	36.1
Have you ever tried virtual tour?	Yes	206	49.6
	No	209	50.4

Source: authors.

3.2. MEASUREMENT

A 21-item questionnaire was used to assess participants' intentions to visit Indonesian cultural heritage sites, stimulated by a VR experience. All items were rated on a five-point Likert scale from 1 (*strongly disagree*) to 5 (*strongly agree*), allowing participants to express agreement positively. The items were adapted from previous studies: interactivity and telepresence (Yim & Park, 2019), place satisfaction (Dağ et al., 2024), authenticity (Kim, Lee & Preis, 2020), mental imagery (Skard, Knudsen et al., 2021), and physical visit intention (Atzeni et al., 2022).

3.3. DATA ANALYSIS

The data were analyzed using partial least squares structural equation modelling (PLS-SEM), which effectively captures complex relationships among variables. PLS-SEM is a reliable method commonly used in marketing and management information systems effectively estimating causal models across theoretical frameworks and empirical data contexts (Hair et al., 2011). Additionally, PLS-SEM is suitable for complex model validation and is known for its ability to “capture reality”, reflecting statistical results in practical terms (Akter et al., 2017). SPSS software was also utilized to calculate descriptive statistics and respondent characteristics.

4. RESULTS

Table 2 summarizes the results of the measurement model assessment. All constructs demonstrated strong internal consistency, with composite reliability (CR) values exceeding 0.7, Cronbach's alpha values ranging

from 0.762 for authenticity to 0.893 for place satisfaction, confirming high reliability across all variables. Additionally, the average variance extracted (AVE) values ranged from 0.601 (authenticity) to 0.765 (mental image), surpassing the 0.5 threshold and supporting the convergent validity of the constructs.

Discriminant validity was evaluated using the Fornell-Larcker criterion, as presented in Table 3. Each construct's square root of AVE exceeded its correlations with other constructs. For example, place satisfaction had a square root of AVE of 0.863, which was higher than its correlations with telepresence (0.635) and visit intention (0.369). Similar patterns were found for authenticity, interaction quality, mental image, telepresence and visit intention, confirming that all constructs are conceptually distinct and meet the criteria for discriminant validity.

The hypothesis testing results, summarized in Table 4, strongly support most proposed hypotheses. Information quality (IQ) significantly influenced place satisfaction (PS), authenticity (AU) and mental imagery (MI), with p -values of 0.000 for H_1 , H_2 , and H_3 . Telepresence (TE) also significantly affected PS and MI, supporting H_4 , H_5 , and H_6 , with p -values of 0.000.

Table 2. Model measurement assessment

Variables	Items	Loading factor	Composite reliability (CR)	Cronbach's alpha	Average variance extracted (AVE)
Authenticity	AUT1	0.768	0.857	0.778	0.601
	AUT2	0.782			
	AUT3	0.762			
	AUT4	0.788			
Interaction quality	IQ1	0.810	0.879	0.817	0.646
	IQ2	0.772			
	IQ3	0.841			
	IQ4	0.791			
Mental image	MI1	0.857	0.907	0.846	0.765
	MI2	0.877			
	MI3	0.889			
Place satisfaction	PSAT1	0.890	0.898	0.828	0.745
	PSAT2	0.893			
	PSAT3	0.804			
Telepresence	TL1	0.850	0.894	0.822	0.737
	TL2	0.884			
	TL3	0.841			
Visit intention	VII1	0.875	0.904	0.859	0.703
	VII2	0.862			
	VII3	0.827			
	VII4	0.787			

Source: authors.

Table 3. Fornell-Larcker criterion

Variables	Authenticity	Interaction quality	Mental image	Place satisfaction	Telepresence	Visit intention
Authenticity	0.775	–	–	–	–	–
Interaction quality	0.380	0.804	–	–	–	–
Mental image	0.638	0.375	0.875	–	–	–
Place satisfaction	0.668	0.390	0.571	0.863	–	–
Telepresence	0.599	0.306	0.454	0.635	0.858	–
Visit intention	0.466	0.401	0.443	0.369	0.279	0.838

Source: authors.

Table 4. Hypothesis test

Hypothesis	Coefficient	Relationship	<i>p</i> -value	Finding
H ₁	0.216	IQ → PS	0.000	Supported
H ₂	0.217	IQ → AU	0.000	Supported
H ₃	0.260	IQ → MI	0.000	Supported
H ₄	0.569	TE → PS	0.000	Supported
H ₅	0.532	TE → MI	0.000	Supported
H ₆	0.374	TE → MI	0.000	Supported
H ₇	0.041	PS → VI	0.532	Not supported
H ₈	0.288	AU → VI	0.000	Supported
H ₉	0.236	MI → VI	0.000	Supported

Notes: IQ – interaction quality, TE – telepresence, PS – place satisfaction, AU – authenticity, MI – mental image, VIS – visit intention.

Source: authors.

An unexpected result emerged for H₇. Place satisfaction (PS) did not have a statistically significant direct effect on visit intention (VI), as indicated by a *p*-value of 0.532. In contrast, both AU and MI had strong and statistically significant positive effects on VI. These relationships were confirmed by *p*-values of 0.000 for H₈ and H₉.

5. DISCUSSION

The findings of this study provide compelling empirical support for the proposed S-O-R framework in the context of virtual heritage tourism. The discussion is structured around the two core linkages of the model. First, we will discuss the stimulus → organism (S → O) pathway, examining how technological stimuli (interactivity and telepresence) successfully shaped the internal organismic states of Gen Z users (H₁–H₆).

Subsequently, we will analyze the organism → response (O → R) pathway, detailing how these internal states translated into physical visit intentions (H₇–H₉).

The findings confirm hypotheses 1, 2, and 3, showing that interactivity quality in VR significantly impacts place satisfaction (H₁), perceived authenticity (H₂), and mental imagery (H₃). Respondents explored Borobudur Temple via interactive VR platforms, navigating 3D environments, interacting with virtual artifacts, and engaging with detailed cultural representations. These features fostered active involvement, enhancing satisfaction, authenticity perceptions and site visualization. For Generation Z, who prefer active participation over passive observation, such interactivity addresses their disconnect from CHT. The results highlight VR's potential to make cultural sites more engaging and relevant for this demographic.

Confirming the first link in our model, the technological stimulus of interactivity was found to significantly enhance place satisfaction (organism) (H₁). Loureiro et al. (2020) and Bilynets et al. (2023) emphasized that interactivity increases user involvement, a critical precursor to satisfaction in digital environments. As Komarac and Ozretić Došen (2022) noted, self-paced engagement amplified this effect by allowing respondents to tailor interactions to their interests, strengthening emotional and cognitive connections. Unlike general tourism, where satisfaction often hinges on entertainment or convenience, satisfaction in CHT arises from meaningful cultural engagement. This underscores the need for VR features that promote deep exploration.

Further validating the S → O pathway, interactivity (S) also strongly influenced perceived authenticity (O) (H₂). Respondents who could interact with Borobudur's artifacts and architecture reported greater trust in the representation's credibility. This result aligns with Dağ et al. (2024) and Pallud (2017), who noted that active exploration enhances perceptions of authenticity by enabling users to validate cultural narratives. For Gen Z, this is crucial as they favour participatory engagement over static representations. It is likely

that respondents found virtual cultural elements more authentic by directly assessing their realism and detail.

Mental imagery (H_3) was also significantly influenced by interactivity. Respondents reported vivid mental images of Borobudur Temple after engaging with the VR environment. Features like exploring intricate carvings or observing the temple's scale provided sensory and spatial cues that stimulated the imagination. Schlosser (2023) and Bogicevic et al. (2019) found similar effects in their work. Interactivity encouraged respondents to construct detailed mental representations by actively engaging with the environment. For Gen Z, this process is crucial. Immersive and interactive features transform abstract historical narratives into relatable and meaningful experiences. In CHT, mental images go beyond visualizing the site, creating emotional and cognitive connections to cultural heritage. These are essential factors for engaging younger audiences with cultural tourism.

The second technological stimulus, telepresence, also proved to be a potent driver of the organismic state of place satisfaction (H_4). Respondents who felt deeply immersed in the virtual environment reported higher satisfaction, as telepresence fosters a sense of "being there", enabling emotional connection with the destination. Realistic visual and spatial cues, such as navigating Borobudur's intricacies or observing its vast landscape, likely contributed to this immersive experience. Prior studies, such as those by Sylaiou et al. (2010) and Beck et al. (2019), have demonstrated that telepresence enhances satisfaction by deepening users' engagement with virtual environments. Telepresence gives Gen Z, who appreciate immersive content, agency and emotional participation, the ability to distinguish CHT from other virtual experiences.

Telepresence also significantly influences perceived authenticity (H_5). Respondents who felt "present" in the virtual environment were more likely to trust the representation of Borobudur as authentic. This connection is supported by research, such as Luo and Wang (2021), which found that telepresence immerses consumers in a credible and coherent virtual narrative, boosting authenticity. Participants presumably thought the elaborate virtual reconstructions and realistic spatial representations accurately depicted the cultural place. Telepresence balances aesthetics and cultural credibility for Gen Z and lets viewers experience cultural legacy in a realistic way, unlike static media. These findings demonstrate that CHT authenticity is not just about fidelity but also about how telepresence connects users to the site's cultural relevance.

Telepresence also affected mental images (H_6). Respondents of the virtual world reported vivid and detailed mental impressions of Borobudur Temple. Telepresence certainly provided sensory and spatial signals for imagining, while the sense of travelling

within the temple or seeing its beautiful sculptures helped respondents create vivid mental images. This aligns with Hyun and O'Keefe (2012), who argued that telepresence bridges sensory engagement and cognitive processing to enhance mental imagery. Gen Z finds this process very meaningful as immersive VR experiences generate emotional and cognitive connections to the cultural location through precise visuals.

Moving to the second critical linkage of the framework, the organism $\rightarrow$ response ($O \rightarrow R$) pathway, the findings reveal a more nuanced understanding of Gen Z's motivations. The findings reveal mixed results regarding the factors influencing visit intention to CHT. While the organismic states of perceived authenticity (H_8) and mental imagery (H_9) significantly contribute to visit intention (R), the organismic state of place satisfaction (H_7) does not show a direct effect on the final response. This divergence highlights a nuanced understanding of Generation Z's motivations. Unlike older models of tourism behaviour, such as those emphasizing satisfaction as a primary driver (Ying et al., 2022), these findings suggest that Gen Z prioritizes constructs that evoke emotional and cognitive engagement. Authenticity fosters trust in the site's cultural value, aligning with Beverland and Farrelly's (2010) argument that authentic representations provide meaningful connections in heritage tourism. Mental imagery, on the other hand, enables users to anticipate a more immersive experience, consistent with Le et al.'s (2020) view of imagery as a process that bridges sensory input and future behaviour.

Interestingly, authenticity and mental imagery reinforce each other in this context. Authentic representations in VR environments validate the site's cultural credibility and provide the sensory cues necessary to stimulate vivid mental imagery. For example, a VR experience of Borobudur Temple that accurately depicts its cultural and historical significance allows users to visualize themselves exploring the site, thus strengthening their intention to visit. This interplay contrasts with place satisfaction, which may lack the depth required to drive behavioural intentions while contributing to a positive evaluation of the VR experience. Hyun and O'Keefe (2012) proposed that constructs, which resonate with personal relevance and emotional immersion, are more likely to motivate action, particularly for Gen Z, who seek meaningful engagement rather than passive satisfaction.

Ultimately, this study empirically charts a clear path from S to O to R , demonstrating how specific technological stimuli effectively cultivate cognitive and affective organismic states, which in turn selectively predict the final behavioural response of a visit to a cultural heritage site. These findings collectively suggest that visit intentions among Gen Z are driven

by the integration of cognitive (mental imagery) and emotional (authenticity) factors, emphasizing the need for VR environments that are not only high in quality but also culturally accurate and emotionally engaging.

6. CONCLUSION

Virtual reality interactivity and telepresence can bridge Generation Z's gap in cultural heritage tourism, as shown in this study. Interactivity and telepresence improve place enjoyment, authenticity, and mental imagery (H_1 – H_6). These constructs affect Generation Z's desire to visit tangible cultural heritage places (H_7 – H_9). The data demonstrates that perceived authenticity and mental imagery influence visit intention the most, while place satisfaction does not. This suggests that Generation Z's CHT behaviour is influenced by their faith in the experience's cultural authenticity and their ability to visualize the site. The findings show that psychological involvement drives visitor intentions with VR technology, making cultural heritage accessible and interesting for younger audiences through active involvement and immersive experiences. Virtual reality is essential for digital cultural heritage tourism, according to these works.

This study provides valuable insights for tourism practitioners, cultural heritage managers, VR developers, and scholars as it emphasizes the importance of adopting VR technologies tailored to Gen Z, who favour immersive and interactive experiences. Features like virtual artifact manipulation, personalized navigation, realistic spatial renderings, and seamless movement enhance satisfaction, perceived authenticity, and mental imagery – key drivers of physical site visitation. Policymakers and cultural organizations can leverage VR to engage younger audiences, address accessibility challenges, and promote site preservation. Highlighting authenticity and vivid mental imagery supports cultural preservation and sustainable tourism goals. Theoretically, the study challenges behavioural models like TAM and UTAUT, showing that in CHT for Gen Z, emotional and cognitive factors such as perceived authenticity and mental imagery are more influential than ease of use or place satisfaction. Using the S-O-R framework, it underscores the central role of psychological engagement in shaping behaviour.

This study acknowledges several limitations that open avenues for future research. First, our findings are contextualized within a specific cultural setting (Indonesia). Future research should test our model in different cultural contexts (e.g., individualistic vs. collectivistic societies) to assess its generalizability. Second, this study did not account for individual differences; future work could explore how factors

like prior VR familiarity or personal interest in history moderate the observed effects. Exploring these factors would provide a deeper understanding of how VR experiences can be tailored to diverse user profiles.

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ARTIFICIAL INTELLIGENCE IN HIGHER EDUCATION AND RESEARCH A SAMPLE OF TOURISM ACADEMIC OPINIONS

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ABSTRACT

The rise and swift advance of artificial intelligence technologies has led to substantial modifications in educational procedures, encompassing learning, teaching and the research process. Although possessing impactful and enabling characteristics, it is obvious that these technologies are the focal point of significant debates. This research aims to explore the opinions of tourism academics regarding the incorporation of artificial intelligence (AI) within educational and research frameworks, while also recognizing the potential benefits and obstacles associated with them. The data obtained from 15 semi-structured interviews was scrutinized using descriptive and content analysis methodologies. The analyses were carried out with the assistance of MAXQDA software. It was observed that the primary strength of AI tools lies in their rapidity, while their main weakness is the dissemination of inaccurate data. Despite the perspective that AI is incapable of substituting human contributions because it does not possess emotions, its value for reliability has gained considerable attention.

KEYWORDS

artificial intelligence, academic research, tourism education, tourism scholars

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1. INTRODUCTION

The gradual evolution of technology and substantial investments have paved the way for the integration of artificial intelligence (AI) into numerous sectors (Talan, 2021), allowing for the utilization of its predictive, diagnostic, recommendatory and decision-making functions (Chen et al., 2022). Academic research (Dergaa et al., 2023) and the education process have experienced notable advances and shifts in the realm of AI (Roll

& Wylie, 2016). In the era preceding the extensive adoption of computers and related technologies, educators and learners handled tasks manually, solely relying on human labor (Chen, Chen & Li, 2020) and through traditional manual methods, but with AI, automation of educational and research practices has become feasible (Dergaa et al., 2023). Within the contemporary academic sphere, scholars can apply AI for evaluating research, while online testing platforms can integrate facial recognition capabilities (Bearman et al., 2023).



In his publication titled “Computing Machinery and Intelligence”, Alan Turing introduced a straightforward assessment, which later became known as the Turing test, aimed at evaluating the presence of human-like intelligence in computers (Turing, 1950). Six years after, John McCarthy articulated the concept of AI as a discipline focused on the design and development of intelligent machines (after Kaul et al., 2020). Prior to 1973, the field of artificial intelligence encountered criticism due to its high costs, even as it experienced swift progress and received support from various initiatives, which ultimately resulted in significant reductions in funding for related projects from both the American and British governments. Throughout the 1980s, substantial investments were made by Japan and the United States to promote AI-related efforts; however, these endeavors did not yield noteworthy advances (Haenlein & Kaplan, 2019). Artificial intelligence took on a new dimension in the 1990s with the development of systems that could replicate human brain processes, while the reverberations of Deep Blue’s victory over Kasparov in 1997 were profound (Arslan, 2020).

Artificial intelligence has played a pivotal role in revolutionizing and enhancing the educational landscape (Kuleto et al., 2021). Researchers and educators show significant interest and it is widely adopted (Schiff, 2021) leading to numerous debates (Livberber & Ayvaz, 2023). The challenges linked to education encompass the complexities of establishing educational frameworks that incorporate AI, the need to review and verify the content created, and the potential for unfairness in educational systems lacking student technology access (Jafari & Keykha, 2024). According to Saputra et al. (2023), the perils linked to integration in educational practices are centered on ensuring the security of personal data, character traits and adhering to ethical principles. The relationship between teacher and learner may suffer due to the widespread adoption of AI techniques, as noted by Humble and Mozelius (2022). Besides, distinguishing between AI and human authorship poses a significant challenge in academic research, along with the threat of plagiarism. Issues emerge with the incorporation of AI in research regarding the evolution of academic traditions, scholars’ resistance to AI, and its impact on national and cultural heritage. Certain countries face constraints in accessing AI because of particular regulations and it poses issues concerning equitable entry because of disparities in internet speed and costs (Jafari & Keykha, 2024).

According to Güner and Çılgınoğlu (2024), incorporating advanced technologies like automation and AI into tourism education is crucial for the future development in Türkiye. Dalgıç et al. (2024) emphasize that advances in digital technology present both

new possibilities and challenges within the realm of tourism education, while raising questions about the impact of AI technologies, digital literacy and personalized learning approaches, on educational outcomes. In the context of tourism academic research, Dogru et al. (2024) highlight that AI technologies can significantly alter methods of data collection, analysis and writing. However, they also note the critical need to address various ethical and legal concerns that may arise from their adoption. As noted by Ivanov (2023), researchers could develop significant reliance on AI technologies, which may result in diminished engagement with reading. In this instance, scholarly publications may become increasingly standardized and technical, this would facilitate AI analysis but this transformation could result in a reduction of creativity and innovation. Utilizing AI can elevate the quality of research outputs and expedite the writing timeline for academic papers, yet an overemphasis might hinder innovative thinking.

In the context of academic education and research, the present work has endeavored to ascertain the utilization of AI according to the perspectives of scholars specializing in tourism. The research framework consists of a literature review on the implementation of AI in both educational and research processes, followed by methodology, findings, discussions, and conclusions and recommendations. Grounded in the literature referenced, the research question that underpins this study is outlined as follows:

RQ: How do tourism scholars evaluate the influence of AI within the realms of academic research and the educational framework?

2. THEORETICAL BACKGROUND

2.1. ARTIFICIAL INTELLIGENCE IN EDUCATIONAL PROCESSES

The focus of artificial intelligence in educational institutions revolves around creating systems that execute cognitive functions usually linked to human intelligence, especially in areas such as learning and problem-solving (Chen, Xie et al., 2020). The learning experience is greatly enhanced by the intricate and diverse application of AI within education systems. One instance is when the system employs natural language processing and generation, conversational interfaces, avatars and video analysis to assess a student’s focus and feelings (Khosravi et al., 2022). Artificial intelligence is applied in education for adaptive learning, evaluating teaching practices, virtual classroom experiences, smart campus developments and robotic lecture deliveries (Huang et al., 2021), while human-computer

interaction supplies potential prospects such as tailored learning experiences. On the other hand, it introduces some challenges, like a teacher's function and the advancement of a sophisticated educational structure (Ouyang & Jiao, 2021). According to Gocen and Aydemir (2020), AI could potentially endanger the future of the teaching profession. Wardat et al. (2024) point out educators' reluctance to embrace new technologies, while their inclination to stick to familiar methods hinders the integration of technology in classroom instruction. According to Zawacki-Richter et al. (2019), the integration of AI in higher education holds considerable promise for improving teaching and learning; nevertheless, it raises ethical concerns and potential risks that must be addressed. These matters revolve around the perils of AI taking over human tasks, the risks to individual privacy and the security of personal data. In contrast, Xie and Wang (2024) emphasize that neglecting the use of AI technology may lead to a reduction in students' cognitive skills and their ability to perform tasks, potentially causing a deterioration in their intellectual capabilities.

2.2. ARTIFICIAL INTELLIGENCE IN ACADEMIC RESEARCH PROCESSES

Academics increasingly demonstrate a tendency to incorporate AI into their research practices (Osman et al., 2023) where it is employed in research for activities like peer review, searching academic databases for relevant literature, detecting plagiarism, identifying data fabrication, automatically analyzing text, translating content and many more areas (Thomas et al., 2023). Nevertheless, there are multiple issues to consider within this framework. Kim and Heo (2022) emphasize the lack of human creativity and enthusiasm in AI-based applications. According to Gendron et al. (2022), AI has the potential to cause the erosion and weakening of essential academic activities, along with the potential to transform the landscape of academic publishing. It is argued that researchers should heighten their recognition of the potential repercussions of AI dissemination in academic work. The study by Thomas et al. (2023) highlights the limitations of AI in recognizing predatory publications, fake data, review bias and translation inaccuracies within academic literature. According to Wardat et al. (2024), educators' overall views on AI have been significantly shaped by its portrayal in the media, and by science fiction in the past, resulting in it being perceived as a potential challenge in their profession. On the other hand, it is contended that many organizations provide support for AI in research, projects, consultations, doctoral studies, postdoctoral scholarships and other relevant activities (Dhamija & Bag, 2020).

3. METHODOLOGY

This research delves into how academics perceive the incorporation of AI in educational and academic research settings, employing phenomenology as its qualitative research methodology. According to Miles and Huberman (1994), qualitative research serves to address and expand upon the theories and models established during the initial phases of investigation, thereby uncovering fresh viewpoints. The objective of phenomenology is to elucidate the subjective experiences of individuals and communicate these experiences (Mapp, 2008), with a focus on gaining a deeper insight into events as perceived by research participants (Qutoshi, 2018). As noted by Yıldırım and Şimşek (2016), the focus of phenomenology design lies in phenomena that individuals are aware of, yet lacking a comprehensive and nuanced understanding. In phenomenological investigations, Morse (2000) points out that the sample size can vary from 6 to 10 individuals, with Shorey and Ng (2022) expanding this range to from 3 to 25. Fifteen Turkish academicians specializing in tourism were part of the sample for this research with data collection taking place from March 18th to April 3rd, 2024. The sample was segmented by gender, academic expertise and age parameters. The demographic characteristics of the participants are shown in Table 1.

Table 1. Demographic characteristics of participants

Participant code	Gender	Academic experience duration (years)	Age
E18-63	Male	18	63
E18-43	Male	18	43
E18-46	Male	18	46
E6-34	Male	6	34
E20-49	Male	20	49
K13-40	Female	13	40
K5-30	Female	5	30
K16-39	Female	16	39
K25-60	Female	25	60
E7-34	Male	7	34
K6-32	Female	6	32
K3-29	Female	3	29
E11-40	Male	11	40
K6-31	Female	6	31
E15-39	Male	15	39

Source: authors.

Purposive sampling, involves the intentional selection of participants based on their qualifications (Etikan et al., 2016). The rationale behind it stems from the belief that, in light of research goals and objectives, certain individuals may possess distinct and significant perspectives on relevant ideas and issues, necessitating their inclusion in the sample (Campbell et al., 2020). In this analysis, maximum variation was implemented among purposeful sampling strategies, with the assumption that participants possessing diverse characteristics can reveal different dimensions of a phenomenon (Benoot et al., 2016). Participants were chosen for their age, which ranged from 29 to 63 years, and their academic experience spanning a minimum of three to a maximum of 25 years. Tabata and Johnsrud (2008) emphasize that the views of academics on technology are shaped by their age while in a related study, Blank (2024) argues that the responses of academics to technological progress are contingent upon age and tenure.

In the research, data was gathered using interviews, which is a qualitative data collection method. The technique of conducting semi-structured personal interviews aims to enable participants to freely express detailed beliefs and emotions about a given topic (Stokes & Bergin, 2006). The interview form was developed based on research findings from the literature (Ali et al., 2020; Gocen & Aydemir, 2020; Livberber & Ayvaz, 2023). The questions used to collect data were presented to three different experts, and direct quotations were included in the findings to ensure consistency. To boost the reliability of the research findings, the voice recordings underwent transcription and scrutiny, with irrelevant data being excluded from the data analysis. Each interview typically spanned approximately 45 minutes, with both in-person and virtual sessions taking place in office settings based on the academics' schedules.

The research questions were only posed to participants after securing approval from the ethics committee. To ensure confidentiality and anonymity, the identities of the participants remained closed, being categorized using codes that reflected their age, gender and tenure. Purposive sampling involves continuing the research process until researchers can no longer gather new or distinct information from the participants, indicating that data saturation has been achieved (Yağar & Dökme, 2018). Accordingly, the study adopted data saturation as the principal guideline for determining the size of the participant group.

The tool for collecting semi-structured data comprised 13 questions and was organized into three parts. The primary section comprises five fundamental questions pertaining to the extent of the participants' understanding of AI, its pros and cons, and their stances on endorsing or restricting it and whether they find it reliable. The second section involved posing five questions regarding the integration of AI in teaching tourism, while the third

focuses on three questions concerning the application of AI in tourism research. Each interview was converted into its own Microsoft Word file, with measures taken to anonymize the information and protect the identities of those involved by conducting qualitative analysis with the MAXQDA 2020 software.

4. FINDINGS

4.1. LEVEL OF KNOWLEDGE ABOUT ARTIFICIAL INTELLIGENCE

Participants were initially prompted to share their level of knowledge on AI during the interview, which was reported to be familiar to three participants, whereas partial knowledge was acknowledged by the other twelve. Their information was obtained mostly through social media, the news, their students and academic and social environments. Some of the statements of the participants in this regard are as follows:

My knowledge level is equivalent to what I have come across online, particularly on social networking platforms. (E18-43)

The information regarding these applications reaches me through the academics and students in my vicinity. (E18-46)

There was breaking news that some of the articles were written by AI. (E15-39)

Participants in the study selected terms to describe AI, as shown in Table 2, noting that many respondents offered more than one response.

Table 2. Artificial intelligence interpretations by academics

Answers	Frequency	Answers	Frequency
Convenience	6	Saving time	1
Practical/swift	5	Pinpoint	1
Creative	3	'Sluggardize'	1
Intelligence	3	It's good to have	1
Our next level	2	Translation master	1
Smart machines/machines with human intelligence	2	A constructed intelligence	1
Self-learning	2	Much greater advancement of automation systems	1

Summary	2	Revealing	1
Logical	1	Which thinks for me	1
Quick decision-making ability	1	Creator on my behalf	1
Multidirectional	1	Technology	1
Solution-oriented	1	Imitation of human intelligence	1
Images can be adapted	1	A counting process against the machine	1

Source: authors.

The primary emphasis of the participants' statements regarding AI lies in its convenience ($n = 6$) and participants were requested to specify the AI applications they were familiar with. In this scenario, participants believe that AI supports their professional tasks. Additionally, a crucial element that becomes apparent is its swiftness and effectiveness. Figure 1 displays their responses to the question in the form of a word cloud.

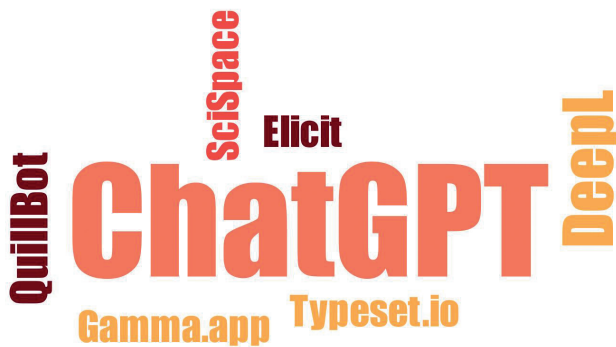


Figure 1. Word cloud of known artificial intelligence applications

Source: authors

ChatGPT is well-known among almost all participants ($f = 14$), while additionally AI tools like DeepL ($f = 4$), QuillBot ($f = 2$), SciSpace ($f = 1$), Gamma.app ($f = 1$), Elicit ($f = 1$), and Typeset.io ($f = 1$) are mentioned. One of the participants indicated a lack of familiarity with any particular program.

4.2. ADVANTAGES AND DISADVANTAGES OF ARTIFICIAL INTELLIGENCE APPLICATIONS

The participants were questioned regarding the pros and cons of utilizing AI in tourism education and research. While the benefits are often highlighted, various perspectives are surfaced regarding the drawbacks. Table 3 displays the responses provided by the participants regarding the benefits of AI.

Table 3. Advantages of artificial intelligence according to tourism academics

Advantages	Answers	Frequency
General advantages	Speed	6
	Have an idea	3
	Ease of accessing information	2
	Reducing margin of error	2
	Producing practical solutions	2
	Increasing productivity	2
	New business areas	1
	Something beneficial	1
	Personal contribution	1
	Ability to analyze quickly	1
	Ease of providing themes	1
	Saving time	1
	Get support on an issue	1
	Performing fast filtering	1
For tourism education	Obtaining data more quickly	2
	Obtaining further data	2
	Providing quick access to training materials	1
	Providing personalized training	1
	Globalizing tourism education	1
	Developing different suggestions	1
	Simulating practical knowledge	1
	Obtaining exceptional results in language education	1
For tourism research	Summarize	2
	Time efficient	2
	Quick analysis	1
	Making better improvements	1
	Enhancing the speed of tasks	1
	Presenting the main idea of the studies	1
	Offers interesting products	1
	Increasing interest	1
	Creating fast content	1
	Guiding assistant	1

Source: authors.

Concerning advantages, the majority of respondents highlighted speed, time efficiency, convenient information retrieval and idea generation. Participant K5-30 expresses some optimistic perspectives on AI:

... undeniably, I think the most important thing is speed.

and as E18-63 puts it:

... something that thinks for me, thinks like me, contributes to me. Why should I think negatively? It is advantageous.

Upon analyzing the benefits of tourism education, the majority lean towards the notion of having swift access to a greater amount of information. Respondent K13-40 articulated her support for this particular issue:

... I think it is definitely practical.

The key aspects considered are the advantages it offers for tourism investigation, the delivery of details and timesaving. The prevailing belief is that AI is more efficient than humans when it comes to conducting research in the field of tourism. Participant E20-49 expressed his positive opinion on this issue:

... we can speed up our work and provide better developments.

Table 4 presents viewpoints regarding the drawbacks of employing AI.

Table 4. Disadvantages of artificial intelligence according to tourism academics

Disadvantages	Answers	Frequency
General disadvantages	Collecting misleading information	2
	Applications that make people dull and lazy	2
	Individual privacy	2
	Leading to job loss for some professions	2
	Dangerous	2
	Not safe	2
	Not uploading private info	1
	Offering limited information	1
	Not complying with human rights and values	1
	Not uploading private info	1
	Offering limited information	1

General disadvantages (cont.)	Not uploading private info	1
	Offering limited information	1
	Not complying with human rights and values	1
	Definitely needs to be checked	1
	Cyber attacks	1
	Not ethical	1
	Decreasing human workforce	1
	Collecting misleading information	2
	Applications that make people dull and lazy	2
	Individual privacy	2
	Leading to job loss for some professions	2
	Dangerous	2
	Not safe	2
	Not uploading private info	1
	Offering limited information	1
	Not complying with human rights and values	1
	Definitely needs to be checked	1
	Cyber attacks	1
	Not ethical	1
	Decreasing human workforce	1
For tourism education	Assignments and theses made by AI	3
	Incorrect learning	2
	Blunting the reasoning	1
	Narrowing down vocabulary	1
	Reducing reading habit	1
	Decreasing taking notes habit	1
	Killing creativity	1
	Causing to lose social orientation	1
	Reducing interaction between educator and student	1
	Lessened necessity for instructors	1
	Being left behind by technological progress	1
	Dulling synthesis	1

For tourism research (cont.)	Blunting perspectives	2
	Creating ethical violation	1
	Need for approval	1
	Articles written by AI	1
	Creating prejudice	1
	Inaccurate sources	1

Source: authors.

Upon analyzing opinions on the drawbacks of AI, a prevailing sentiment emerges that it has the potential to induce lethargy, to compromise personal privacy, and to disseminate inaccurate data. Furthermore, some participants perceive it as hazardous and untrustworthy – K6-32 expressed her negative opinion about this issue:

There may be cyber-attacks, so it does not seem reliable to me.

Respondent K16-39 stated:

I think the system still has vulnerabilities, so it should have supervision.

According to most viewpoints on drawbacks in tourism education, utilizing AI to complete students' theses and assignments could result in inaccurate information. An unfavorable stance on this particular issue was emphasized by participant E18-43:

... I am questioning the validity of this information.

Critics contend that tourism research may diminish holistic perspectives, lead to ethical violations, and require auditing and validation to address its unreliability. Respondent E11-40 shared his perspective on the dual impact of AI on tourism research by stating:

... it can perform and interpret analysis much faster...

and

... may appear as a violation of ethics.

4.3. SHOULD IT BE LIMITED OR SUPPORTED?

The majority of respondents advocated endorsing the utilization of AI when asked about whether its use should be restricted or encouraged. Table 5 displays the answers provided by the participants to this particular question, noting that participants offered more than one response.

Table 5. Should the use of artificial intelligence be limited or supported?

Answers	Frequency
Should be supported	6
It is necessary to adapt	3
Research should be limited	3
Should be limited	3
Should be supported in terms of education	2
Can be used to a certain extent	2
It should be supported, but training should be given	2
Should not be limited, but should be controlled	2
It should be used knowing what you want to do	1
Cannot be limited	1
It should be used in balance	1

Source: authors.

The feedback from the participants presented in Table 5 indicates that there is a consensus among six individuals advocating for the support of AI. Three individuals expressed the view that incorporating AI is essential, whereas others contend that its use should be limited in research methodologies ($n = 3$) or in all scenarios ($n = 3$).

K13-40, among the participants, voiced a clear endorsement for the initiative and stressed the need for its backing:

If we assume that the world will be governed by it, limiting it would be a very reactionary approach. Of course, it should be supported because we have to keep up with the world and technology.

Respondent E20-49 expressed his opinion:

I am against its limitation. Because limiting it prevents its development.

Certain participants support the notion but suggest placing limitations as well. Here are a few statements from participants who articulated this stance:

It is essential to provide backing for AI, but educators and academics must also receive instruction on their utilization in educational settings. (E18-43)

I believe it has reached a stage where constraints are no longer effective. Adjustments are necessary. (K16-39)

There is a low probability of imposing restrictions on it, so it deserves backing with proper oversight. (E7-34)

Limitation is crucial, but implementation is equally vital. (K5-30)

Some participants, on the other hand, had entirely unfavorable views and believed restrictions were necessary – K6-32, for instance, made a statement:

There is a clear necessity for restrictions to be imposed. In my opinion, the situation is escalating in terms of risk.

Respondent E15-39 supported this assertion:

Should AI persist in this manner, it will autonomously generate articles and publish materials... I believe there should be restrictions in place.

4.4. USING ARTIFICIAL INTELLIGENCE IN TOURISM EDUCATION AND RESEARCH

The participants were questioned on two different occasions regarding their engagement with AI applications in the fields of tourism education and tourism research. The responses provided by the respondents are outlined in Table 6, considering that multiple answers were given.

Table 6. Use of artificial intelligence (AI) in tourism education and research

Using AI		Frequency
In tourism research	I didn't use	4
	I would consider using	3
	I use	15
	Translation	7
	Identifying journals based on content	2
	Relationship between variables	2
	Paraphrasing	1
	Content creation	1
	Proofreading	1
In tourism education	I didn't use	10
	I would consider using	3
	It definitely needs to be used	3
	I use	12
	Getting information	5
	Translation	2
	Create presentations	2
	Compilation note preparation	1
	Homework control	1
	Content creation	1

Source: authors.

When questioned about their use of AI in tourism research and their opinions on it, it was revealed that four participants had not yet utilized it, with three expressing interest in its potential application. It was noted that the majority of users employ it for the sole purpose of translation. Moreover, it was established that the tool was applied to various tasks like categorizing articles based on their content, establishing connections between different factors, reaching unavailable sources, generating content, proofreading and paraphrasing. Applications used for this purpose are Google Translate, Research Rabbit (SciSpace), QuillBot, Typeset.io, Elicit, and ChatGPT. Respondent K5-30 commented on this issue:

I employed it once to assess a journal's content. I submitted a research synopsis and reviewed it. It's truly advantageous, much like that particular benefit.

As a different opinion, K25-60 stated:

I lack experience in employing AI for academic research. Nevertheless, the swift advancement of this technology ensures its integration into our daily routines. Adhering to ethical guidelines when utilizing it poses no issues. I, too, have the capacity to utilize it.

Participants encompassed individuals who have utilized AI within tourism education, those who have no prior exposure, those contemplating its adoption, and those who have experimented with it unsuccessfully. The application of AI in the field of education remains comparatively limited, with some individuals expressing interest in incorporating it into tourism education. On the other hand, there are participants who advocate for its integration into tourism education. For example, K16-39 mentioned about her trial attempt:

I tried a couple of slide programs. But my anticipations were not fulfilled by the result... .

Respondent E18-63, who expressed disapproval of the extensive application of AI in tourism education, elucidated his viewpoint with the subsequent statement:

It may be limited, but there is no such thing as using it heavily.

Participant K25-60 stated that she occasionally benefits from AI in tourism education and said:

... it definitely needs to be used. Because there are many AI tools used in the industry... I think it is useful for students to know this.

There are also participants who use it to obtain information, translate, prepare slides or create content. Among these participants, E11-40, said:

Creating PowerPoint presentations... I use it occasionally for educational activities in terms of access to information...

and stated that he used Gamma.app for this purpose, is one of them.

Diverse opinions were gathered from participants when questioned about the feasibility of incorporating AI into tourism education. The results are summarized in Table 7, noting that respondents provided multiple responses.

Table 7. Potential for artificial intelligence to be included in tourism education programs

Questions	Answers	Frequency
Integration into tourism education?	It can definitely be integrated	3
	I don't think it can be used much in education	2
	Can be used as a support	1
	Will be integrated in the future	1
In what ways can AI be integrated into the curricula of tourism education or what objectives can it serve?	Can be used in applied fields	6
	Can be used in recipes' preparation	3
	Can be used to create menus	3
	Can increase creativity	2
	Can make food and drink pairings	1
	Plate design can be made	1
	Can be used in theoretical subjects	3
	Virtual reality can be used	1
	Sculptures can be created for art history class	1
	Can compare laws	1

Source: authors.

The findings presented in Table 7 indicate that three participants affirmed the potential for integrating AI into tourism education. Additionally, the table highlights an important aspect concerning the application of this integration in practical domains. According to the responses of six participants, it is possible to formulate food recipes.

The consensus is that AI holds promise for integration into tourism education. E11-40, one of the participants with positive views, stated:

It can definitely be integrated. It especially enriches the content of education...

and E18-46 stated that:

... it can make significant contributions especially in finding various recipes for meals to be prepared in kitchen applications, developing new food production ideas and new presentation techniques.

Artificial intelligence is believed to have potential applications in recipe development, menu planning, and plate presentation, particularly within the realm of applied tourism education. Nevertheless, there are those who argue against its utilization in applied education. For example, respondent K6-32 stated:

It can be used in theoretical areas... should not be integrated into applied areas.

and K13-40 expressed:

Of course, putting that pot on the stove is a completely different thing. It can be used as a supporter.

Participant E20-49 presented a unique perspective that diverged from the previously mentioned views. He articulated his thoughts using the subsequent statement:

... it is also my dream; I am no longer in favor of teaching in classical classes. There will be 6 square meter classrooms like the room we are in now, the teacher will come in, we will use VR glasses, AI will prepare presentations for you, structures will be prepared, and the teacher will do his duty. I think we are heading towards that.

4.5. ETHICAL EVALUATION OF ARTIFICIAL INTELLIGENCE

The ethical evaluation of AI in tourism education and research prompted diverse perspectives among participants. Table 8 displays the responses of the participants regarding this matter.

Table 8. Ethical aspects of incorporating artificial intelligence into tourism education and research

Fields of use	Answers		Frequency
In tourism education	It is ethical	It is absolutely ethical	2
		If reference is shown	2
		If used for slide preparation	1
		If used to prepare notes	1

Table 8 (cont.)

In tourism education	It is ethical	If kept under control	1
		Relevant to the person's purpose	1
		If used to access information	1
	It is unethical	It is absolutely unethical	3
		Using completely AI	4
		If information is shared without checking	2
		Plagiarism	2
		There is no source of information	1
		Not transparent information	1
		Individuals have no knowledge or consent	1
		If copy paste	1
In tourism research	It is ethical	In innocent uses, without any preparation	3
		It's about whether we comply with ethical rules or not	3
		We must be able to control plagiarism	2
		Must be under the control of the researcher	2
		If reference is shown	2
		Depends on what it is used for	2
		Without providing full AI information	1
		Saves time	1
		Using correct Turkish expressions	1
		Warns about overlooked references	1
		Sorting the resources used	1
	It is unethical	It is absolutely unethical	4

Source: authors.

Two participants found the use of AI in tourism education ethical, while three believe it is completely unethical. Nonetheless, a group of participants contends that it could be viewed as ethical given particular criteria. The participant who expressed his ethical opinion said:

Why not ethical? AI also compiles information from the internet. (E18-43)

Participants who said they would definitely find it unethical explained this by saying:

I don't find it ethical... . Then I'll leave the classroom, open it, let the student watch, and I'll sit here. (E18-63)

... definitely not. Is there a source of that information? No, I mean I don't know. (K5-30)

Unethical practices such as copy-paste and plagiarism are emerging much faster and uncontrollably. (K6-31)

Nevertheless, those participants who uphold the view that it is ethical do not perceive the use of AI in tourism education as ethical when evaluating it without information verification. Respondent K6-32 expressed her opinion on this:

... balanced benefit is important... offering education entirely dependent on AI is unethical.

K25-60 expressed her opinion:

It's about how or for what purpose this person uses what s/he uses.

Four participants strongly opposed the ethical implications of employing AI in tourism research, whereas others believed it could be deemed ethical given specific circumstances. Their assertion suggests that the ethical application of AI in tourism research can be justified if it does not exclusively rely on AI knowledge, is not preparatory, or if proper referencing is included. For example:

... it may be ethical in innocent uses... . I do not find it ethical in the sense of resorting to improvisation. (E18-43)

... if it is used for your convenience and in a balanced manner, it would not be very unethical... . (K6-32)

I do not see a problem if a reference is made. (E7-34)

and

It would be more ethical if it is cited, referenced or stated that support was received from this. (K13-40)

4.6. USING ARTIFICIAL INTELLIGENCE INSTEAD OF HUMAN ROLES

The participants were probed about their views on the use of AI in place of academics for tourism education in the future, its potential to engage in tourism research, and whether they regarded this as a threat. Table 9 outlines different perspectives on the issue, with consideration given to participants offering multiple answers.

Table 9. The possibility of artificial intelligence taking over human roles

Fields of use	Answers	Frequency
In tourism education	I don't think it will replace academics	10
	No concept of emotion	4
	Cannot interact with students face-to-face	3
	I see it as a threat in the future	3
	On the contrary, it will be supportive	2
	It can replace lectures	2
	There has to be communication	2
	Cannot completely replace	1
In tourism research	I believe that it will not be extensively utilized in the field of tourism studies	10
	Can't replace emotions	4
	Only statistics and quantification are possible	2
	Cannot do independent research	1
	Cannot synthesize and interpret information	1
	It kills creativity	1

Source: authors.

In terms of tourism education and research, the consensus among academics is that AI does not pose a threat to their work. Proponents of the belief that AI cannot supplant humans in tourism education argue that the absence of emotion, direct interaction and the need for communication, are the primary factors supporting their perspective. For example:

In what way can AI grasp the emotions, concerns, and comprehension level of a student in real-time? (K5-30)

... if human beings exist and will exist in the future, that is, if they are not going to be robots, they need communication (P13-40)

and

... can the other party internalize the information it gives, that's what really matters. This is the thing about academics anyway... (E15-39)

explain why it is thought that they cannot replace humans. Similarly, as an example of statements advocating the same view for tourism research, respondent K3-29 said:

... at the end of the day, all studies would be similar to each other and originality would disappear. That's why AI can't replace everything...

and K5-30 expressed:

AI is already doing research, but we give it the problem, AI does not know the problem.

Nevertheless, three respondents anticipate perceiving it as a potential threat in upcoming times, albeit not presently. Among them, E20-49 articulated his perspective as follows:

I see it as a threat... Since AI will directly affect the privacy of the person, we are currently teaching it in general in the classroom according to our education system. AI will explain it personally. This is actually a magnificent thing...

4.7. RELIABILITY OF ARTIFICIAL INTELLIGENCE

Participants were asked to express their perceptions of the dependability of AI, focusing on its accuracy in providing information and its performance in translation and other tasks. The query centered on the risk associated with uploaded data potentially being exploited by others when using various applications. Despite findings indicating unreliability in both aspects, certain individuals remain convinced of the accuracy of AI-generated information. Responses in this direction are shown in Table 10.

Table 10. Reliability of artificial intelligence

Answers	Frequency
No, I don't find it reliable	7
I need to confirm	4
I'm not a hundred percent sure	4
It needs to be under human control	3
I can use it with confidence in its accuracy	1

Source: authors.

Participant E6-34 stated that he found it reliable:

In my opinion, AI consists of zeros and ones in computer language. Therefore, trusting mathematics and trusting AI are in the same equation. I can use it with confidence in its accuracy.

Some of the statements of participants who think it is unreliable are as follows:

I am absolutely afraid that others may access my article or research before it is published. (E18-43)

I do not find only AI, but also internet applications in general, safe. (K6-31)

... I again confirm that AI did. (K5-30)

... I do not find AI very reliable, considering that it obtains data over the internet and not all sources on the internet reflect everything accurately. (E18-46)

Respondent K13-40, on the other hand, explained that she did not find it safe as follows:

Just as I am not sure that I will not see my picture in another form on another site one day, I am not sure that I will not see my article or my work in something completely different.

5. DISCUSSION

Education and research processes have been transformed by the expansion of AI leading to distinct shifts in learning environments (Osman et al., 2023). It is a frequent occurrence to see debates centered on whether AI is meant to replace or support humans. In the realm of education, like in numerous other sectors, the precise impact remains uncertain and challenging to foresee (Cukurova et al., 2020). According to Marengo et al. (2024), its incorporation in higher education represents a relatively recent development, and significant exploration remains necessary to determine the most effective methods for integrating it into educational practices. Thus, it is vital to pay attention to evolutions and patterns in the field of education (Devedžić, 2004).

Academics are found to possess limited understanding of AI, primarily drawing information from students, social media and the news. ChatGPT stands out as the AI application most recognized within academic circles and given its frequent mention in news and social media, it is suggested as the initial AI program to be tested. The research by Samala et al. (2025) indicates that a significant number of educational institutions have integrated ChatGPT into their systems, which is noteworthy. According Haleem et al. (2022), ChatGPT

has seen a consistent rise in popularity within academic circles since its debut in 2022, largely because of its capacity to address problems of varying magnitudes. The research by Zeb et al. (2025) underscores the potential of ChatGPT in crafting chatbots and virtual assistants that can offer insights on various subjects and tackle commonly asked questions, proving especially advantageous for those in academia. Ray (2023) emphasizes that the ChatGPT application stands out as a potent tool within the realm of AI, boasting a broad range of uses. In this setting, the ease with which ChatGPT can be customized for academic and research purposes reinforces these findings.

DeepL, another commonly utilized AI tool, was predominantly employed for translation tasks. The research by Amaro and Pires (2024) indicates that widely adopted translation applications, including DeepL, have reshaped the global interactions of translation and communication in academic settings. However, Das (2018) argues that AI-powered translation tools fail to capture the cultural and social subtleties of language, leading to potential issues with meaning and structure, ultimately concluding that human translation cannot be replaced. Given the potentially advanced foreign language skills of academics, utilizing them for translation tasks could serve as a time-saving and workload-reducing strategy. The practicality and speed of AI applications make them prominent, aiding in the improvement of educational and research activities. Nevertheless, doubts exist concerning its dependability. Particularly noteworthy drawbacks of the system include information security concerns regardless of accuracy, and the diminishing demand for human resources. At this point, Khanzode and Sarode (2020) address comparable topics while categorizing the pros and cons of AI. According to Huang (2024), AI exacerbates inequalities and poses a threat to the confidentiality of data. Al-Tkhayneh et al. (2023) point out that AI offers potential advantages like enhancing individual learning experiences, aiding in administrative duties, and conducting extensive data analysis, yet there are apprehensions regarding interpersonal relationships and educational depth. Findings also indicate concerns regarding the potential of AI tools to induce laziness, diminish interpersonal connections, and limit individuals' viewpoints. Montenegro-Rueda et al. (2023) suggest that AI tools have the potential to enhance educational procedures, emphasizing the necessity for educators to possess a solid understanding of how these technologies operate for successful integration. On the other hand, a key point to note is the vital nature of practical training within the realm of tourism education, as it enhances and converts theoretical information obtained from face-to-face classes and textbooks (Zhu et al., 2023).

The opinions of the research participants lean towards supporting AI. Nevertheless, academics advocating its endorsement emphasize the importance of establishing clear boundaries, providing training and ensuring adaptation. In order to prevent the squandering of crucial human and information resources, organizations are advised by Metaxiotis et al. (2003) to be receptive to technology-driven transformations. Drawing clear lines is crucial, especially in relation to AI, and a more thorough understanding is essential. According to Baidoo-Anu and Owusu Ansah (2023), educators find themselves in a state of uncertainty as advances in AI have the capacity to bring about significant changes in the education sector. The uncertainty surrounding its future effectiveness in educational and research settings, along with the fear of lagging behind, can result in conflicting viewpoints.

The findings indicate that AI is utilized by participants for PowerPoint presentations and translation purposes. Academics may find the preparation of presentations to be a time-intensive endeavor, a process that can be enhanced through the utilization of AI, as indicated by Zheng et al. (2022). Li et al. (2023) emphasize the essential role and extensive use of technology in the field of translation and, as proposed by Wang et al. (2023), it can play a role in translating or revising imperfect English within academic work. Moreover, there is a viewpoint suggesting that it can function as a form of support in academic contexts and deliver customized educational content to students. Artificial intelligence, as proposed by Çam et al. (2021), can play a role in supporting teachers and providing personalized evaluations for students. Nonetheless, it appears that academics have not embraced these tools extensively as they have not completely grasped their applications. The aim is to utilize it for activities that require a substantial time investment and then consistently validate its results, indicating a level of distrust.

It can be inferred from the research findings that students make more frequent use of AI applications than academics, but academics are able to determine the presence of AI in assignments they review. It was noted by them that students are conscious of using AI for homework support and stressed the importance of validation. It is important to acknowledge that academics may have concerns about utilizing data from AI in educational and academic settings without verification. Concurrently, one of the outcomes of this research is the perception of this circumstance as unethical. Dergaa et al. (2023) suggest that employing such instruments raises doubts regarding the authenticity and dependability of research, emphasizing the necessity for thorough assessments encompassing possible applications, constraints, ethical standards and openness.

Participants offer a range of responses to inquiries regarding the ethical implications of employing AI in educational and research settings. According to Du and Xie (2021), the ethical dilemmas surrounding AI stem from a range of issues including biases, ethical decision-making, cybersecurity and job displacement caused by automation. The utilization of AI tools in academic practices and the attribution of authorship in published academic papers have sparked a contentious debate among publishers, editors and academics, as outlined by Guleria et al. (2023). Despite the presence of numerous works in academic literature being written using AI, citing chatbots is unsuitable due to their inability to ensure the reliability and precision of academic content. According to Akgun and Greenhow (2022), even though AI applications bring about benefits, there are social and ethical downsides, including different types of injustice and inequality. Ivanov (2023) emphasizes that the excessive reliance on and improper application of AI can negatively affect the commitment of students and higher education institution staff to ethical standards. In this context, in order to shape a forthcoming cohort that is diverse and capable of aiding in the advance of AI, it is imperative for students and teachers to acquire knowledge via ethics-centered educational programs and training.

At present, the substitution of the human factor with AI appears unattainable. The prevailing belief is that humans are inherently social creatures who require interaction and it is anticipated that AI cannot replicate human behavior due to the complexity of human emotions. However, the debate surrounding the potential impact of technological advances on the future utilization of AI remains contentious. According to Tao et al. (2019), technological tools devoid of emotions, fall short in delivering the personalized approach that human teachers offer to cater to the diverse limitations and potential of each student. In the view of Luan et al. (2020), the proper use of new technologies will assist in the exchange and absorption of knowledge, without displacing the role of humans. According to Celik et al. (2022), the shift towards digital education does not imply a reduced need for teachers in the future, instead of speculating about replacement, understanding the advantages of AI can lead to a transformation in their responsibilities within educational settings. There is a consensus that regardless of the advances, algorithms are still unable to replicate the complexity inherent in the human mind (Popenici & Kerr, 2017). According to Yuskovych-Zhukovska et al. (2022), AI systems concentrate on well-defined duties, possess a highly limited scope, are tailored for particular functions, and are currently distant from replicating human multi-tasking abilities. Participants in this research assert that creations generated by artificial intelligence exhibit a standardized format, resulting in a decline in their uniqueness.

The perception of trustworthiness in individuals, as outlined by Lewis and Marsh (2022), is influenced by their temperament or the level of trustworthiness found in alternatives. Ryan (2020) argues that AI does not possess the essential attributes to inspire trust, defined by common standards, as it fails to fulfill its emotional and normative components. Viewing AI as trustworthy diminishes the importance of interpersonal trust, and assigning human characteristics to it relieves those involved in its creation and utilization of responsibility. The prevailing view among participants in this study is that AI is deemed untrustworthy. According to Marengo et al. (2024), a significant issue revolves around the implications for privacy and security, as the integration of AI in educational settings may result in the gathering and retention of sensitive information. Indeed, the participants voiced their worries about the trustworthiness of the information, the risk of malicious activities involving private data, and the importance of having access to accurate information.

6. CONCLUSIONS AND RECOMMENDATIONS

The broad application of AI is linked to financial, technological and human resource elements. In order to optimize its use, it is essential for individuals to be well informed about this technology. At the same time, people often question situations they do not fully comprehend, reflecting their natural skepticism and in this respect, educators can effectively integrate developing technologies into academic settings by receiving training in AI and expanding their knowledge base. Technology is progressing swiftly, and failing to keep up with these advances could lead to drawbacks in the realm of education and research. Artificial intelligence has the potential to reduce the importance of the human factor in the core activities of education and research, leading to the weakening and decay of essential academic functions. However, the incorporation of emerging technologies into a community hinges on comfort with technology, its usefulness and the level reached. In this particular situation, educators who are well versed in it and have significant experience in educational research may have a different perception, perspective and interpretation.

Tourism is intertwined with human encounters, specifically the educational journey is not solely rooted in theoretical understanding. As an illustration, AI has the capacity to generate innovative recipes and recommend perfect product combinations. Nevertheless, there are deficiencies in the pleasure derived from the smell, taste and visual attractiveness of the cooking. Simultaneously, the inadequate infrastructure and limited availability of advanced

technologies, especially in the integration of technology in educational procedures, pose a major hindrance to deriving clear conclusions about experiential processes.

Human beings are social, emotional, make mistakes and have authenticity. For example, there are serious differences even between academics who conduct research in the same field or teach the same course, a process shaped according to a person's unique characteristics. The language an academic uses when writing an article and the interaction with students while teaching a course is personal. But AI may lead to uniform research or education processes in the future, at which point originality may disappear. As a matter of fact, many reputable journals demand guarantees that research is not conducted using AI, and AI detection systems are even used.

Another of the biggest threats posed is the inability of educators to manage processes properly due to insufficient knowledge. For example, not having the competence to understand how a research report written by a student is prepared and whether AI has been used or not, conflicts with the teaching role. It is thought that educators should be trained first, based on the fact that the innovations, change and transformations brought by technology cannot be ignored or overlooked.

In spite of the fact that AI offers a wide array of advantageous features for the academic community, it also brings with it a set of unprecedented challenges that are unlike anything that has been experienced before in the educational and research landscape (Huang et al., 2021). The main theoretical outcome of this research is to expand the scope of research on AI in tourism education and the research process, facilitating a shift from conceptual analysis to practical exploration. Unlike earlier studies that focused on student experience (Marrone et al., 2022), this research emphasizes the opinions of academics about the educational and research process linked to AI.

A significant practical insight highlights the necessity for academics to receive education in AI technologies. Indeed, the use of AI in tourism education can profoundly affect (Neophytou et al., 2025) the structure of institutions. According to Renkema and Tursunbayeva (2024), AI has the potential to revolutionize the field of academia. In this scenario, it is essential to set up units that facilitate its integration in academic settings, to design training courses, and to develop regulations that clarify the permissible limits of utilization.

One of the main limitations of this research is that it only includes tourism academics. Future research endeavors may focus on different cohorts, such as students, employees in tourism industry, or large groups that utilize technology extensively. Future research may focus on academics in applied sectors such as gastronomy or tour guiding where human

interaction is more intense, or how AI can be used to support practical training processes. A significant limitation of this research is the non-segregation of academics into the departments corresponding to their areas of expertise. Another is that the research was conducted with a qualitative method, which affects the generalizability of the results. Future research can be structured to include experimental processes or quantitative methods associated with the use of AI.

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GREEN TOURISM INTENTIONS DRIVEN BY SOCIAL MEDIA: THE INFLUENCE OF ELECTRONIC WORD-OF-MOUTH AND ENVIRONMENTAL AWARENESS

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ABSTRACT

The study aims to examine the influence of information sharing on social media on the green tourism intentions of the young. It examines the mediating roles of electronic word-of-mouth and environmental awareness in the relationship between social media information sharing (SMIS) and green tourism intentions (GTIs). Data were collected online from 412 respondents from South India aged between 18 to 35. Findings portrayed that social media information sharing positively impacts green tourism intentions both directly and indirectly via electronic word-of-mouth (e-WOM) and environmental awareness. Electronic word-of-mouth demonstrated a stronger mediating effect than environmental awareness (EA), underlining its significance in shaping sustainable tourism behaviour. Results provide valuable insights for tourism organizations to optimize green tourism marketing strategies by leveraging social media platforms. The study fills a critical research gap by exploring how digital interactions foster sustainable tourism goals among young social media users.

KEYWORDS

social media information sharing, green tourism intention, electronic word-of-mouth, environmental awareness, sustainable tourism, digital marketing, mediating effects

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1. INTRODUCTION

Green tourism upholds environmentally-friendly travel plans aiming to reduce the negative impact of tourism on our ecosystems and foster sustainable development. Research emphasizes its role in reducing environmental damage and preserving biodiversity through eco-friendly practices (Holden, 2013). Green tourism also supports the development of the community by

providing incentives that encourage conservation efforts (Wunder, 2000). Tourists' positive responses toward green tourism have also been found to enhance environmentally responsible behaviour and promote sustainable practices (Ibnou-Laaroussi et al., 2020).

Travel plans and activities affect social media. Oliveira et al. (2020) emphasize the importance of social media for sharing their travels online for fun and privacy, and this behaviour affects their network



of friends and acquaintances. Paul et al. (2019) added that social media determine holiday destinations, their research showing that social media posts of travel experiences, photographs, videos and other content influenced potential customers' location choices. Social media use affects willingness to try new things and where to go next. Tham et al. (2020) note that how much social media influence vacation destinations depends on factors like platform involvement, destination uniqueness and decision complexity. According to Liu et al. (2020), social media play four functions in tourists' trip choices: need generator, supporter, guider and approver, thus illustrating social media's complex trip-planning effects. Karatsoli and Nathanail (2020) found that men used social media less than women to plan large-scale trips but women were more affected by pictures and videos than men. Sustainable travel intentions on social media are growing and a meta-analysis by Ao et al. (2023) summarized social media interaction parameters related to customer engagement and purchase intentions finding a correlation between sustainable travel aspirations and these parameters. Social media play an important role in promoting green tourism by enabling information sharing and elevating tourists' awareness of sustainable tourism practices. According to Hysa et al. (2022), social media enable tourists to share eco-friendly travel practices and influence the decision-making of other travellers. Interactive social media campaigns stimulate travellers to practice environmentally responsible behaviour thereby supporting the sustainable tourism industry (Khatoon & Choudhary, 2024).

In their meta-analysis, Hung and Khoa (2022) examined the structural relationships between electronic word-of-mouth (e-WOM), attitude toward location, intention to go, destination satisfaction and commitment. The study found that e-WOM communication improves a location's image, visitor attitude and trip intentions. Cam et al. (2019) examined the interaction between traditional and digital word-of-mouth in travel intention research with findings showing that e-WOM strongly influences attitudes/travel intention, emphasizing its importance in travel planning. Tourism today values the environment while sharing knowledge and connecting sustainable visitors on social media help encourage eco-tourism. Social media indirectly promote eco-tourism by encouraging potential tourists to follow suit and was crucial to sustainable tourism recovery, especially during the COVID-19 pandemic, according to Hysa et al. (2022). They emphasized how social media encourage eco-friendly travel and communities and Kumar's (2021) conceptual work analyses social media promotion showing how these platforms promote green tourism through user content and participation. Ummer et al. (2023) study green tourism social media marketing and

customer attitudes, and believe effective advertising may boost eco-tourism. According to Khatoon and Choudhary (2024), social media build a sustainable tourism destination's green image with the hotspots promoted. Such media have also changed travel planning and decision-making, and, along with e-WOM and environmental awareness (EA) marketing, drive tourism. Since social media influence travel intentions, destination choices and sustainability, academics and practitioners must comprehend its use in tourism. The above research reminds us how tourist sector social networks affect travel. Intentions towards green tourism are influenced by several factors such as environmental knowledge, social value and perceived green value. Research even indicates that knowledge about the environment positively impacts the intention to visit eco-friendly destinations mediated by social and emotional values (Sukawati et al., 2019). Further, it is found that younger tourists' environmentally responsible behaviour is driven by their attitude towards green practices and subjective norms which favourably impact their intention to engage in green tourism (Fenitra et al., 2021). Kızıldağ and Yıldız (2024) suggested that environmental concerns significantly influence attitudes toward green tourism which in turn foster the intention to participate in such activities. Thus, the findings highlight the importance of green values and awareness among travellers and uphold the practice of sustainable tourism.

Considering the current significance of social media and related interactions, we provide a conceptual model (Figure 1) to address the many nuances of information sharing, intention to travel green, e-WOM and environmental consciousness. Our suggested model can be related to several theories, including the theory of planned behaviour (TPB) (Paul et al., 2016), social cognitive theory (Bandura, 2001), diffusion of innovation theory (Goldsmith & Goldsmith, 2011), information adoption model (Fulk et al., 1987), dual coding theory (Kim et al., 2016), elaboration likelihood models (Teng et al., 2015), and so on. The theory of planned behaviour (TPB) looks at how young people's intentions to travel sustainably are shaped by social media content, subjective norms created by e-WOM, and perceived behavioural control over sustainable practices. Conversely, when we shift to green tourism, social cognitive theory describes how habits formed from observing 'friends type' on social media impact each of us individually. The diffusion of innovation theory can also be used to understand how ideas of green tourism spread and take root among social media users. The information adoption model can also be incorporated into our study as it shows how users process and accept information from social media, influencing intentions. As for dual coding theory, verbal and visual information affects individuals' cognitive processes and, in turn, their intentions concerning

green tourism. The elaboration likelihood model can be integrated into our model as well which explains how persuasive communication (such as e-WOM) influences attitudes and behavioural intentions according to the individual's level of motivation or ability to process information.



Figure 1. Total effect
Source: authors

We chose TPB for our study because it provides a robust theoretical framework for analysing the impact of psychological factors on individuals' intentions and subsequent behaviour. The theory of planned behaviour claims that action is the direct result of behavioural intention, which is in turn determined by attitudes to behaviour, subjective norms and perceived behavioural control. This theory is particularly appropriate for green tourism because it offers a means of examining how tourists form their attitudes towards environmentally responsible travel through three environmental forces: personal beliefs, social pressure exercised by those around them, and how easy or difficult it is for them to practice such behaviour. By adding e-WOM and EA as mediating factors, we can then examine further how online platforms alter or amplify these relationships. Social media frequently serve to amplify subjective norms and can shift attitudes by presenting new norms and role models for individuals to copy successfully. In addition, TPB clarifies the role of perceived behavioural control in the context of online interactions where ease of information access and community support possibly increase an individual's sense that they can engage in green tourism activities. Therefore, TPB offers a holistic approach to analysing how social media influence intentions and behaviour in green tourism, making it the ideal model for this research.

Despite the growing connection between social media and tourism, the mechanism through which social media information sharing (SMIS) impacts green tourism intentions (GTI) remains unclear. Very limited information exists on how e-WOM mediates SMIS and GTI, and similarly environmental awareness (EA), as a mediation in the relationship between SMIS and GTI. Earlier studies have touched e-WOM and EA separately but their combined influence on green tourism has not been carried out so far. Thus, there is a significant gap in understanding how SMIS fosters e-WOM, enhances EA, and ultimately influences travellers' intentions to adopt green tourism practices. Hence the following research questions are formulated:

1. To assess the association of information sharing on social media platforms on GTI.

2. To evaluate the association of information sharing on social media platforms with e-WOM.
3. To investigate the relationship of e-WOM on GTI.
4. To examine the relationship of information sharing on social media platforms on EA.
5. To explore the association of EA with GTI.
6. To determine the mediating role of e-WOM in the relationship between SMIS and GTI.
7. To analyse the mediating role of EA in the relationship between SMIS and GTI.

2. THEORETICAL FRAMEWORK, LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

The theoretical model used in this research is underpinned by TPB. According to TPB, behaviour is directly influenced by a person's intention to perform the behaviour, and that intention is itself influenced by their attitude to performing it, subjective norms (perceived social pressures), and perceived control over the performance of this action (degrees of freedom [*df*]). The theory of planned behaviour has been widely applied to reveal the predictors of environmental behaviour, including green purchasing and environmental tourism. Mancha and Yoder (2015) extended the TPB model to include identity dimensions and found that self-concept has a substantial impact on intentions for environmental protection. A scoping review by Yuriev et al. (2020) notes the use of TPB in studies of individual green behaviour, adding that variables that affect behaviour via indirect reinforcements (belief) are often overlooked. Paul et. al. (2016) demonstrate that TPB, especially consumer attitudes and perceived behavioural control, predict that people will buy green products when given the chance to do so showing that environmental concern mediates this relationship. Yadav and Pathak (2016) used TPB to understand young Indian consumers' intended purchase of green products, finding that incorporating both environmental concern and knowledge can improve model predictivity. Based on this comprehensive analysis, Dieste et al. (2019) have emphasized that TPB is often applied in areas such as waste management, green consumption and sustainable transportation. The TPB model has five constructs: attitude, subjective norm, perceived behavioural control, moral norm and environmental concern; explaining green behaviour well. These studies together indicate that TPB is a powerful model for understanding and directing tourist intentions in this environmentally friendly way appropriate to concerns about pollution.

We can relate each component of our conceptual model using TPB with beliefs and judgements of anticipated behaviour determining attitudes. In our model, the influence of SMIS on e-WOM may show how positive

information and sharing influence green tourism sentiments. The direct influence of EA on GTI may indicate that green tourism benefits the environment. The theory of planned behaviour subjective norms involve whether key individuals approve or disapprove the activity and our model suggests that SMIS affects EA due to social constraints and norms. Electronic word-of-mouth mediates the relationship between SMIS and GTI, showing how subjective standards like social endorsements affect GTIs. Perceived personal efficacy and control attitudes affect behavioural control, which is how easy or hard the behaviour is. In our model, environmental understanding directly affects GTI, suggesting a greater sense of control or efficacy in eco-friendly conduct. Environmental knowledge mediates the association between SMIS and GTI, suggesting that others' perceptions of control affect intentions to participate in green tourism. Behavioural intention, TBP's motivating factor, predicts behaviour and precedes it. In our model, attitudes (influenced by SMIS and EA), subjective norms (shaped by e-WOM), and perceived behavioural control (also shaped by EA) cumulatively affect GTI. Thus it is pointed out that in our model, SMIS may alter attitude and subjective norms, whereas EA affects perceived behavioural control and attitudes. According to TPB, attitudes, subjective norms and perceived behavioural control influence intentions, and e-WOM and EA mediate the indirect effects of SMIS on GTI. Thus our conceptual model links SMIS, e-WOM, EA and travel intentions in green tourism.

2.1. SHARING OF INFORMATION ON SOCIAL MEDIA PLATFORMS

Information-sharing, communication and interaction on social media have been a matter of research in recent works. Individuals benefit from social media through constant communication among their contacts, thereby maximizing a sense of kinship (Mohanani & Shekhar, 2021). The entertainment value and reliability of social media content have also been investigated in some topical research on SMIS with many studies examining company and individual users' viewpoints (Greer & Ferguson, 2011). Social media information sharing can be knowledgeable and amusing for users, a prominent channel of communication through which they connect by creating self-expressive content (Kaplan & Haenlein, 2010). Internet users may post content on their daily lives on blogs for pleasure or emotional development while reinforcing their social connections by sharing their content and connecting and also by reading what other users post (Shao, 2009).

Social media users participate in this process as information disseminators and beneficiaries (Peters et al., 2013) with information sharing improving

browsing and communication, making it crucial for modern life, improving marketing and corporate communication (Greer & Ferguson, 2011). Famous social media promote brands, goods and business philosophies through knowledge sharing. Positive information sharing on social media has a positive societal association (Shao, 2009) and previous research in green marketing has supported the beneficial effect of SMIS on environmentally friendly consumption (Bedard & Tolmie, 2018; Pop et al., 2020). Social media posts about the environment help users assess how desirable green products and services are and may also aid in evaluating that, the more desirable they perceive them to be, the stronger their urge to consume them (Sun & Xing, 2022). Likewise, social media may impact the intention toward green tourism favourably. Thus a hypothesis is formulated as:

H₁: Sharing of information on social media platforms would have a very significant favourable association on GTI.

2.2. ELECTRONIC WORD-OF-MOUTH (E-WOM)

Electronic word-of-mouth acceptance is the decision to visit a tourist site based on the responses, opinions and recommendations made by other visitors and communicated via social media (Chavez et al., 2020). Social media e-WOM play a significant role in how consumers select travel locations (Luo & Zhong, 2015) and in the context of tourism, word-of-mouth behaviour is an iterative procedure initiated by travel experiences (Loureiro et al., 2021). While travelling, tourists frequently share their experiences on social media and collaborate with other travellers or service providers to create value (Chavez et al., 2020). Travellers who opt for and benefit from specific journeys like social travel, leisure and adventure recommend those trips to others (Mehran et al., 2020); travelling for social bonding and seeking new experiences, pleasure and leisure is greatly associated with visitors' intention to promote particular tourist attractions. Social media help travel enthusiasts perceive and evaluate different aspects of prospective trips and further, may also facilitate acquainting them with benefits like travel tips and recommendations. Social media users who adopt green tourism may share their experiences which may positively associate the GTI of other users (Mehran et al., 2020). Studies have shown that there has been a significant positive association between e-WOM on green behaviour. As a result, the following hypotheses are proposed in the study:

H₁: Sharing of information on social media platforms would have a very significant favourable association on e-WOM.

H₂: E-WOM would have a very significant favourable association with GTI.

2.3. ENVIRONMENTAL AWARENESS (EA)

The concern about environmental sustainability and the urge to preserve and promote environmental quality is exponentially growing (Severo et al., 2018). Environmental awareness may be a crucial factor in the incredible growth of green products or green service promotion among individuals (Yang & Xiao, 2017). This is associated with thoughts, behaviour and responses toward environmental issues and how, by actively engaging in ecological issues, it can be exemplified (Vergragt et al., 2016). Through social media channels, individual users can access and share content related to environmental sustainability (Kaplan & Haenlein, 2010; Kietzmann et al., 2011). From the point of environmental sustainability, people must be conscious of the environment, protect natural resources and practice sustainable environmental behaviour, implementing new consumption patterns and socially responsible attitudes due to EA. The more known about environmental sustainability, the more environmentally conscious one becomes (Heiskanen et al., 2014; Schroeder & Anantharaman, 2017). Due to growing consumer EA, businesses are encouraged to develop more eco-friendly goods and services, and implement sustainability initiatives (Yang & Xiao, 2017). Environmental awareness among travellers can be significantly associated with the likelihood of responsible travelling (Han et al., 2016) and their ecological knowledge prevents environmentally irresponsible behaviour at the tourist destination (Karmoker & Ahmed, 2021). Environmental awareness is associated with GTI, according to several studies examined by the authors. Subsequently, the hypotheses that follow are:

H₃: Sharing of information on social media platforms would have a very significant favourable association on EA.

H₄: EA would have a significant favourable positive association with GTI.

2.4. GREEN TOURISM INTENTIONS (GTIs)

The term “green tourism” refers to sustainable methods that consider the requirements of local inhabitants, businesses, the environment and tourists which may be helpful for the management and development of present and future environments. Perspectives have changed due to newer aspects of tourism operations, including energy use, biotic exchange, dispersion of disease, and changes in perception and understanding of the environment’s fragility (Gössling, 2002). People who choose green products or services do so out of a feeling of compassion that either directly or indirectly supports environmental protection and sustainable development (Lee, 2008). These techniques aim to create

a governance structure that minimizes the adverse social and environmental effects of tourist activities in both urban and rural settings (Azam & Sarker, 2011). Social media users who post images of the green products they utilize, and share opinions about their usage may inspire and motivate others toward green purchase intentions (Van Boven et al., 2010). Green tourism is essential for any nature-based itinerary’s continued quality and sustainability. Vacationers have also exhibited a high level of confidence in the attainability of green tourism (Karmoker & Ahmed, 2021). Green tourists are more likely to practice green habits than people indifferent to the environment (Thao & Trang, 2018) hence it is imperative to explore whether tourists have intentions towards green tourism initiatives. The study aimed to examine whether e-WOM and EA act as mediators between SMIS and GTI. Accordingly, the following hypotheses are suggested:

H₅: E-WOM would act as a mediator in the interaction between the sharing of information on social media platforms and the intention to engage in green tourism.

H₆: EA would act as a mediator in the interaction between sharing information on social media platforms and the intention to engage in green tourism.

3. RESEARCH METHODOLOGY

3.1. RESEARCH DESIGN

The survey was conducted among 412 young people between 18 and 35 from South India (Table 1) with data collected from August to September 2024. The study population was considered appropriate because a significant percentage of the target respondents are on social media and prospective eco-friendly travellers are from this age group. The target population is infinite as it extends to all young adults between 18 and 35 who are social media users so we sourced our respondents online targeting young adult users from a platform that incorporated individuals focusing on travel and environmental issues. The sample was selected using a convenient sampling method to ensure diverse representation across regions within South India, chosen to reduce selection bias and enhance the generalizability of our findings. The method of convenient sampling was considered effective because it was affordable and time-saving, unlike other methods convenient sampling ensured that more respondents were reached on various aspects. Since the study was exploratory and required a specific characteristic of the target group, the method was effective and executed through an online questionnaire distributed through various electronic mail routes and on social media. The survey was shared using a link on several platforms

to access as many respondents as possible; thus, the research had structural validation through e-WOM. The findings may not represent the general population, especially young people who may not be active in social media and environmentalism, therefore the survey undertaken through the sampling frame might not represent the general population of young adults because it may not yield a 100% sample response, and could draw biases from young people on social media. Hence this creates a limitation for our study on how social behaviour influences pro-environmental values in tourism due to sampling bias.

Table 1. Profile of demographics ($n = 412$)

Variables		Frequency	Percent (%)
Gender	Female	140	34
	Male	272	66
Age group	20–23	255	62
	24–27	37	9
	28–31	74	18
	32–35	46	11

Source: authors.

3.2. MEASURES

Electronic word of mouth (e-WOM) scale: Chavez et al. (2020)'s four-item scale was modified without changing its purpose, optimizing e-WOM in green tourism. The question "Information from online reviews contributed to my understanding of the tourism destination" was changed to "Sharing of information on social media platforms contributed to my knowledge of green tourism". The Likert scale ranged from 1 (*strongly disagree*) to 5 (*strongly agree*).

Environmental awareness (EA) scale: the young were assessed using a five-point scale from Severo et al. (2019). In the study, the EA measure was used unchanged. The model question was "I sort recyclable and organic waste at home". The Likert scale ranged from 1 (*strongly disagree*) to 5 (*strongly agree*).

Green tourism intention (GTI) scale: Sultan et al. (2021) modified a four-item intention measure without modifying its fundamental notion and the researchers adjusted the measure to meet green tourism goals. For instance, "I aim to assist environmental initiatives about sustainable destination" became "I plan to help environmental initiatives towards green tourism". The Likert scale ranged from 1 (*strongly disagree*) to 5 (*strongly agree*).

SPSS version 21 was used for data analysis while SPSS analysis of moment structures (AMOS) was also used. Structural equation modelling (SEM) was used to determine the relationship between SMIS,

e-WOM, GTI and EA (Figures 1 and 2). Confirmatory factor analysis (CFA) was used to assess how well the variables reflected the components. The model's fit was assessed using Hu and Bentler (1999) criteria while data reliability was assessed using Cronbach's alpha (α) as a statistical indicator. Data validity was assessed using average variance extracted (AVE), data dependability using composite reliability (CR) and data validity using discriminant validity (DV). The study also used average factor loading (AFL) to evaluate data dependability and validity. The results were reported using standardized regression weights. To study the indirect effect of e-WOM and EA, bootstrapping with 5000 samples and a 95% confidence interval was used (Preacher & Hayes, 2008).

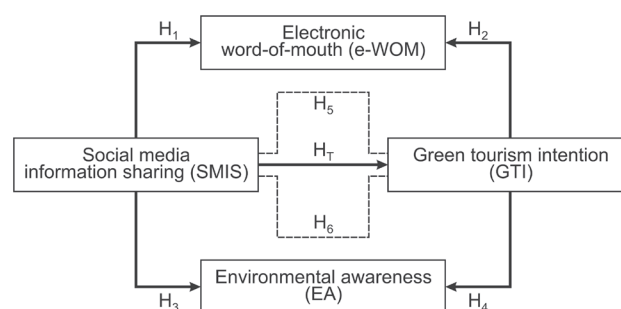


Figure 2. Direct and indirect effects: The conceptual model for the current study

Source: authors

4. RESULTS

The mean scores of SMIS, GTI, EA and e-WOM are shown in Table 2. The table indicates that the four components ranged from minimum to maximum, eliminating variable outliers. The standard deviations of SMIS, GTI, EA and e-WOM were also acceptable. Data fluctuated little, but data sufficiency was confirmed.

Table 2. Descriptive statistics ($n = 412$)

Variables	Min	Max	Mean	Standard deviation (SD)
Social media information sharing (SMIS)	7.00	20.00	16.2015	2.53936
Green tourism intention (GTI)	10.00	20.00	17.6553	2.51277
Environmental awareness (EA)	8.00	25.00	20.2184	3.56665
Electronic word-of-mouth (e-WOM)	6.00	20.00	16.5024	3.10051

Source: authors.

4.1. RELIABILITY AND VALIDITY ANALYSIS

Cronbach's alpha was computed to examine the reliability of the scales employed in the study and the values for CR, AVE and DV were also calculated. Results indicated good validity and reliability scores. The values for Cronbach's alpha and CR were above 0.7 for the constructs used for the study, indicating good reliability but values (Table 3) were above 0.7 for all four categories which shows that the scale is reliable (Amirrudin et al., 2020). The AVE for the four constructs was above 0.5 (Table 3) which was an indication of good convergent validity (Kim et al., 2013). Values that were not on the diagonal (Table 4) showed a link between the concepts because they were smaller than the diagonal components. This showed that the discriminant validity was true (Voorhees et al., 2016).

Table 3. Reliability and validity values of various constructs

Dimensions	Cronbach's alpha values	Average variance	Factor loadings	Composite reliability (CR)
Social media information sharing (SMIS)	0.817	0.815	0.813	0.714
Green tourism intention (GTI)	0.812	0.826	0.832	0.881
Environmental awareness (EA)	0.881	0.897	0.812	0.792
Electronic word-of-mouth (e-WOM)	0.915	0.714	0.853	0.764

Source: authors.

Table 4. Dimensions and their discriminant validity

Dimensions	SMIS	GTI	EA	e-WOM
Social media information sharing (SMIS)	0.816	–	–	–
Green tourism intention (GTI)	0.713	0.873	–	–
Environmental awareness (EA)	0.627	0.712	0.832	–
Electronic word-of-mouth (e-WOM)	0.543	0.621	0.701	0.743

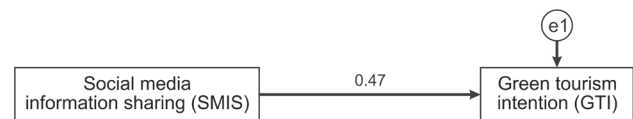
Note: The off-diagonal components show how the constructs are correlated.

Source: authors.

4.2. STRUCTURAL EQUATION MODELLING

A full structural equation model fits the data well. According to the guidelines provided by Hu and Bentler (1999), all fit indices were at the accepted levels. The χ^2/df was found to be 2.14 while the GFI and TLI were found to be 0.935 and 0.951 respectively. The comparative fit index (CFI) value of 0.932 and the RMSEA value of 0.038 were at an acceptable level. Therefore, the hypotheses were tested using the entire structural model.

Social media information sharing had a direct, very significant favourable association (Figure 3 and Table 5) on GTI, according to the findings ($\beta = 0.47$, $p < 0.01$). Hypothesis T was therefore approved. Social media information sharing demonstrated a direct, very significant favourable association (Figure 4 and Table 5) on e-WOM ($\beta = 0.67$, $p < 0.01$). Hypothesis 1 (H_1) was also approved. Additionally, it was found that e-WOM had a direct and very positive association on GTI ($\beta = 0.29$, $p < 0.01$). Figure 4 and Table 5 show that. Hypothesis 1 (H_2) was also accepted. Furthermore, it was observed that SMIS had a direct and positive effect on EA ($\beta = 0.491$, $p < 0.01$), as a result, H_3 was approved – Figure 4 and Table 5 show the details. Finally, it was found that EA had a direct and very positive effect on GTI ($\beta = 0.241$, $p < 0.01$), thus, H_4 was approved (Figure 4 and Table 5).

Figure 3. Model of the total effect ($\beta = 0.47$, $p < 0.01$)

Source: authors

Table 5. Paths and effects

Paths		Standardized estimates	p-value	Result
Direct effects	SMIS → GTI	0.159	0.008	Significant*
	SMIS → e-WOM	0.667	0.000	Significant**
	SMIS → EA	0.494	0.000	Significant**
	e-WOM → GTI	0.294	0.000	Significant**
	EA → GTI	0.238	0.000	Significant**
Total effect	SMIS → GTI	0.471	0.000	Significant**

Note: SMIS – social media information sharing, GTI – green tourism intention, e-WOM – electronic word-of-mouth, EA – environmental awareness; * significantly different from zero at the 0.01 level (two-tailed), ** significantly different from zero at the 0.001 level (two-tailed).

Source: authors.

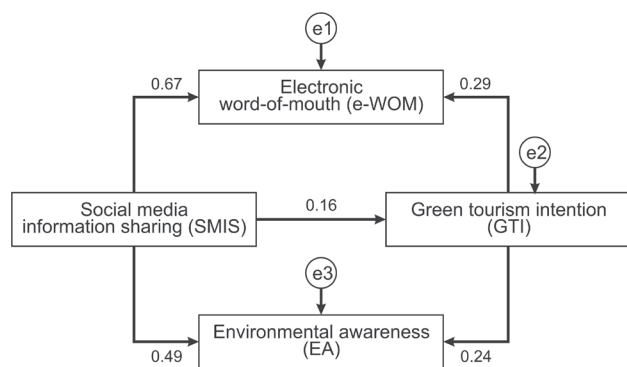


Figure 4. The direct and indirect effects of full structural modelling

Source: authors

To determine how e-WOM and EA indirectly affect SMIS and GTI, process macro model 4 was used to examine each mediating path (H_5 and H_6). In parallel mediation (Table 6), e-WOM ($\beta = 0.1907$) had an indirect association above zero (0.1058 to 0.2792), holding all other mediators constant. The indirect effect via EA ($\beta = 0.1146$) was also substantially different from zero (0.0622 to 0.1740), therefore, H_5 and H_6 were accepted. Thus, it implies that e-WOM and EA assisted in mediating the connection between SMIS and GTI. Examination of Table 6 also revealed that e-WOM had a more significant association than EA on the connection between SMIS and GTI.

Table 6. Standardized indirect effects of social media information sharing (SMIS) on green tourism intention (GTI)

Parameters	Effect	Boot SE	Boot LLCI	Boot ULCI
Total	0.3053	0.0430	0.2255	0.3911
Environmental awareness (EA)	0.1146	0.0285	0.0622	0.1740
Electronic word-of-mouth (e-WOM)	0.1907	0.0441	0.1058	0.2792

Note: SE – standard error, LLCI – lower level confidence interval, ULCI – upper level confidence interval; * to determine the significance level, performance bootstrap and bias-corrected confidence intervals (95%) were used with a sample size of 5000.

Source: authors.

5. DISCUSSION

5.1. THEORETICAL IMPLICATIONS

The younger generation, ‘digital natives’ with high proficiency in social networking, is proposed to benefit from the virtual environments of social media platforms (Lissitsa & Kol, 2016) and travel enthusiasts

have shown widespread acceptance and use of Web 2.0, significantly influencing their behaviour (Hysa et al., 2022). In recent years, academic research in the field of tourism has been keen on investigating the changing preferences of social media users (Peighambari et al., 2016), they have also shown interest in understanding the transformation in tourism enterprise marketing and managerial practices (Peighambari et al., 2016). The current study focuses on SMIS and its association with young travellers’ intentions toward green tourism.

Our research examined whether green tourism benefits SMIS and it has also tried to address the question of whether e-WOM and EA mediate the relationship between SMIS and GTI. It was undertaken by carrying out empirical research to bridge this gap in line with previous work indicating the significant effect of SMIS on green behaviour or green purchase intentions (Cheunkamon et al., 2020; Javed et al., 2020; Stiakakis & Vlachopoulou, 2017; Yuan et al., 2021). In addition, the current study investigated the effect of SMIS on GTI using a parallel mediation methodology, with e-WOM and EA finding favourable associations between SMIS, GTI, e-WOM and EA, with e-WOM and EA partially mediating SMIS and GTI.

Initially, we investigated the relationship between SMIS and GTI in young travel enthusiasts and, according to our findings, SMIS had a direct and favourable effect on GTI, e-WOM and EA. This was in line with many previous works, stating that social media are significantly associated with the behavioural intention of young travel enthusiasts (Anuar et al., 2021; Cheunkamon et al., 2020; Yuan et al., 2021). Therefore, it can be inferred that social media and content sharing are associated with users travel behaviour (Javed et al., 2020; Stiakakis & Vlachopoulou, 2017). The greater the information sharing on green tourism through social media, the higher the intention to opt for it (Hysa et al., 2022). Hence, it can be inferred that SMIS affects young travellers’ intentions toward green tourism in a positive way. Numerous tourism experts and scholars have studied e-WOM (Fine et al., 2017; Zhou et al., 2020) since the emergence of digital and social media, and sustainability advocates encourage tourists to share green travel experiences there (Polit & Beck, 2010). Tourism researchers and academics who want to explore e-WOM’s favourable association on youth GTI and its mediating role between SMIS and GTI may be interested in this research. Hospitality and tourism professionals have ignored e-WOM’s role in mediating SMIS and GTI and this work may be the first to extend the notion of green and social media environments to examine how e-WOM may significantly affect GTI.

According to research, the young who are presented with environmental information are more likely to gain awareness of it as a social issue (Severo et al., 2018). This statement is supported by the findings of our

Table 7. Comparison of results with earlier literature

Study reference	Focus of study	Key findings	Contribution of current study
Lissitsa and Kol (2016)	Impact of digital environments on young users	Highlighted the proficiency of 'digital natives' in using social media	Emphasizes the use of social media to promote green tourism among these proficient users
Hysa et al. (2022)	Influence of Web 2.0 on young travellers	Showed significant influence of Web 2.0 on the behaviour of young travel enthusiast	Links this influence specifically to green tourism intentions (GTIs) through SMIS
Peighambari et al. (2016)	Changing preferences of social media users and marketing practices in tourism	Investigated changes in user preferences and business practices due to social media	Focuses on the specific aspect of green tourism and its promotion through SMIS
Stiakakis and Vlachopoulou (2017), Cheunkamon et al. (2020), Javed et al. (2020), Yuan et al. (2021)	Association of social media on green behaviour or purchase intention	Varied findings on social media's impact on environmentally friendly behaviour and intentions	Provides empirical evidence linking SMIS to GTI and investigates e-WOM and EA as mediators
Fine et al. (2017), Zhou et al. (2020)	Study of e-WOM in digital and social media environments	Explored how e-WOM influences consumer behaviours broadly	Examines the specific role of e-WOM in mediating the relationship between SMIS and GTI in green tourism
Severo et al. (2019)	Impact of environmental information on youth awareness	Found that exposure to environmental information enhances awareness of social issues	Confirms and extends these findings by demonstrating how SMIS increases EA, which then impacts GTI

Note: GTI – green tourism intention, SMIS – social media information sharing, e-WOM – electronic word-of-mouth, EA – environmental awareness.

Source: authors.

study, indicating SMIS has a favourable association with EA. Social media allow users to communicate with one another, share information, and unite ideas of common interests and beliefs (Kadushin et al., 1994; Rauniar et al., 2014). Therefore, those exposed to informative content like photos or videos on the environment and sustainability are more likely to develop community awareness and, consequently, EA (Severo et al., 2019). The outcomes of our work indicate that SMIS has a significant positive relationship with EA, and EA has a good association with GTI. This relationship demonstrates that EA mediates SMIS and GTI. We summarize the theoretical contributions of our research in Table 7, which shows how our work correlates with past research and sheds light on the relationships between SMIS, e-WOM, EA and green tourism goals. This table also shows our research's new contributions, places it in the context of existing literature, and explains its significance to tourism and the EA debate.

Thus the research is marked out by arguing that e-WOM and EA are mediators of the connection between SMIS and GTI. This is in contrast to earlier work that mainly looked at the direct effects of SMIS rather than how it links through these mediators. Searching into them, the research not only shows how information circulating in social media shapes sustainable tourism behaviour but is far more complex than prior models which often fail to record these subtle interrelations.

It differs from broader research into green behaviour or sustainable consumption in that GTIs are the focus. This is especially important considering that tourism has a unique environmental impact. In the area of GTI, the research provides targeted insights that could bring about specific strategies for tourist attractions to carry out effective acts of environmental protection, and so it is of real relevance to the operation of the tourism sector. Utilizing process macro model 4 for mediation analysis means that we can delve deeply into how SMIS affects GTI. This advanced statistical approach allows a more detailed and robust analysis compared with previous studies; many of which resorted to simplistic statistical tests. The rigor of the methodology enhances confidence in results and demonstrates with very clear visualizations of how inter-relationships between subject variables can be pictured. By incorporating, testing and verifying complex patterns that take into account such factors as e-WOM and EA, the study deepens theoretical models applied in the area of social media and tourism. It challenges once again the conventional wisdom that SMIS has only direct effects by showing how there are also indirect impacts via factors that make sustainable tourism more feasible. The result for tourism marketers is to show how they can use social media more effectively in their efforts toward sustainable tourism. Understanding the role played by e-WOM and EA in shaping tourist destination

intentions can help travel agents devise social network strategies that are more effective both at promoting the characteristics of their destination and also assisting tourists in enjoying themselves in an environmentally friendly manner. Each of these presentations underscores the major theoretical significance of this study and places it in line with earlier work, making a useful guide for those engaged in tourism enterprises who want to develop sustainability through making greater use of social media.

5.2. MANAGERIAL IMPLICATIONS

Social media not only expose wrongdoings in society but often acts as catalysts for societal change (Mohanar & Shekhar, 2021) therefore policymakers and stakeholders can powerfully utilize them to promote sustainability and green behaviour. For example, social media marketing could highlight eco-friendly practices and service content specifically for younger generations around the benefits of eco-friendly travel. Non-governmental organizations (NGOs) and environmental groups can use digital platforms to organize green initiatives, while institutions and businesses could increase offerings of green tours for both leisure and nature excursions that would raise awareness of green tourism. In addition, awarding and rewarding young people for their contribution can stimulate participation in environmental activities. As such, incentives such as discounts or free meals for tourists engaged in environmentally-friendly practices could help encourage sustainable tourism (Karmoker & Ahmed, 2021). Seeing as how both educational institutions and government departments could create competitions aimed at young audiences highlighting innovative ideas for green living, parents too must play an important role. By adopting environmental habits that set a good example to young minds and involving them in these changes, parents can implant such thinking from early on in their children's lives to create an environment that treads altogether more lightly on what sustains us all.

Our research findings offer strong evidence that SMIS is directly linked to GTI. Therefore, tour operators in the industry might have to develop online content for social media and share it, potentially influencing intended destinations before tourists start their journeys. Meanwhile, actively soliciting satisfied customers to share first-hand experiences online could amplify e-WOM. This, our study demonstrates, has a substantial mediating effect indeed on GTIs, more than EA does. Hence marketing tactics should not just stress overt advertisement but also develop an atmosphere that is kind to both information sharing and love of nature. Monitoring tools make it possible to identify those influential social media users who are

most likely to persuade others toward green tourism. Our approach, in sum, streamlines action and utilizes its strength to effectively promote EA and green tourism.

5.3. LIMITATIONS

Due to its sample, the study has limitations. The research relied entirely on participants' questionnaire responses, not their social media accounts or online behaviour. User perceptions toward social media sites relating to green tourism aspirations were not examined. We ignored specific social media activity including photo-sharing, content uploading and tweeting. Another downside is that the statistics may show typical response biases with education, nationality and income affecting their green tourism preferences. The current study did not assess these. Choosing samples and regions was another disadvantage because the results may not apply to the whole of society.

5.4. FUTURE RESEARCH IMPLICATIONS

More longitudinal research in this subject may reinforce our findings. Pre- and post-response assessments can evaluate the suggested framework in future investigations while research from different countries may be applicable to more situations. Since the topic area is current, academia may find this study interesting; growing a child's sustainability and environmental consciousness is crucial. Sharing green tourism and sustainability knowledge on social media for the benefit of society is important as well. Sadly, our research outcomes were limited, new research on social media sharing and green tourism intentions is currently unknown. To accurately portray the subject, future research should focus on more complete and dynamic outcomes.

6. CONCLUSION

The study investigated the relationships between social media information sharing (SMIS), green tourism intention (GTI), electronic word-of-mouth (e-WOM) and environmental awareness (EA) while examining the mediating role of e-WOM and EA. Significant and positive relationships among all of them were confirmed thereby supporting all hypotheses. SMIS had a strong positive impact on GTI and e-WOM confirming H_1 and H_2 furthermore e-WOM positively influenced GTI, validating H_3 . It was also found to have a positive impact on EA supporting H_4 . EA also demonstrated positive influence on GTI and with regard to mediation effects, both e-WOM and EA mediated the relationship

between SMIS and GTI supporting H₅ and H₆. Notably, e-WOM exhibited a stronger mediating effect than EA, emphasizing its critical role in influencing GTI.

This study examined green tourism statistics from social media, therefore it fills research gaps and broadens knowledge that might be utilized to investigate the efficacy of social media as a tourism data repository used to identify younger generation tourism locations. It first examined youthful social media users' green tourism objectives theoretically, which guided this empirical research, and second it incorporates SMIS, e-WOM and EA into GTI theory. The work is significant because SMIS and GTI have been barely studied. These insights will help tourist companies implement green travel and hospitality initiatives and can also encourage green travel.

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DO THEY RETURN FOR FOOD? EXPLORING THE ROLE OF MEMORABLE FOOD EXPERIENCES AND DESTINATION IMAGE

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ABSTRACT

The study investigates the intricate relationships among local food experiences, memorable tourism experience, destination image and tourists' revisit intentions. The research employed a quantitative research design. Data collection was conducted between January and March 2024 and analysed with structural equation modelling. Results indicate that while local food may not directly impact revisit intentions, it significantly shapes memorable tourism experiences and destination image. Memorable experiences, in turn, strongly predict revisit intentions. Local food serves a crucial role in enhancing destination image, contributing to overall attractiveness. However, the direct influence of destination image on revisit intentions could have been more conclusive, warranting further investigation into mediating factors and contextual influences. The study emphasizes the importance of integrating local food into destination branding and management strategies to enhance tourists' perceptions and increase revisit intentions. Future research should explore additional factors influencing revisit intentions and clarify the complex relationships between local food, memorable experiences, destination image and tourist behaviour.

KEYWORDS

local food, memorable tourism experience, destination image, revisit intention

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1. INTRODUCTION

Discussion of revisit intentions is extensively explored in diverse academic literature within the framework of tourist behaviour due to its capacity to foster favourable traveller opportunities in the future. This statement aligns with planned behaviour theory, which explains that attitudes and intentions have a significant influence on individual behaviour. Within the tourism context,

the revisit intention signifies tourists' positive future engagement by returning to the same destination. Revisit intention is the most dependable predictor of revisit decisions (Fatmawati & Olga, 2023) as it reflects their contentment with the preceding service (Chan, 2018; Johari & Anuar, 2020).

Revisiting can shape positive tourist behaviour, boost revenue streams, enhance profitability and sustain operational continuity within a business framework



(Fatmawati & Olga, 2023; Rusdin & Rashid, 2018). A traveller's revisit intention not only shapes return visits but also serves as a pull factor for others, thereby potentially mitigating the expenses associated with attracting new tourists, diminishing travellers' susceptibility to price fluctuations, increasing long-term customer value, and erecting entry barriers for prospective competitors (Torabi et al., 2022). Consequently, amid the progressively competitive landscape of tourist destinations and evolving patterns in tourist conduct, it becomes imperative for destination managers to identify the determinants influencing the propensity to revisit tourist destinations¹.

Consuming local food emerges as a significant undertaking among tourists during their visit to a destination. Prior studies explain that a substantial portion of the travelling budget is allocated to catering for food and beverage requirements (Achmadi et al., 2023; Birch & Memery, 2020; Pezenka & Weismayer, 2020). Indeed, expenditure on food and beverages may encompass 25% to 35% of the total outlay and demonstrates a sustained upward trend, highlighting its increasing importance (Stone et al., 2018). Local food comprises food crafted from indigenous ingredients representative of a specific locality (Sthapit, 2017) and such food tends to boast distinctive, authentic flavours specific to the region, making it unique (Crespi-Vallbona et al., 2019). Consuming local food goes beyond satisfying physical hunger; it is seen as an escape from their daily lives becoming immersed in the local culture, which leads to more practical knowledge (Suntikul et al., 2020).

Local food availability is an important determinant influencing tourists' propensity for repeat visits to a destination (Alderighi et al., 2016; Min, 2014). Furthermore, Chen and Huang (2019) explain how local food offerings can serve as a sustainable marketing instrument for a destination as its unique character has the potential to attract tourists, inspiring them to consider returning in the future. In many instances, this immersive gastronomic experience becomes the primary motivator prompting tourists to return and savour the destination's distinctive cuisine once more². Moreover, local cuisine serves as a meaningful expression of a region's culture and heritage, offering a valuable avenue for tourists to immerse themselves in the local way of life. Engaging with traditional dishes allows visitors to deepen their understanding of the historical, cultural and customary characteristics that define an indigenous community (Sengel et al., 2015). Local food consumption not only affords visitors a way to taste the rich and diverse culture of the destinations they visit (Adongo et al., 2015) but also produces a positive travel experience, fostering appreciation and forming enduring memories, thereby strengthening the likelihood of return

visits (Alderighi et al., 2016; Nguyen et al., 2019) and subsequent recommendations to others (Gupta et al., 2023). A favourable food experience significantly heightens engagement with a destination (Hsu & Scott, 2020), as mentioned by the similar research findings of Alderighi et al. (2016), emphasizing that an interesting product experience and strong appreciation can increase revisit intentions. Thus, local food serves as a potent catalyst in enhancing the attraction of a destination (Bravi & Gasca, 2014).

Local food constitutes a significant component in shaping the reputation and image of tourist destinations (Gupta et al., 2018). Its significance as a pivotal element derives from its capacity to summarize a region's identity and rich cultural heritage, thereby positioning it as an integral aspect of its culinary legacy (Timothy & Ron, 2013; Zain et al., 2018). The preservation of traditional recipes, the use of indigenous ingredients, and the application of cooking techniques transmitted across generations hold deep significance in reinforcing cultural identity. As a result, the significance of local cuisine is instrumental in shaping and enhancing a destination's overall image. This finding supports those of Lin et al. (2011), who describe that food can mirror the distinctive attributes of a destination and constitute a pivotal instrument in cultivating its image.

Destination image shapes positive tourist behaviour, enhancing revisit intentions to the destination and recommending it to others (Gupta et al., 2023). The destination's image plays a crucial role in shaping cognitive perceptions and while also stimulating revisit intentions (Ćulić et al., 2021). Personal experiences significantly contribute to forming a destination's image, thereby playing an important role too. Nam et al. (2022) further emphasize that the destination image has a substantial impact, particularly concerning its naturalness, diversity and overall attractiveness.

Creating memorable tourist experiences is essential for destination managers because it can enhance competitiveness. This statement is based on the idea that memorable travel experiences generate positive emotions and promote future favourable behaviours among tourists (Chen et al., 2020). Furthermore, memorable experiences are more likely to encourage positive behaviour than service quality or satisfaction (Adongo et al., 2015; Kim et al., 2012). This finding aligns with the study of Zhang et al. (2018), which explains the positive and consequential impact of memorable travel experiences on revisit intentions, given their status as the foremost predictive factors for future destination selection.

Prior research states that local food catalyses destination selection (Björk & Kauppinen-Räsänen, 2017), makes recommendations to others (Adongo et al., 2015) and becomes an important factor in creating

travel memories (Adongo et al., 2015; Huang et al., 2019). Local food shows the local culture and reminds people of happy and nostalgic memories (Huang et al., 2019). Tung and Ritchie (2011) explain how consuming local food enriches the tourism experience and makes it more memorable. These findings are supported by Piramanayagam et al. (2020), who highlight the positive impact of consuming local food in creating memorable tourism experiences.

Numerous studies have explored the impact of local food on revisit intentions, either directly or mediated by destination images or memorable travel experiences. However, research has yet to simultaneously examine such experiences and destination image in relation to the influence of local food on revisit intentions. Recognizing the importance of this relationship, the researchers aimed to examine how local food influences revisit intentions, with destination image and memorable tourist experiences acting as mediators.

2. RELATIONSHIPS BETWEEN VARIABLES

The experience of consuming local cuisine significantly influences tourists' intentions to revisit a destination (Alderighi et al., 2016). It was found that both the quality of the product experience and the level of appreciation it evokes are positively associated with the likelihood of returning to a destination. Likewise, DiPietro and Campbell (2014) underscore the significance of local food attributes in heightening pleasure and fostering intentions to revisit. The following hypothesis was put forward:

H₁: Local food positively influences a revisit intention.

Tourists' recollections of their trips are closely linked to the local food and culinary experiences in tourist destinations (Chandralal & Valenzuela, 2013). Numerous studies have indicated that engaging with local food can create favourable, memorable tourism experiences (Sthapit, 2018), and furthermore, food souvenirs are tangible reminders of travellers' journeys and dining experiences (Lin & Mao, 2015). Local food can enhance conventional travel experiences, particularly for individuals seeking novelty and diverse experiences (Björk & Kauppinen-Räsänen, 2016). The research of Tsai (2016) elaborates on how local food consumption contributes to creating enduring positive memories. The hypothesis put forward is:

H₂: Local food positively influences memorable travel experiences.

The outcomes of a study on domestic tourists in Malacca indicate that the tourists' experience plays a significant role as a predictor in influencing revisit intentions (Johari & Anuar, 2020). This viewpoint

is further supported by the findings of Barnes et al. (2016) from research on safari park tourists, suggesting that memorable tourist experiences can positively impact revisit intentions. The following hypothesis was put forward:

H₃: Memorable travel experiences positively affect a revisit intention.

Local food experiences significantly impact a tourist's memorable experience, satisfaction level and revisit intention (Piramanayagam et al., 2020). This influence is further shaped by social interactions and satisfaction, contributing to enduring experiences and behavioural intentions (Sthapit, 2018). Engaging and remarkable food-related experiences can foster loyalty towards local products and destinations (Hernández-Mogollón et al., 2020). However, the effect of specialized local food on revisit decisions can vary, with quality of product experiences positively affecting the likelihood of return (Alderighi et al., 2016). Tsai (2016) asserts that indulging in local food enables tourists to find positive, unforgettable memories, strengthening their connection to local attractions and influencing their future behaviour. The following hypothesis was put forward:

H₄: Local food positively influences a revisit intention and is mediated by memorable travel experiences.

Local food holds a substantial role in promoting a tourist destination (Björk & Kauppinen-Räsänen, 2016) due to its intrinsic connection to the culture and identity of a region (Rousta & Jamshidi, 2020). Local food, as part of cultural assets, can significantly impact tourists' perceptions of a destination's image (Zain et al., 2018). The hypothesis put forward is:

H₅: Local food positively influences the image of a destination.

Prior empirical research indicates that the destination image significantly influences the creation of tourist satisfaction, thereby fostering an intention to make repeat visits (Abdullah & Lui, 2018). Destinations with a robust positive image are more likely to be selected for tourist visits and to stimulate repeat visits (Junaedi & Harjanto, 2020). The following hypothesis was put forward:

H₆: The image of a destination positively affects a revisit intention.

The positive or negative perceptions of local food significantly shape an individual's overall impression of a destination. Consequently, these impressions influence the probability of revisiting the destination. For instance, favourable perceptions of local food among tourists can enhance their overall perception of a destination, thereby increasing the likelihood of their return (Alderighi et al., 2016; Rousta & Jamshidi, 2020). The hypothesis put forward is:

H₇: Local food positively influences a revisit intention mediated by the image of a destination.

Memorable travel experiences play an important role in shaping tourists' perceptions of a destination. Travellers with positive experiences will leave favourable reviews and recommend the destination to others and these positive testimonials build a favourable image and enhance the destination's attractiveness. A quantitative study conducted in Greece explains that memorable and unforgettable experiences play a pivotal role in shaping the positive image of a destination within the tourism context (Kladou et al., 2022). Similarly, Iordanova and Styliadis (2019) underscore that the greater the intensity of memorable experiences, the more favourable the cognitive and affective evaluation of a destination's image. These findings underscore the critical importance of traveller experiences in forming a destination's image. The following hypothesis was put forward:

H₈: Memorable travel experiences positively affect the image of a destination.

This study presents a conceptual framework that explores how local food influences memorable tourist experiences, destination image, and revisit intention, as shown in Figure 1.

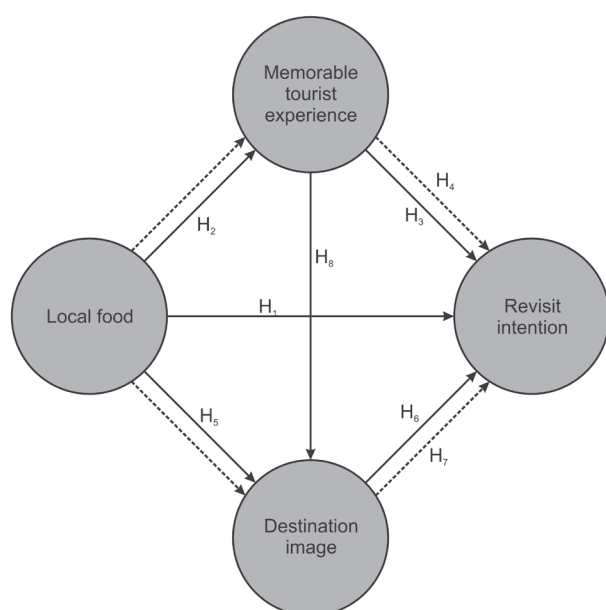


Figure 1. Research model

Source: authors

3. METHODS

The research employed a quantitative design utilizing cross-sectional surveys to collect data which aligns with the study's objective of testing hypotheses regarding variable relationships (Stockemer, 2019) and generating more objective findings (Grech, 2019; Mehrad & Zangeneh, 2019). The study was conducted from January to March 2024.

The research instrument comprises questionnaires designed to obtain tourists' perceptions of the research variables. Questionnaires are deemed the most suitable data collection tool for measuring perception due to their ability to reach a wide audience swiftly, offer flexibility in timing, and provide more objective data (Nabi, 2018). The questionnaire items were formulated based on the underlying theoretical framework and the local food variable was elaborated into five values: quality/taste, health, price, emotional and prestige (Rousta & Jamshidi, 2020). Destination image was evaluated through three indicators: natural attraction, cultural attraction and tourism facilities (Zhang et al., 2018). Memorable tourism experiences were defined using indicators such as hedonism, novelty, local culture, refreshment, meaningfulness, involvement and knowledge, drawing from the perspectives of Kim et al. (2012). The variable of revisit intentions was constructed around three indicators: the inclination to revisit, a revisit intention and the likelihood of revisiting in the near future, as outlined by Zhang et al. (2018). The measurement scale employed in the questionnaire was the Likert scale, featuring five levels of value based on items ranging from *strongly disagree* (score 1) to *strongly agree* (score 5).

A robust data collection tool is significant to ensure high-quality data acquisition. A pilot test was performed with a sample of 30 tourists to validate the questionnaire. Subsequently, validity was assessed using the Pearson product-moment formula, with an item being considered valid if the calculated value exceeds the critical value (0.361) at a significance level of 5%. The validity testing results indicated that the calculated values of all items were valid because their values exceeded 0.361. Furthermore, reliability testing was conducted using the Cronbach's alpha formula, with a critical value of 0.7 indicating acceptable reliability (Hair et al., 2017). The reliability testing revealed that the local food variable yielded the lowest α value of 0.848, which exceeded the acceptable threshold of 0.7, affirming the reliability of all variables. These validation and reliability analyses were performed using SPSS version 22 software.

The study encompassed an unspecified number of tourists within its population. A sample size of 278 respondents with a confidence level of 95% was determined as sufficient for the research sample (Adam, 2020). Data analysis was performed utilizing partial least squares structural equation modelling (PLS-SEM) with the support of SmartPLS software. The SEM-PLS method is widely favoured due to its capability to estimate intricate models comprising numerous constructs, indicators and structural paths without imposing strict assumptions regarding data normality, thus yielding robust results (Hair et al., 2017).

4. RESULTS AND DISCUSSION

Table 1 presents the demographic profile of the respondents to understand the context and generalizability of the study's findings.

Table 1. Respondents' profile

Variables		<i>n</i> (%)
Sex	Male	106 (38.13)
	Female	172 (61.87)
Age	<25	71 (25.54)
	25–45	86 (30.94)
	>45	121 (43.52)

Source: authors.

The data processing results reveal a higher number of female respondents compared to male. This finding aligns with a previous study that participants on culinary tours predominantly consist of women who are highly educated and possess an established economic status (Robinson & Getz, 2014) who seek

diverse and authentic experiences. Additionally, most respondents were over 45, noting that older adults have the time and resources to seek new experiences, including local food (Balderas-Cejudo et al., 2019).

The analysis of measurement models aims to clarify the relationships between latent constructs and their observed indicators by assessing validity and reliability which employ multi-criteria approaches to minimize measurement errors and enhance measurement outcomes. Validity testing includes convergent and discriminant validity criteria. Convergent validity analysis evaluates the factor loading, which comprises the correlation value between the construct and the indicators, and the average variance extracted (AVE). An ideal factor loading exceeds 0.7, signifying the construct's adeptness in explaining the indicator effectively (Hair et al., 2017). Nevertheless, a factor loading value exceeding 0.5 is considered acceptable in numerous empirical research findings (Chen & Tsai, 2007). An AVE value exceeding 0.5 is sufficient for validating latent variable constructs, as it elucidates over half of the indicator variance (Hair et al., 2017). The test outcomes revealed that all factor loadings exceed 0.5 (see Table 2).

Table 2. Measurement model testing

Variables			Factor loading	Cronbach's alpha	Composite reliability (CR)	Average variance extracted (AVE)
Destination image	DI1	Natural attraction	0.861	0.818	0.891	0.733
	DI2	Cultural attraction	0.837			
	DI3	Tourism facilities	0.869			
Local food	LF1	Quality/ taste value	0.675	0.815	0.871	0.575
	LF2	Health value	0.713			
	LF3	Price value	0.769			
	LF4	Emotional value	0.816			
	LF5	Prestige value	0.808			
Memorable tourism experience	MTE1	Hedonism	0.863	0.935	0.948	0.721
	MTE2	Novelty	0.847			
	MTE3	Local culture	0.862			
	MTE4	Refreshment	0.850			
	MTE5	Meaningfulness	0.849			
	MTE6	Involvement	0.841			
	MTE7	Knowledge	0.831			
Revisit intention	RI1	Inclination to revisit	0.947	0.937	0.960	0.889
	RI2	Revisit intention	0.947			
	RI3	Likelihood to revisit in the near future	0.934			

Source: authors.

On the other hand, reliability testing is conducted to ascertain the internal consistency of latent constructs using composite reliability and Cronbach's alpha. Composite reliability (CR) and Cronbach's alpha values should exceed 0.7 (Hair et al., 2017). The test results indicated that all CR and Cronbach's alpha values were above 0.7 (see Table 2).

The measurement model, which illustrates the factor loadings and the relationships among constructs and their indicators, is depicted in Figure 2.

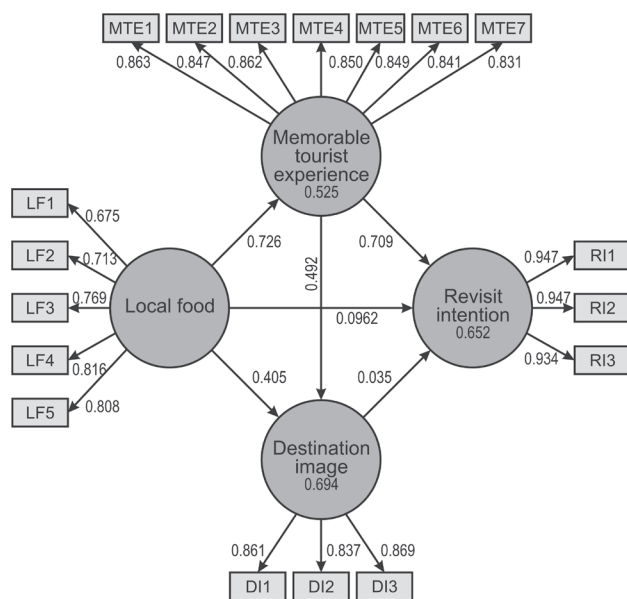


Figure 2. Measurement model

Source: authors

Discriminant validity testing is conducted to assess the correlation between indicators and constructs, employing the Fornell-Larcker criterion. According to this, discriminant validity is deemed satisfactory if the square root of a construct's AVE exceeds its correlations with other latent variables. This criterion is met when the AVE value on the diagonal line of the matrix is greater than the AVE values below it. The test outcomes indicated no issues with discriminant validity, as shown in Table 3.

Table 3. Table of discriminant validity testing with Fornell-Larcker criteria

Variables	DI	LF	MTE	RI
Destination image (DI)	0.856	–	–	–
Local food (LF)	0.762	0.758	–	–
Memorable tourism experience (MTE)	0.786	0.726	0.849	–
Revisit intention (RI)	0.666	0.637	0.806	0.943

Source: authors.

Multicollinearity testing is conducted to assess the potential for collinearity among constructs, as indicated by the variance inflation factor (VIF), which should ideally be less than 5 (Hair et al., 2017). The test outcomes revealed that all constructs exhibited VIF values below 5, concluding that multicollinearity was not a concern (see Table 4).

Table 4. Table multicollinearity testing

Variables	DI	LF	MTE	RI
Destination image (DI)	–	–	–	3.286
Local food (LF)	2.114	–	1.000	2.652
Memorable tourism experience (MTE)	2.114	–	–	2.910
Revisit intention (RI)	–	–	–	–

Source: authors.

The goodness of fit model testing using the standardized root mean square residual (SRMR) value should be less than 0.80 (Hu & Bentler, 1999). The research data yielded SRMR values of 0.060, below the critical threshold of 0.80, indicating a satisfactory model fit (see Table 5).

Table 5. Model fit

Measure	Saturated model	Estimated model
Standardized root mean square residual (SRMS)	0.060	0.060

Source: authors.

The evaluation of the model's predictive capacity demonstrated through R^2 values, verifies the exogenous constructs' efficacy in elucidating the variability of endogenous constructs. The test outcomes indicated that local food and memorable tourism experience collectively accounted for 69.4% of the variance in the destination image, categorized as a strong association. Moreover, local food capability as an antecedent variable to explicate the variability in memorable tourism experience reached 52.5%, classified as a moderate association. Overall, the collective ability of the exogenous variables to expound the diversity of revisit intentions amounted to 65.2%, denoting a strong and statistically significant relationship (see Table 6).

Table 6. Table of R^2 values

Variables	R^2 adjusted	t -statistic	p -value
Destination image (DI)	0.694	22.234	0.0000
Memorable tourism experience (MTE)	0.525	12.506	0.0000
Revisit intention (RI)	0.652	17.781	0.0000

Source: authors.

Moreover, a blindfolding analysis is conducted to ascertain the Q^2 value, which assesses the construct model's relevance in prediction accuracy. The Q^2 value assesses the predictive relevance of a construct model by measuring the accuracy of predictions made from exogenous to endogenous variables. The criteria for interpretation are delineated as 0.02 (small), 0.15 (medium), and 0.35 (large). A Q^2 value exceeding 0.5 concludes that the constructed model is relevant, indicating the appropriateness of exogenous variables to predict endogenous variables. Based on the research result, the lowest Q^2 value obtained was 0.374, signifying the suitability of exogenous variables in predicting endogenous variables (see Table 7).

Table 7. Prediction relevance testing

Variables	SSO	SSE	Q^2 (= 1-SSE/SSO)
Destination image (DI)	891.000	443.822	0.502
Local food (LF)	1485.000	1485.000	–
Memorable tourism experience (MTE)	2079.000	1301.389	0.374
Revisit intention (RI)	891.000	380.183	0.573

Note: SSO – sum of squares of observations, SSE – sum of squares of errors, Q^2 – Stone-Geisser's, Q^2 as the predictive relevance measurement.

Source: authors.

Based on Table 8, it can be explained that local food has a direct and significant influence on both memorable tourism experiences and destination image. However, it does not directly influence revisit intentions. These findings are consistent with previous research, which explains that consuming local food while in a particular destination will create positive, memorable experiences (Björk & Kauppinen-Räsänen, 2016; Sthapit, 2018; Tsai, 2016). The positive and significant influence

of local food on destination image also reinforces the opinion that the presence of local food as an identity and cultural element can affect tourists' perceptions of destination image (Rousta & Jamshidi, 2020; Zain et al., 2018). Local food only significantly influences revisit intentions when mediated by memorable tourism experiences. This finding is consistent with the opinion that experiencing local food will create unforgettable positive memories, thus enhancing positive future behaviour (Tsai, 2016). Local food also does not contribute to the revisit intentions when mediated by destination image. Memorable tourism experiences directly and significantly influence revisit intentions and destination image. This reinforces previous research findings that memorable tourism experiences can significantly influence tourists' revisit intentions (Barnes et al., 2016; Johari & Anuar, 2020). Destination image does not directly influence the decision to revisit. The table below also shows that memorable tourism experiences have the strongest influence on the revisit intentions at 70.9%.

The research findings provided insights into the relationships between factors influencing tourist behaviour, including local food, memorable tourism experiences, destination image and revisit intentions. The hypothesis suggesting that local food directly influences tourists' intentions to revisit a destination (H_1) was not supported. This finding implies that while local food may enhance overall tourist experiences, it may not be the sole factor determining whether tourists intend to revisit a destination. One possible explanation is that tourists' intentions to revisit may be influenced by factors beyond food preferences, such as social interactions or unique experiences (Sengel et al., 2015). For instance, studies have shown that tourists' satisfaction and intention to revisit can be positively influenced by their experiences with local food (Rousta & Jamshidi, 2020). Additionally, tourists' perceptions of the value of local food, including taste,

Table 8. Hypothesis testing

Relationship between constructs		Path coefficient	<i>t</i> -statistics	<i>p</i> -value	Conclusion
H_1	LF → RI	0.096	1.532	0.126	Not supported
H_2	LF → MTE	0.726	25.086	0.000	Supported
H_3	MTE → RI	0.709	11.722	0.000	Supported
H_4	LF → MTE → RI	0.515	10.692	0.000	Supported
H_5	LF → DI	0.405	7.688	0.000	Supported
H_6	DI → RI	0.035	0.481	0.631	Not supported
H_7	LF → DI → RI	0.014	0.472	0.637	Not supported
H_8	MTE → DI	0.492	9.779	0.000	Supported

Note: LF – local food, RI – revisit intention, MTE – memorable tourism experience, DI – destination image.

Source: authors.

health, price, emotions and prestige, are positively related to their attitudes toward local cuisine and their revisit intentions (Piramanayagam et al., 2020).

Conversely, hypotheses concerning the impact of local food on memorable tourism experiences (H_2) and the direct effect of memorable tourism experiences on revisit intentions (H_3) were strongly validated. Local food encounters notably shape memorable tourism experiences, satisfaction levels and subsequent behavioural intentions (Piramanayagam et al., 2020). Elements such as the services, novelty-seeking behaviour, co-creation of experiences, choice overload and intensified experiences are pivotal in crafting memorable local food encounters (Sthapit et al., 2019). A substantial body of research consistently illustrates a positive association between memorable tourism experiences and revisit intentions. This notion finds further support from Lu et al. (2022) who identified novelty, engagement, hedonistic pursuits and appreciation of local culture as key drivers of domestic tourists' revisit intentions. These findings underscore the critical role of memorable experiences in shaping tourists' revisit intentions to a destination, with local food as a central element in enriching these experiences³.

The hypothesis was confirmed by investigating the sequential connection among local food, memorable tourism experiences and revisit intention (H_4). This finding implies that local food directly affects memorable experiences and indirectly shapes revisit intentions through the mediation of memorable tourism experiences. Additionally, emotional reactions and the sense of place identity linked with theme restaurants showcasing local-specific elements can amplify the revisit intention (Rossidis et al., 2021). These findings underscore the intricate interplay between local food, memorable experiences and tourists' revisit intentions, highlighting the importance of emotional and identity-related factors in influencing revisit decisions.

The hypothesis examining the impact of local food on destination image (H_5) was strongly validated, emphasizing the significance of local culinary experiences in shaping tourists' perceptions of a destination. It underscores the importance of considering food as a pivotal dimension in destination branding strategies (Freire & Gertner, 2021). This finding suggests that promoting and enhancing local food offerings can positively influence a destination's overall image and attractiveness, thereby contributing to its branding efforts and competitive positioning in the tourism market.

However, the hypotheses regarding the direct influence of destination image on revisit intentions (H_6) and the sequential connection among local food, destination image and revisit intention (H_7) did not find support. While a destination image's impact on revisit intentions is well-established with studies

confirming its significance. Research by Junaedi and Harjanto (2020) has emphasized the direct influence of destination image on tourists' revisit intentions, with word of mouth serving as a mediating factor. Although local food can significantly shape destination image and revisit intentions, its effects may vary due to individual preferences, perceived quality, marketing strategies, cultural understanding and external influences such as economic conditions or political instability. Erkmen and Dilistan Shipman (2019) noted that discrepancies in findings might stem from the unique context and characteristics of each destination, as well as tourists' personal preferences and experiences.

Finally, the hypothesis examining the impact of memorable tourism experiences on destination image (H_8) garnered substantial support with tourists' positive perceptions contributing significantly (Tukamushaba et al., 2016). Furthermore, these experiences, directly and indirectly, shape tourists' future behavioural intentions, thus questioning the primacy of visitor satisfaction as the sole determinant of revisit intentions (Kim, 2018).

5. CONCLUSIONS

The research revealed complex relationships among local food, memorable tourism experiences, destination image and revisit intentions. While local food alone may not directly influence the revisit intention, it significantly shapes memorable experiences and destination images. However, the direct impact of destination image on revisit intentions was not confirmed. Further research is needed to explore factors influencing this relationship, such as individual preferences, marketing strategies and external influences like economic conditions or political instability. Also, investigating the role of word of mouth and other mediating factors in the relationship between destination image and revisit intentions could provide valuable insights for destination management strategies.

ENDNOTES

¹ The 3rd sentence of this paragraph was translated from Indonesian into English using ChatGPT-4o. in February 2024. The authors assured that the original meaning of the sentences was preserved after the translation, so they did not affect the result.

² The 3rd sentence of this paragraph was translated from Indonesian into English using ChatGPT-4o. in February 2024. The authors assured that the original meaning of the sentences was preserved after the translation, so they did not affect the result.

³ The 6th sentence of this paragraph was translated from Indonesian into English using ChatGPT-4o. in March 2024. The authors assured that the original meaning of the sentences was preserved after the translation, so they did not affect the result.

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TRAVEL HURDLES AND DARK TOURISM DESTINATIONS: UNRAVELING MALAYSIAN TOURISTS' VISIT INTENTIONS¹

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ABSTRACT

Dark tourism is associated with death and tragedy, and these sites attract visitors for education, leisure and historical interest with motivations including media portrayals and amusement. The research explores visitor motivations and emotional experiences in Malaysia, aiming to understand travel constraints and enhance awareness and interest, addressing gaps in local literature and practical strategies. Dark tourism in Malaysia needs more marketing and higher awareness. Despite its potential, it fails to attract tourists due to inadequate promotion and the need for more attention from authorities, industry growth is hindered. A quantitative study using a self-administered survey targeting visitors and non-visitors to dark tourism sites in Malaysia, employed non-probability and purposive sampling. One hundred and fifty data sets were collected from Google Forms distributed through WhatsApp and Twitter for one month. Though the theory of reasoned action confirmed the structural model, the results show that all three hypotheses are rejected. This indicates that the underlying reasons based on the results need further investigation.

KEYWORDS

dark tourism, leisure constraints, Malaysia, theory of reasoned action, visit intention

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1. INTRODUCTION

Dark tourism, associated with death, suffering, and tragedy, has been defined in various ways, including horror, hardship and warfare tourism (Sun & Lv, 2021).

Notable dark tourism sites include the Taj Mahal (India), the National Memorial 9/11 and Museum (Ground Zero) in New York, Kellie's Castle (Malaysia), Panmunjom's Peace Village (Korea), and the Guanajuato Mummies Museum (Mexico). In 1993, Rojek highlighted the



significance of the term “black spot”. Introduced by Foley and Lennon (1996) and further developed by Seaton (1996) and Martini and Buda (2020), dark tourism involves experiencing the pain of others, akin to post-disaster tourism. Despite their grim associations, these sites attract visitors for education, leisure and historical interest (Min et al., 2021). Some tourists are motivated by media portrayals or connections to inhuman activities, while others, mainly young tourists, visit for amusement (Kerr et al., 2021; Sarkar et al., 2022; Shekhar & Valeri, 2022).

Further, other terms used to describe dark tourism are morbid tourism (Blom, 2000) and atrocity tourism (Ashworth & Isaac, 2015). Hartmann (2014) examined how heritage sites present controversial histories related to death, disaster and unsettling or grim events. Martini and Buda (2020) studied dark tourism, which involves experiencing the pain of others, akin to post-disaster tourism. This study indicates that several new concepts and research directions have emerged in dark tourism, thanatourism and dissonance in heritage site management.

In Malaysia, Saad et al. (2024) state that dark tourism is becoming a trend among tourists as there are various destinations and sites such as museums (Penang War Museum, Melaka Prison Museum), colonial history (Kellie’s Castle, Sandakan Memorial Park), abandoned buildings (Agnes Keith House, Villa Nabila, Haunted Drive Thru Melaka), war artifacts (Kundasang War Memorial, Petagas War Memorial), prisons (Penjara Ayer Molek), sites of conflict (Bukit Tengkorak) and others. According to Mohd Zahari et al. (2016), Malaysia promotes dark tourism as a potential revenue source and a way to preserve national history and heritage. Its acceptance grows due to its historical and cultural significance, educational benefits and positive economic effects on local communities through job creation and increased tourism income. However, its influence on Malaysia’s tourism sector remains undetermined and raises ethical considerations regarding the economic exploitation of tragedy and suffering (Othman & Mohd Rosli, 2023). Nevertheless, a site’s context could provide a lesson for tourists to remember and reflect upon. In Malaysia, a descriptive analysis revealed visitors’ motivations and emotional experiences, guiding authorities and tourism operators to address shortcomings based on tourists’ experiences (Saad et al., 2024). Although various intentions might explain the inspiration for dark tourism visits, it is vital to stress that these motivations are impacted by the internal conflicts that the experience produces (Iliev, 2021). Researchers have observed that tourists vary widely in their perceptions of dark tourism sites, particularly in how they believe these places should portray historical events and personal or collective experiences. However, more needs to be understood

about tourists’ experiences when visiting local dark tourism sites (Jordan & Prayag, 2022) and how they know these are disaster sites (Prayag et al., 2021). In addition, Cai et al. (2022) suggest that only some attempts have explained tourists’ intentions in visiting dark tourism destinations.

Dark tourism has seen growth in its commercial potential and the scholarly attention it has attracted (Kiráľová & Šperková, 2024). Globally, dark tourism has shown strong trends with the increasing popularity of dark destinations, new tour launches, and heightened traveler interest in sites associated with dark histories (Buhalis et al., 2023). Malaysia is not behind this trend of rising dark tourism and Tourism Malaysia has highlighted the need to revamp the country’s tourism strategy to attract a segment of travelers seeking niche experiences such as dark tourism, a growing trend that appeals not only to more adventurous travelers but also significantly contributes to the preservation of Malaysia’s history and heritage (after Hassandarvish, 2024).

Despite the ostensibly huge potential for developing dark tourism and promoting it as part of the tourism offerings in Malaysia, Jamin et al. (2020) has alerted that dark tourism sites have yet to receive global attention and recognition and, thus, cannot attract international visitors. This shortcoming can be attributed to several factors, including the over-emphasis on the negative aspects of dark tourism rather than its potential benefits (Jamin et al., 2020), the perception of dark tourism as taboo due to conflicts with local beliefs and values (Tan & Lim, 2018), and cultural differences that create barriers between various cultures (Nik Mohd Nor et al., 2020). Furthermore, a lack of awareness and knowledge about dark tourism contributes to the reluctance of tour operators to promote and market this niche tourism segment (Mohd Zahari et al., 2016).

From a practical perspective, this study highlights that researchers often ignore the varied personal motives behind visits to dark tourism sites, leading to a skewed view that generalizes all tourists. Therefore, this study investigates the travel constraints affecting Malaysian tourists’ intentions to visit dark tourism sites and assesses their awareness and interest in such destinations. While dark tourism generates significant income globally, it still needs to be explored. In Malaysia, local literature on dark tourism has focused on the impact of the tourism experience (Tim et al., 2022) and promotional tools (Gani et al., 2021) on tourists’ intention to visit. Hence, this study aims to identify key travel constraints and develop strategies to overcome them, enhancing awareness and interest in dark tourism among Malaysian tourists. Hence, the primary purpose is to explore key travel constraints preventing visits to dark tourism sites.

2. LITERATURE REVIEW

2.1. THEORY OF REASONED ACTION

Based on the theory of reasoned action (TRA), this study explores the prediction of behavior by asking if someone will engage in an activity. Introduced by Martin Fishbein in 1967 and further developed by Fishbein and Ajzen in 1975 TRA posits that psychological processes influence behavior, with intentions arising from attitudes, normative beliefs and perceived control. Subjective norms refer to social pressures to conform, while intention is the decision to act (Fishbein, 1979; Yzer, 2022).

In dark tourism, dark experience emerged as the most influential construct affecting attitudes and subjective norms, which shaped tourists' curiosity and desire to visit (Lewis et al., 2022). The study also examines barriers to leisure activities, categorized as intra-personal, interpersonal and structural constraints which inhibit the desire to engage in these activities (Nyaupane & Andereck, 2008).

2.2. DARK TOURISM MOVEMENT

The root of dark tourism is Western culture, and Hartmann (2014) and Light (2017) have concluded that Western tourists have a strong tendency to visit dark attractions. Although some aspects of heritage tourism may overlap with dark tourism, no clear boundary separates the two. Shekhar and Valeri (2022) emphasize the need to expand the definition of heritage attractions to include intangible elements like statehood, history and struggle, often linked to dark sites. Light (2017) added that dark tourism should not be equated with dark leisure, as the former involves visiting places tied to death, disaster and human suffering, while the latter refers to liminal, transgressive activities often considered deviant or taboo (Spracklen, 2017).

Several studies, including Korstanje (2020), link sadism to dark tourism. Researchers continue to debate whether dark tourism reflects repressed sadism – a form of sadistic spectacle and morbid curiosity – or represents an empathetic engagement with the pain and suffering of others. Some scholars have turned their attention to the early stages of destination recovery following conflict, introducing the idea of phoenix tourism (Reddy et al., 2020). In their study, Reddy and colleagues developed a framework that draws on chaos theory, adaptive systems, resilience and vulnerability to explain how destinations on the brink of collapse can reorganize and recover. Separately, Seraphin and Korstanje (2021) offer a fresh interpretation of dark tourism by emphasizing its educational value, suggesting that such sites have the potential to foster empathy by exposing visitors to the suffering of

others. Recently, Rasool et al. (2025) tried to uncover the commonalities among the concepts, themes and attributes of dark tourism, thanatourism and ghost tourism and found that these three main areas are interconnected, with future research considered promising.

2.3. TRAVEL INTENTION

Travel intention results from a mental process driving a person to commit to travel (Conner & Norman, 2022; Saad et al., 2022). Psychological and functional variables, including personality traits, significantly influence tourist behavior and destination choice (Genc & Gülerterkin Genc, 2023; Rather, 2021). Past travel experiences can affect travel intentions, acting as a reference for future choices, while positive experiences enhance the likelihood of repeat visits and influence attitudes toward travel (Zainuddin et al., 2021). In China, positive experiential satisfaction has led to significant intentions towards dark tourism destinations (Ermagun et al., 2022).

A compelling destination image, formed by impressions, beliefs and feelings, positively impacts travel intentions (Huang et al., 2021; Saad et al., 2022). In Malaysia, dark tourism suffers from limited media portrayal, which is vital in promoting it and influencing behavioral intentions (Saad et al., 2024; Seccardini & Desmoulins, 2023). Studying travel intentions is crucial for understanding tourist motivations and improving marketing strategies.

2.4. INTRA-PERSONAL EMOTION

Travel constraints have significantly affected individuals' preferences and participation in tourism (Wong & Kuo, 2021). Intra-personal emotional constraints, which inhibit travel, are crucial in activating tourist motivations and influencing destination selection (Hosany et al., 2020; Jian et al., 2021; Khan et al., 2019). Emotions can vary daily during a trip, impacting post-travel evaluations like satisfaction and behavioral intentions and in dark tourism, emotional experiences blend positive and negative feelings, affecting the desire to visit (Hosseini et al., 2024). Emotional experiences at dark tourism sites are diverse and unpredictable (Wang et al., 2019). Jian et al. (2021) found that nostalgia can enhance revisiting intentions by strengthening emotional connections with a destination while most research focuses on positive emotions, negative emotions at war sites can decrease visit intentions (Hosany et al., 2020; Lacanienta et al., 2020). Wang et al. (2019) showed that positive emotions improve tourism experiences but do not increase revisit likelihood. Dancausa et al. (2023) found that intra-personal constraints significantly affect tourists' intentions.

2.5. INTRA-PERSONAL TRAUMATIC MEMORY

Traumatic memory refers to experiences that remain internally bound within a person who cannot meaningfully communicate them (Boyacıoğlu & Aktaş, 2018) which often involves difficulties in separating from the trauma, leading to avoidance of strenuous emotions (Rimé et al., 2020). Martini and Buda (2020) found that site visits can help integrate traumatic memories with current reality, aiding emotional healing, similarly Prayag et al. (2021) showed that visiting disaster sites can help residents process grief and trauma. Conversely, Qian et al. (2022) noted that fear-inducing sites negatively impact tourists' intentions to visit, and Machado Carvalho (2024) argued that negative memories deter repeat visits. Weaver et al. (2017) reported adverse solid reactions among Chinese visitors to the Lushun Prison Museum, leading to harmful intentions to visit Japan. Due to memory insecurity, Bhati et al. (2021) found that young female tourists avoided dark tourism.

2.6. STRUCTURAL CONSTRAINTS

Structural constraints can significantly demotivate dark tourism. These constraints encompass physical, organizational and systemic barriers that affect accessibility, experience and site management (Paker, 2023). Factors such as inadequate access to planning experts, weak community development, unsuitable policies, geographic location, transportation infrastructure and physical accessibility can limit visitor access and deter visits (Šerić et al., 2020). Regulatory and legal issues, limited funding, ineffective management and organizational capacity further hinder development (Nunkoo & Gursoy, 2019), while additionally, social, cultural and environmental factors like weather and natural disasters impact the sustainability and appeal of dark tourism sites (Andlib & Salcedo-Castro, 2021; Shaheen et al., 2019). These constraints must be carefully managed to ensure sustainable development and meaningful visitor experiences while respecting the sites' sensitivities and significance. Based on the review literature, this study has proposed the following hypotheses:

H₁: Intra-personal emotion significantly deters Malaysian tourists from visiting dark tourism sites.

H₂: Intra-personal traumatic memory significantly deters Malaysian tourists from visiting dark tourism sites.

H₃: Structural constraints significantly deter Malaysian tourists from visiting dark tourism sites.

Accordingly, Figure 1 illustrates the research framework based on the findings of past literature.

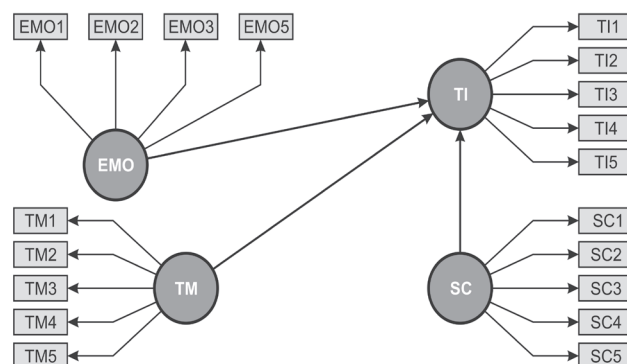


Figure 1. Research framework

Notes: EMO – intra-personal constraints (emotion), SC – structural constraints, TM – intra-personal constraints (traumatic memory), TI – travel intention

Source: authors

3. RESEARCH METHODOLOGY

The study used a quantitative approach with a self-administered survey, collecting data from 384 respondents, following Krejcie and Morgan's (1970) guidelines. The respondents included individuals who had visited dark tourism destinations, ranging from teenagers to adults, providing various perspectives. Travel barriers in dark tourism were explored among those who have visited and those who have not visited such sites in Malaysia. Non-probability and purposive sampling techniques were used, with the sample size selected to reflect the anticipated response rate. The target number of samples was 384, according to the number of populations stated by Krejcie and Morgan (1970).

3.1. RESEARCH INSTRUMENTS AND DATA COLLECTION PROCEDURES

The study used a questionnaire adapted from Allman (2017) and Zhang et al. (2016) (see Table 1), distributed via Google Forms on WhatsApp and Twitter for quick responses. Using purposive sampling, participants were selected based on their relevance to the study's aims (Etikan et al., 2016) with the survey being conducted from November 23 to December 23, 2022, with all questions in English, as English is the second language most commonly used in Malaysia. A pre-test was conducted before public distribution with target respondents including both domestic tourists who had visited and those who had not visited dark tourism destinations. The survey highlighted the need for parental or guardian consent for respondents under 18 years old to meet the ethical approval requirements for research. There

Table 1. Instruments of the questionnaire

Study variables	Code	Question items
Intra-personal constraints (emotion of fear and depression – EMO)	EMO1	I have some fears about visiting a place like this
	EMO2	I am afraid that I might encounter some horrible scenes when visiting the destination
	EMO3	I worry about the possibility of depression/psychological disturbance after a visit to a dark tourism destination
	EMO4	I heard that people feel very depressed after visiting
	EMO5	I am afraid of being uncomfortable after visiting
Intra-personal constraints (traumatic memory – TM)	TM1	Because of its history of humiliation, I do not want to visit the destination
	TM2	Having seen some relevant movies, which are quite tragic, I do not want to visit the destination
	TM3	Having seen some historical data that is quite tragic, I do not want to visit the destination
	TM4	I do not have enough courage to face the deep. The suffering of our compatriots
	TM5	The scene of the victims being killed left me in shock
Structural constraints (SC)	SC1	It wastes a lot of time to visit, and it isn't easy to find
	SC2	The destination is so far away that it is inconvenient for me to visit
	SC3	Having visited other similar places, I do not want to visit again
	SC4	There is not enough information for me to visit
	SC5	There are many better attractions in Malaysia

Source: authors.

was a focus on dark tourism destinations related to death and suffering at ten identified sites: Penang War Museum, Kellie's Castle, Abandoned Buildings, Kundasang War Memorial, Villa Nabila, Penjara Ayer Molek, Melaka Prison Museum, Bukit Tengkorak, Haunted Drive Thru Melaka and Pedu Lake Resort. Data was collected in person at locations near the researchers' base (Penjara Ayer Molek, Melaka Prison Museum, Penang War Museum and Haunted Drive Thru Melaka), with additional data gathered online for the other sites. The researchers also collected physical data to observe and experience the locations firsthand.

4. FINDINGS

4.1. DEMOGRAPHIC PROFILE

Table 2 shows the demographic profile of 150 respondents, which yielded a 39.06% response rate. Male respondents are dominant (74%), and Gen X and baby boomers took 94%.

Table 2. Demographic profile of the respondents

Demographic variable	Questions item	Frequency	Valid percentage (%)
Gender	Male	111	74.0
	Female	39	26.0
Age	Born from 1946 to 1964 (baby boomers)	116	77.3
	Born from 1965 to 1980 (Generation X)	25	16.7
	Born from 1981 to 1996 (millennials – Generation Y)	8	5.3
	Born from 1997 to 2010 (Generation Z)	1	0.7
Have you ever visited dark tourism destinations before?	Yes	94	62.7
	No	56	37.3

Table 2 (cont.)

Demographic variable	Questions item	Frequency	Valid percentage (%)
If yes, which place have you ever visited?	Penang War Museum	33	33.7
	Kellie's Castle	33	33.7
	Abandoned buildings	19	19.4
	Kundasang War Memorial	6	6.1
	Villa Nabila	1	1.0
	Penjara Ayer Molek	1	1.0
	Melaka Prison Museum	1	1.0
	Bukit Tengkorak	1	1.0
	Haunted Drive Thru Melaka	1	1.0
	Pedu Lake Resort	1	1.0
If yes, how frequently have you visited dark tourism destinations before?	Only once	55	56.7
	Twice	24	24.7
	3 to 4 times	13	13.4
	More than 5 times	5	5.0

Source: authors.

4.2. DATA ANALYSIS

This study employed partial least squares (PLS) modeling using SmartPLS 4.10.4 to examine the measurement and structural model, as it does not require a normality assumption, which is suitable for survey research (Chin et al., 2003). Full collinearity was tested following Kock and Lynn (2012) and Kock (2015) to address common method bias due to data being collected from a single source. In this method, all variables are regressed against a common variable, and if the variance inflation factor (VIF) ≤ 3.3 , there is no bias. Our analysis showed a VIF of less than 3.3, indicating no significant single-source bias (see Table 3).

Table 3. Full collinearity testing

Intra-personal constraints (emotion – EMO)	Structural constraints (SC)	Intra-personal constraints (traumatic memory – TM)
1.531	1.400	1.813

Source: authors.

4.3. MEASUREMENT MODEL

This study followed Anderson and Gerbing's (1988) two-step approach for model testing. First, we assessed the measurement model for instrument validity and reliability based on the guidelines of Hair et al. (2019). Next, this study evaluated the structural model to test the developed hypotheses. This study examined loadings, average variance extracted (AVE), and composite reliability (CR) for the measurement model. The criteria were loadings ≥ 0.5 , AVE ≥ 0.5 , and CR ≥ 0.7 . As shown in Table 2, all AVEs exceeded 0.5, and all CRs were above 0.7. The loadings were also acceptable, with only some loadings less than 0.708 (Hair et al., 2019). The four constructs, namely, intra-personal constraints (emotion), intra-personal constraints (traumatic memory), structural constraints and travel intention were assessed for validity and reliability, as shown in Table 4. The measurement was also valid and reliable. In step 2, the study evaluated discriminant validity using the heterotrait-monotrait ratio (HTMT) of correlations criterion, following thresholds of ≤ 0.85 for a stricter standard and ≤ 0.90 for a more lenient one, as proposed by Henseler et al. (2015) and updated by Franke and Sarstedt (2019). As shown in Table 5, all HTMT values were below the stricter criterion of ≤ 0.85 , indicating that respondents recognized the constructs as distinct. These tests confirm that the measurement items are valid and reliable.

Table 4. Assessment of measurement model

Constructs	Items	Loadings	Average variance extracted (AVE)	Composite reliability (CR)
Intra-personal constraints (emotion – EMO)	EMO1	0.905	0.753	0.933
	EMO2	0.887		
	EMO3	0.784		
	EMO5	0.889		
Intra-personal constraints (traumatic memory – TM)	TM1	0.848	0.680	0.915
	TM2	0.904		
	TM3	0.894		
	TM4	0.771		
	TM5	0.685		
Structural constraints (SC)	SC1	0.742	0.513	0.778
	SC2	0.775		
	SC3	0.760		
	SC4	0.606		
	SC5	0.685		

Travel intention (TI)	TI1	0.729	0.696	0.914
	TI2	0.856		
	TI3	0.900		
	TI4	0.863		
	TI5	0.813		

Note: EMO4 was deleted due to low loadings; AVE – average variance extracted, CR – composite reliability.

Source: authors.

Table 5. Discriminant validity (heterotrait-monotrait ratio – HTMT)

Constructs	1	2	3	4
1. Intra-personal constraints (emotion – EMO)	–	–	–	–
2. Structural constraints (SC)	0.456	–	–	–
3. Travel intention (TI)	0.296	0.281	–	–
4. Intra-personal constraints (traumatic memory – TM)	0.690	0.608	0.387	–

Source: authors.

4.4. STRUCTURAL MODEL

A re-sample of 10,000 was conducted to report the percentile bootstrap for testing the hypotheses of the structural model, as the data were not multivariate normally distributed (Becker et al., 2023). As shown in Table 6, the R^2 value of the travel intention was 0.148, indicating that the modeled variables can explain 14.8% of the variance in travel intentions. Intra-personal constraints (traumatic memory) ($\beta = -0.278$; $p < 0.01$) were negatively related to travel intentions, even though the t -value was significant. Therefore, H_2 needs to be rejected. At the same time, intra-personal constraints (emotion) (EMO) and structural constraints (SC) were insignificant. These findings do not support H_1 , H_2 or H_3 .

A holdout sample method was applied using PLS-predict with a 10-fold procedure to evaluate predictive relevance. Shmueli et al. (2019) stated that if all item-level prediction errors from the PLS model are lower than those from the linear model (LM), the model demonstrates strong predictive power. If all errors are higher, there is no predictive relevance; if most are lower, the model shows moderate power; and if only a few are lower, the power is low. As shown in Table 7, all errors from the PLS model were lower than those from the LM, confirming strong predictive power.

Table 7. Partial least square (PLS) – predict

Manifest variable	Predictive relevance (Q^2)	Root mean square error (RMSE)		
		PLS	LM	PLS-LM
TI1	–0.008	0.544	0.563	–0.019
TI2	0.088	0.533	0.559	–0.026
TI3	0.089	0.609	0.628	–0.019
TI4	0.066	0.597	0.625	–0.028
TI5	0.045	0.602	0.638	–0.036

Note: TI – travel intention, PLS – partial least square, LM – linear model.

Source: authors.

5. DISCUSSION

This study explores and connects TRA towards leisure constraints' (Jackson, 2000) that affect tourist visit intentions, revealing that emotional constraints, traumatic memories and structural barriers predict nearly 15% of Malaysians' intentions to visit dark tourism sites. Notably, traumatic memories negatively impact Malaysians' willingness to visit these sites, contradicting findings by Weaver et al. (2017) and Bhati et al. (2021) regarding other populations in their countries. Despite traumatic memories, Malaysian tourists are curious and want to learn from dark tourism experiences. The results are supported by

Table 6. Hypothesis testing

Hypotheses	Relationship	Standardized beta (β)	Standard deviation	t -value	p -value	BCI LL	BCI UL	f^2	Decision
H_1	EMO $\rightarrow$ TI	–0.103	0.099	1.035	0.150	–0.268	0.054	0.008	Not supported
H_2	TM $\rightarrow$ TI	–0.278	0.114	2.434	0.007	–0.469	–0.095	0.050	Not supported
H_3	SC $\rightarrow$ TI	–0.061	0.101	0.606	0.272	–0.180	0.218	0.003	Not supported

Note: EMO – intra-personal constraints (emotion), TM – intra-personal constraints (traumatic memory), SC – structural constraints, TI – travel intention, BCI LL – biased corrected interval upper limit, BCI UL – biased corrected interval lower limit, t -value – statistic value, p -value – statistically significant, f^2 – Cohen's f -squared effect size.

Source: authors.

data indicating that 63% of respondents have visited such sites, with 43% being regular visitors.

The study suggests that the demand for dark tourism in Malaysia is strong, with emotional and structural constraints having no impact. Contrary to Karl et al. (2020), extended trip frequencies do not deter Malaysians from dark tourism. The findings propose their willingness to revisit reflects acceptance of the past and psychological resilience, however the lack of impactful storytelling or guides at these sites might diminish the emotional impact of visits. The case of the Prisoner Museum in Melaka, a former prison-turned-museum, highlights a genuine interest in dark tourism driven by user-generated content rather than formal marketing efforts. Despite offering enjoyable and educational activities, the museum lacks exposure and promotion from tour operators and the government. Recognizing these activities, listing them on official tourism websites, including them in national heritage programs, and funding promotional activities could significantly enhance the museum's visibility and visitor engagement.

6. CONCLUSION

In summary, the lack of support for the hypotheses may stem from the unique cultural, educational and emotional engagement that dark tourism in Malaysia offers. Compared to other countries, Malaysians may perceive these destinations as opportunities for historical reflection rather than traumatic or discomfiting experiences, and logistical concerns may not be as significant as initially anticipated. Nevertheless, this study contributes to both theory and practice by highlighting that responses from Generation X and males were not significantly impacted by constraints in their intention to visit dark tourism sites. It suggests that tourism operators should improve promotional strategies, create educational programs and implement support systems, with a focus on perceived quality (Zainuddin et al., 2021). Furthermore, partnerships between tourism authorities and dark tourism sites could help develop attractive travel packages, supporting Tourism Malaysia in promoting these locations internationally.

The study encourages tourism authorities to endorse dark tourism in Malaysia, as many sites currently operate independently. While accessibility remains an issue, government intervention is needed to internationalize these destinations by improving infrastructure, such as transportation links, guided tours, signage and safety measures. Viewing dark tourism as an educational opportunity rather than a controversial niche can help gain broader public acceptance while

promoting these sites as spaces for historical exploration could attract diverse audiences, including history enthusiasts, educators and students.

This study, however, has only a small sample size focusing on domestic tourists in Malaysia and suggests that future research could provide deeper insights by expanding the survey and incorporating international traveler opinions. The findings are valuable for tour operators, local leaders, planners and site managers, offering insights to target the most interested demographics and cater to their specific needs.

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ENDNOTES

¹ The authors used Grammarly.com and Turnitin for the following purposes: to check grammar, eliminate plagiarism, and ensure grammatical accuracy and proper citation. Subsequently, they conducted a thorough and critical analysis of the text, paying particular attention to potentially false, incomplete, or biased information, possible plagiarism, and the lack of proper and accurate attribution of authorship, and revised the article accordingly.

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FACTORS INFLUENCING VISITOR SATISFACTION AT SELECTED CAVES IN SLOVAKIA

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ABSTRACT

This study aims to identify and evaluate the factors influencing visitor satisfaction in selected caves in Slovakia, with a particular focus on their relative importance and impact on overall satisfaction. A survey was conducted with 400 respondents – visitors to six caves managed by the Slovak Caves Administration. The analysis employed the importance-performance analysis (IPA) method alongside importance and satisfaction indices to assess objective satisfaction factors. These factors were ranked using the Friedman and Wilcoxon test, while relationships between subjective factors and satisfaction were examined through non-parametric methods, including Spearman's correlation coefficient, the Mann-Whitney U test and the Kruskal-Wallis test. Ordinal logistic regression was used to determine the combined influence of objective and subjective factors on overall visitor satisfaction. The results indicate that several objective factors significantly affect satisfaction: group size during a tour, the tour route itself, cleanliness of exterior and entrance areas, cave location and accessibility, souvenir shop services, quality of the guide's commentary and parking facilities. Among subjective factors, only the organization of the visit showed a statistically significant effect on overall satisfaction. These findings offer valuable insights for the strategic management and development of speleological tourism in Slovakia and may support efforts to enhance the competitiveness of Slovak caves on both domestic and international tourism markets.

KEYWORDS

visitor satisfaction, cave product, services, speleological tourism, importance-performance analysis

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1. INTRODUCTION

Motives such as learning and education, exercise, health and adventure encourage active tourists to visit caves. They are places of multidisciplinary education, interpretation of human history and environmental dynamics (Bajić et al., 2024). Caves, which appear on the tourism market as natural attractions, are specific spaces that integrate diverse natural and anthropogenic elements. Although these phenomena are the essence of their product on the tourism market, the multi-optional structure of visitors' needs, and growing competition among attractions on the market, currently place an emphasis on the continuous expansion and improvement of the product in the context of applying sustainable principles. The aim is not only to provide services to visitors, but also to protect and improve the environment around the attraction, ensuring that visitors feel at ease during their stay (Ramadhan et al., 2024). In addition, it is the task of management to monitor and perform comparative analyses of the speleological tourism market and improve the content and marketing strategies of caves by promoting creativity and information technology (Antić, Tomić & Marković, 2022).

In order to better adapt the product to the current requirements of visitors, it is therefore necessary to continuously monitor their satisfaction and subsequently to plan and manage cave tourism activities in such a way that will be the basis for successful innovations and an incentive for repeat visits.

2. THEORETICAL FRAMEWORK

Speleological tourism (speleotourism, cave tourism) is frequently associated with a karst area, a specific type of relief characterised by unique morphological and hydrological phenomenon. It is a landscape formed by the dissolution of highly soluble rocks such as limestones, dolomites, gypsum, anhydrite, halite and their conglomerates, and is characterised by the presence of surface forms as well as extensive underground water systems and caves (Ezersky et al., 2023). On the surface, these processes are manifested in typical karst landforms such as karren and sinkholes, while underground forms are caves created by the action of water on soluble rocks (Jákal et al., 1982). The Act of the National Council of the Slovak Republic No. 543/2000 Coll. on the Protection of Nature and Landscape defines a cave as an accessible hollow underground space within the Earth's crust, formed by natural processes, the length or depth of which exceeds 2m and the dimensions of the surface opening are smaller than its length or depth. From

the perspective of accessibility, caves are divided into accessible and inaccessible. Among accessible caves, there are show caves, which have been adapted for tourists with walkways, lighting and other facilities, and wild caves, which are not adapted for tourism and typically require special equipment or speleological supervision. Inaccessible caves are those into which entry is impossible due to natural conditions or legal protection ("Cave tourism: Understanding responsible travel and its impact on caves", 2025; Národná rada Slovenskej republiky, 2002).

In terms of tourism, caves as natural attractions are part of the primary tourism offer (Gúčík, 2010). They are categorised as protected natural assets that are visited by groups of guided visitors who have the opportunity to learn about natural phenomena, cultural and historical values while actively relaxing (Béki et al., 2016). When used appropriately, they are essential for tourism development as they can increase economic, social and environmental benefits for the host community quite quickly (Čech et al., 2021).

Interest in caving tourism research is currently growing, confirmed by recent studies focusing on exploration in the context of sustainable management and conservation of caves (Bajić et al., 2024; Chiarini et al., 2022; de Araujo & Lobo, 2023; Piano et al., 2024), visitor motivation (Antić, Vujičić et al., 2022), visitor health effects (Lang et al., 2024) and visitor satisfaction (Gadekar, 2023; Rajagukguk et al., 2025; Ramadhan et al., 2024).

In today's increasingly competitive attractions, the priority for the long-term sustainability and success of caves in the tourism market is to focus on visitors who increasingly demand experience and authenticity. This trend is supported by empirical studies showing that such visitor satisfaction is strong as evidenced in heritage cave tourism in India and Iran (Gadekar, 2023; Gaikwad, 2020; Shavanddasht et al., 2017). From a tourism perspective, it is therefore important not only to make cave systems physically accessible, but also to implement strategies aimed at maximising such visitor satisfaction. The long-term operation of caves in the tourism market requires knowledge-based management. Given the current dynamics of the environment, it is becoming a trend to replace the complex, time-consuming analysis of the entire micro- and macro-environment of the attractions of caves in tourism by examining only the most important factors that most influence visitor satisfaction and thus also contribute to the competitiveness. This can be stimulated or hindered, and represents their strengths or weaknesses and even competitive advantages or disadvantages which, according to Slávik (2009), arise mainly within its organization, but it is not excluded that some of them are also related to its microenvironment.

ISO 10001:2018 defines satisfaction as the degree to which a visitor's requirements are met (International

Organization for Standardization, 2018). It is also a determinant of the quality of a visit as well as the quality of the attraction, i.e. the performance of attraction operators in terms of providing services to visitors. The main indicators of visitor satisfaction include experience and behavioural intentions towards attractions (Gaikwad, 2020).

Gúčík (2011) extends the overall satisfaction of visitors by sub-satisfactions, which may have differing weights in an evaluation. Also according to Huh (2002) and Gaddekar (2023), it is necessary to survey satisfaction separately through individual attraction services and products. In this regard, Dela Cruz et al. (2019) evaluated guest satisfaction based on the TOURQUAL dimensions, focusing on access, environment, human element, experience, safety and technical quality. Gaikwad (2020) measured visitor satisfaction at Ajanta Cave in India based on 29 identified factors, e.g. scenic beauty of the surrounding scenery of the cave, architectural beauty of the cave, availability of a guided tour, parking facilities, promptness of ticket sales, staff behaviour, accommodation and food options in the vicinity of the cave, and others. Similar satisfaction factors were identified and analyzed by Gaikwad et al. (2020) in a study to investigate the satisfaction and loyalty of visitors to Ellora Caves. Gaddekar (2023) considered 15 satisfaction factors namely: accommodation, transportation, food facility, cleanliness, personal safety, medical facility, parking, drinking water, guides, cafeteria, cave archaeology, shopping facilities, security, toilets and mobile networks, while calculating a satisfaction index for Ajanta cave visitors. In Slovak conditions, the issue of cave visitor satisfaction is not sufficiently elaborated. Mitriková and Baranová (2018) compared the satisfaction of domestic and foreign visitors with the services of the Belianska Cave, evaluating information, transport accessibility, guide, catering and leisure services in the vicinity of the cave.

According to Nowacki (2013), in addition to satisfaction factors that are the result of the systematic work of tourism attraction management (the so-called attraction characteristics), it is also important to pay attention to visitor characteristics that cannot be influenced by management (e.g. gender, age and social status, but also visitor motivation and attitudes). These groups of factors do not act in isolation on visitor satisfaction, but interact with each other.

Likert scales are often used in practice to measure satisfaction (e.g. Gaikwad, 2020; Gaikwad et al., 2020; Gúčík, 2011; Naidoo et al., 2011). Visitors rate the features (attributes) of different product components with weights (values), either verbally or numerically. Based on the sub-weights, Januška (1981) expresses the satisfaction of visitors by the so-called 'satisfaction coefficient', which is determined as the ratio of the sum of the values according to the observed attributes

and number of observed attributes. The values obtained range from 0 to 1, with 0 indicating *maximum dissatisfaction* and 1 indicating *maximum satisfaction*. In addition to the satisfaction rate of an individual visitor, Gúčík (2011) and Gaddekar (2023) also report the calculation for a group of visitors by the so-called average satisfaction coefficient, which is the ratio of the sum of individual satisfaction coefficients and the number of surveyed visitors.

However, in the context of satisfaction surveys, Ritchie et al. (2008) point out that not all product features are equally important to visitors of tourism attractions. Satisfaction ratings with a link to importance, which are also applied in the tourism industry by De Nisco et al. (2015), Deng and Pierskalla (2018) and Suyanto et al. (2020), create a more comprehensive picture of the factors that influence visitors. Starting from the approach of Martilla and James (1977), it is therefore appropriate to use the so-called "importance-satisfaction analysis", which allows detection through individual product features taking into account their importance for visitors. This method was also used by Jasso Barron and Xu (2024) in a study aimed at investigating the satisfaction of visitors to caves in Missouri State.

The importance-performance analysis (IPA) distinguishes between so-called experience features (e.g. uniqueness, fun, opportunity to learn something new) and features related to other services and amenities of attractions (staff friendliness, parking options, information services). The importance of each feature is rated on a five-point scale (absolutely unimportant to absolutely important). A five-point scale (1 – *very dissatisfied* to 5 – *very satisfied*) is also used to express the level of satisfaction with each feature. The result is a scheme that shows the differences between the importance of product features to visitors and satisfaction with them (Homburg & Rudolph, 1995; Martilla & James, 1977; Ritchie et al., 2008) (Figure 1).

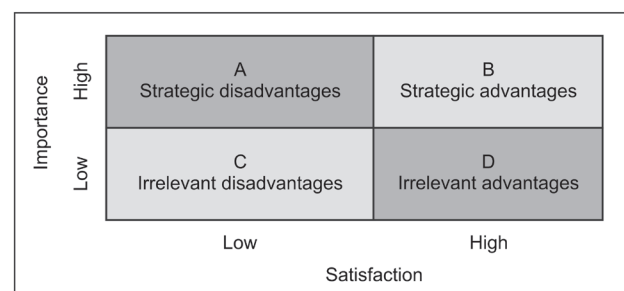


Figure 1. Importance-performance analysis (IPA) scheme of visitor satisfaction with attraction features
Source: adapted from Martilla and James (1977), Homburg and Rudolph (1995), Ritchie et al. (2008)

Quadrant A in Figure 1 represents product features that are above average in importance to visitors but

below average in satisfaction. Homburg and Rudolph (1995) refer to these as so-called strategic disadvantages. Management should strive to make them more relevant to visitor demands. Quadrant B includes the product features that are both most important to visitors and with which they are satisfied. These are strategic advantages, and management should strive to maintain their high level. In contrast in quadrant C, visitors are not sufficiently satisfied with the product attributes. As they are not even of above average importance, they represent, according to Homburg and Rudolph (1995), so-called irrelevant disadvantages. Management should carefully evaluate whether to allocate resources to improve these features, given their relatively low importance to visitors. The product features in quadrant D, although not important to visitors, are sufficiently important that they are satisfied with them. These are therefore so-called irrelevant benefits. According to Ryan and Cessford (2003), their relevance to visitors can be enhanced by management marketing activities.

The level of satisfaction achieved influences visitors' decision-making in the future. Naidoo et al. (2011) therefore recommend that in addition to partial satisfaction and overall satisfaction, visitors' propensity to revisit should also be measured. According to Jensen (2004), the motivational factors that influence visitors' decisions to undertake their first visit to a tourism attraction also have a direct impact on their intention to revisit. They are associated with the so-called core of the product, which represents the main experience or key value of the tourism attraction that visitors come to experience. In this context, cave visitor satisfaction was addressed by Ciki et al. (2025) who, using self-determination theory as a conceptual framework, examined the relationships between experiences, motivation, satisfaction and revisit intentions. The relationship between the motivation and satisfaction of cave visitors was also analyzed by Shavanddasht et al. (2017), who considered intrinsic and extrinsic motivations of visitors as effective tools for prediction. In addition to motivational factors, Jensen (2004) also identifies so-called 'hygiene' factors (e.g. hospitality services, souvenir sales) that indirectly influence revisit propensities. Visitors usually do not return because of such factors, but their quality may influence the level of satisfaction with motivational factors (Nowacki, 2013).

3. METHODOLOGY

The aim of the paper is to identify objective and subjective satisfaction factors of visitors to selected show caves in Slovakia in the context of their importance, and to investigate their influence on overall satisfaction. The analysis is based on primary data collected by

a questionnaire survey between February 2024 and May 2024. The sample of respondents consists of 400 visitors to six caves in Slovakia, namely: Važecká jaskyňa, Dobšinská Ľadová jaskyňa, Jasovská jaskyňa, Harmanecká jaskyňa, Gombasecká jaskyňa and Belianská jaskyňa.

Respondents were recruited on a voluntary basis through a convenience sampling method. It should be noted that data collection occurred outside the peak summer tourist season, therefore, satisfaction levels measured in this study may not fully represent conditions during periods of high tourist levels, when larger visitor groups and greater use of cave infrastructure could affect the visitor experience.

The distribution of respondents across caves did not strictly reflect actual visitor attendance. For example, Belianska jaskyňa, the most frequently visited cave in Slovakia, contributed the smallest share of respondents, while Važecká jaskyňa, with lower overall visitation, contributed the largest share. This uneven distribution should be considered when interpreting results, as satisfaction levels in heavily visited caves may differ from those in less frequented caves.

Based on a content-causal analysis of the reviewed literature, we examine respondents' satisfaction with cave visits in the context of objective factors (cave characteristics, influenced by management) and subjective factors (socio-demographic characteristics of visitors, not influenced by management).

The IPA method and the so-called importance-satisfaction index were applied to analyse objective factors of satisfaction. To calculate the importance-satisfaction indices for the selected factors, we used a modified formula from the case study of the American research and consulting firm, ETC Institute (2010, p. 23), which specializes in market research for local and governmental organizations and identification of the importance-satisfaction indices in the context of the public services of the city of Perryville. The higher the index value, the more attention managers should pay to the factor in management. Calculation of the importance-satisfaction index:

$$i = x(1 - y)$$

where: x – proportion of respondents for whom the factor is important (giving it a score of 1 or 2); y – proportion of respondents who are satisfied as a result of the factor (giving it a partial satisfaction score of 1 or 2).

ETC Institute (2010) interprets the index values at three intervals, and the higher the index value, the more attention managers should pay to it. If the index is in the interval from 0 up to 0.1 managers can continue to maintain the attention they have paid to the factor so far. An index in the interval from 0.1 up to 0.2 indicates the need for increased attention, and an index in the

interval from 0.2 to 1.0 warns that, given the possible negative impacts of the factor, managers should greatly increase their attention and take corrective action without delay.

We test the relationship between subjective factors and overall satisfaction using non-parametric tests. The Kruskal-Wallis test, which is used as a non-parametric analogue of simple sorting analysis of variance in cases where the distribution of samples is not normal, will be used to investigate whether there are differences in the importance ratings of selected factors influencing the use of caves in tourism in terms of the age of visitors. At the same time, we will use it to find out whether the age of the visitors has an impact on their partial satisfaction. In more detail, we interpret the effect of age on the importance of each factor according to the values of Spearman's correlation coefficient.

The ranking of the factors under study is constructed by the Friedman and Wilcoxon test. Their impact on overall satisfaction is analysed by logistic regression, which addresses the same basic question as linear regression, namely whether there is a relationship between the independent variables and the dependent variable. However, unlike linear regression, the dependent variable is categorical, i.e. binary, multi-categorical nominal or ordinal (Elliott & Woodward, 2014). Since satisfaction as a dependent variable is measurable on an ordinal scale, it is classified as an ordinal variable and the use of logistic regression is therefore justified. We verify the results at a significance level of $\alpha = 0.1$.

4. RESEARCH AREA

Currently there are more than 8,100 known caves in Slovakia, including shorter caves of an overhanging character. Most of the registered caves are in the Slovak Karst, the Low Tatras and the Spiš-Gemer Karst, Veľká Fatra, and the Western, High and Belianske Tatras. In the territory of the Slovak Republic, caves are usually formed by nature in limestones, less frequently in travertines and occasionally in other less soluble rocks (Štátna ochrana prírody Slovenskej republiky – Správa slovenských jaskýň, n.d.). Moreover, many caves also occur in non-carbonate rocks, formed through other natural processes such as gravity, erosion and weathering (Lenart & Pánek, 2013).

All the caves surveyed for visitor satisfaction are managed by the Slovak Caves Administration and are National Natural Monuments. Gombasecká and Jasovská jaskyňa are situated in the Slovak Karst and have been inscribed on the World Natural Heritage List since 1995. Dobšinská ľadová jaskyňa was included in this list in 2000 and is located in the Slovak Paradise (Figure 2).

In addition to their geographical location, the studied caves differ in their physical parameters, duration of the guided tour, average internal temperature and unique natural features. These characteristics are important for understanding both the visitor experience and the management requirements of individual caves. A detailed overview of the main characteristics of the surveyed caves is presented in Table 1.



Figure 2. Location of the caves covered
Source: Povinec et al. (2012) elaborated by the authors

Table 1. Basic characteristics of the caves surveyed

Name of the cave	Location	Length of show path (m)	Duration of tour (min)	Average temperature (°C)	Special features
Važecká jaskyňa	Low Tatras	235	25	From 6.5 to 7.1	Rich snow-white sinter decoration, small lakes and an important paleontological site of cave bear bones
Dobšinská ľadová jaskyňa	Slovak Paradise	515	30	From -3.9 to -0.2	Ice falls, ice stalagmites and columns
Jasovská jaskyňa	Slovak Karst	720	45	From 8.8 to 9.4	Rich sinter filling, pagoda-shaped stalagmites, stalagnates, "stone" waterfalls, drums, straws and other forms
Harmanecká jaskyňa	Veľká Fatra	1020	60	From 5.8 to 6.4	White soft sinter, pagoda-shaped stalagmites, wall waterfalls and curtains and sinter lakes
Gombasecká jaskyňa	Slovak Karst	530	30	From 9.0 to 9.4	Unique thin sinter straws – thin tubular stalactite formations, which reach a length of up to 3 m
Belianska jaskyňa	Belianske Tatras	1370	70	From 5.0 to 6.3	Sinter waterfalls and pagoda-shaped stalagmites

Source: processed according to Štátna ochrana prírody Slovenskej republiky – Správa slovenských jaskýň (n.d.).

Respondents were selected through a convenience sampling method, participating voluntarily based on their willingness. Most (25%) of the respondents were visitors to Važecká jaskyňa (Table 2). In 2024, 15,657 visitors visited the cave. In contrast, the smallest proportion of the sample was made up of respondents who visited Belianska jaskyňa. As of 2017, this cave is the most visited cave in Slovakia with the number of visitors in 2024 reaching almost 120,000 (Štátna ochrana prírody Slovenskej republiky – Správa slovenských jaskýň, n.d.).

Table 2. Sample of visitors to the studied caves

Name of the cave	Number of visitors	Percentage of visitors
Važecká jaskyňa	100	25.00
Dobšinská ľadová jaskyňa	81	20.25
Jasovská jaskyňa	71	17.75
Harmanecká jaskyňa	60	15.00
Gombasecká jaskyňa	49	12.25
Belianska jaskyňa	39	9.75
Total	400	100.00

Source: authors.

5. RESULTS

Almost two thirds of the sample were male. In terms of age, the largest number were younger people aged 18 to 25 years (38.50%) and 26 to 35 years (16.75%). People

with a university degree were predominant (51.25%). Most (21.5%) of the respondents were from the Košice region (Table 3).

Table 3. Socio-demographic characteristics of respondents

Socio-demographic characteristics of respondents		Absolute values	Percentage
Gender	Female	143	35.75
	Male	257	64.25
	Total	400	100.00
Age	Up to 18 years	29	7.25
	19–25 years old	154	38.50
	26–35 years old	67	16.75
	36–45 years old	40	10.00
	46–55 years old	41	10.25
	56–65 years old	33	8.25
	66–75 years old	24	6.00
	76 and over	12	3.00
	Total	400	100.00
Highest education completed	Basic	32	8.00
	Secondary	163	40.75
	Higher education	205	51.25
	Total	400	100.00
Residence	Banská Bystrica Region	43	10.75
	Bratislava Region	43	10.75

Residence (cont.)	Košice region	86	21.50
	Nitra region	68	17.00
	Trenčín Region	56	14.00
	Trnava Region	25	6.25
	Prešov Region	25	6.25
	Žilina Region	46	11.50
	Abroad	8	2.00
	Total	400	100.00
Employment	Student	154	38.50
	Employed	150	37.50
	Self-employed person	2	0.50
	Unemployed	36	9.00
	Maternity leave	20	5.00
	Retired	38	9.50
	Total	400	100.00

Source: authors.

A positive finding is that almost 45% of the respondents visited the caves repeatedly. The majority (70.75%) of the respondents organized their visit individually. Most often (26%) respondents came as families with children, but there was a fairly equal representation of visitors who came accompanied by friends or acquaintances (16.25%), spouse/partner (15.5%) and classmates (15.5%) (Table 4).

Table 4. Other identifying characteristics

Identifying characteristics of respondents		Absolute values	Percentage
Order of visit	First	223	55.75
	Second to third	109	27.25
	More than third	17	17.00
	Total	400	100.00
Method of organizing the visit	Individual	283	70.75
	Organized by a tour operator, school or the other organization	117	29.25
	Total	400	100.00
Visit with	Alone	55	13.75
	Partner	62	15.50
	Family with children	104	26.00
	Other family members	49	12.25
	Classmates	62	15.50
	Friends, acquaintances	65	16.25

Visit with (cont.)	Friends, acquaintances	65	16.25
	Other	3	0.75
	Total	400	100.00

Source: authors.

The overall level of satisfaction of visitors to the caves is high. Out of 400 respondents, 36% were very satisfied with their cave visit and more than half were satisfied. A neutral position (neither satisfied nor dissatisfied) was taken by only 5.75% of the respondents. Five percent of the respondents left the cave dissatisfied or very dissatisfied (Table 5).

Table 5. Respondents according to the level of satisfaction with the cave visit in %

Satisfaction rate	Percentage of respondents
Very satisfied	36.00
Satisfied	52.25
Neither satisfied nor dissatisfied	5.75
Dissatisfied	3.75
Very dissatisfied	1.25
I don't know	1.00
Total	100.00

Source: authors.

These results are supported by the analysis of complaints during and after the tour route in Figures 3 and 4. The data shows that during the tour route up to 85% of respondents had no reason to complain, 11% had a reason but did not express a complaint and 4% of respondents actively complained during the tour route. This suggests that the majority of visitors did not experience significant problems that affected their experience or required intervention (Figure 3).

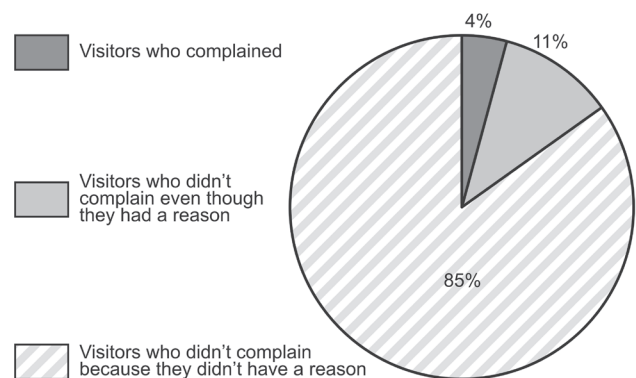


Figure 3. Complaints during a tour
Source: authors

After completing the tour route, 3% of respondents complained. Another 11% did not complain despite having a reason. It is essential to pay special attention to these visitors, as this group is at risk of spreading negative information by word of mouth or electronically and is less likely to revisit (Figure 4).

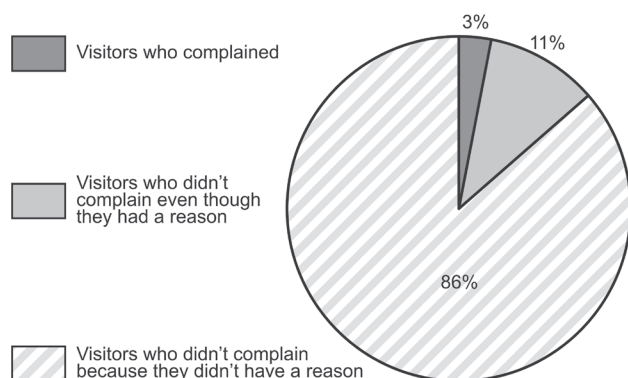


Figure 4. Complaints after the end of the tour route
Source: authors

In the analysis of the factors of satisfaction of the visitors of the selected caves, 14 objective factors and 5 subjective factors are considered separately.

5.1. OBJECTIVE FACTORS OF SATISFACTION

In relation to visiting the cave, respondents rated satisfaction with:

1. information accessibility,
2. marking at the destination,
3. location and access,
4. parking,
5. neatness of the exterior and entrance areas,
6. price adequacy of entrance fees,
7. possibility of discounts,
8. opening hours,
9. tour route,
10. staff access,
11. quality of the guide's interpretation,
12. number of people in a group during a tour,
13. souvenir shop,
14. toilets.

Respondents also rated selected factors in terms of importance.

For each factor, an average rating of importance and an average rating of sub-satisfaction, which determines overall satisfaction, is determined based on respondents' answers. Figure 5 shows that for parking, reasonableness of admission prices and sanitary facilities, the average importance exceeds the current average satisfaction level, i.e. these are factors that are key for visitors, but there is room for improvement in terms of satisfaction for these services.

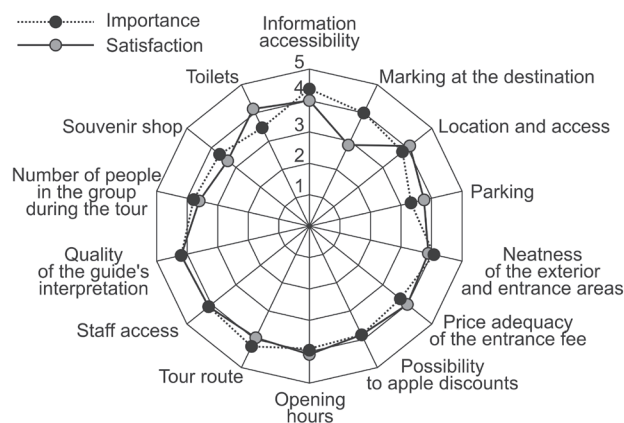


Figure 5. Satisfaction factors of visitors to the studied caves in the context of importance

Note: importance level (5 – absolutely important, 1 – absolutely unimportant); satisfaction level (5 – very satisfied, 1 – very dissatisfied)

Source: authors

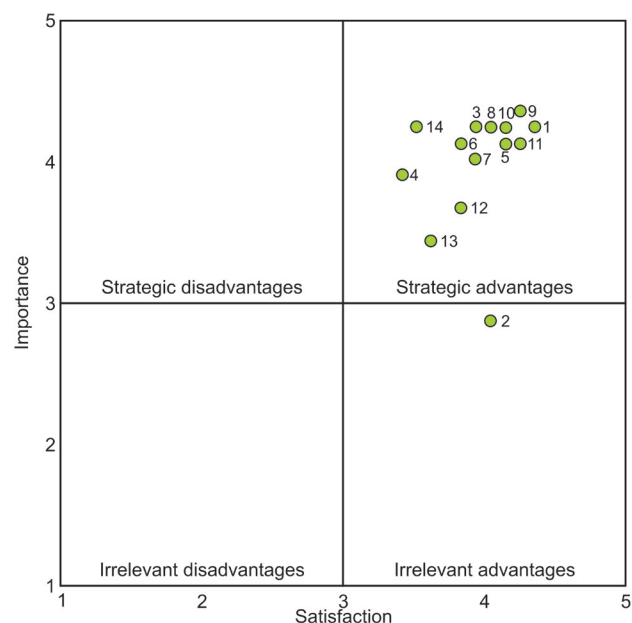


Figure 6. Importance-performance analysis (IPA) – scheme of visitor satisfaction and importance factors in the examined caves

Note: 1 – information accessibility, 2 – marking at the destination, 3 – location and access, 4 – parking, 5 – neatness of the exterior and entrance areas, 6 – price adequacy of the entrance fee, 7 – possibility of discounts (disabled, student, pensioner), 8 – opening hours, 9 – tour route, 10 – staff access, 11 – quality of the guide's interpretation, 12 – number of people in a group during a tour, 13 – souvenir shop, 14 – toilets. Importance level: 5 – absolutely important, 1 – absolutely unimportant; satisfaction level: 5 – very satisfied, 1 – very dissatisfied

Source: authors

The result of the analysis of the average importance rating and the partial satisfaction ratings is a matrix that allows the rated factors to be classified as strategic disadvantages, strategic advantages, acceptable

disadvantages or irrelevant advantages. The average rating of the factors shows that, except for signage at the destination, all factors selected based on the literature are more than moderately important to the visitors. Although most of the factors fall within the strategic advantages of the caves, it is essential to draw attention to their location in the quadrant. However, the closest to strategic disadvantages are parking and toilets (Figure 6).

Based on the methodology of the American ETC Institute (2010), importance-satisfaction indices were calculated for selected factors affecting visitor satisfaction. The results suggest that managers should monitor all objective factors, even those classified as strategic advantages in the IPA matrix. While parking emerges as the top priority and marking at the destination ranks slightly lower in the matrix, the indices show that both factors have almost identical values (0.291 and 0.290), indicating comparable significance. Additionally, the larger gap between 0.290 and 0.215 compared to 0.215 and 0.195 highlights the need to consider the precise position of each value within its interval when evaluating the urgency of management interventions (Table 6).

Table 6. Objective satisfaction factors according to the importance-satisfaction index

Factors	Index of importance-satisfaction	Recommendation
Parking	0.291	Immediate attention required
Marking at the destination	0.290	Immediate attention required
Price adequacy of entrance fees	0.215	Immediate attention required
Souvenir shop	0.195	Increase attention
Information accessibility	0.193	Increase attention
Opening hours	0.182	Increase attention
Number of people in a group during a tour	0.182	Increase attention
Possibility of discounts	0.170	Increase attention
Location and access	0.161	Increase attention
Staff access	0.154	Increase attention
Quality of the guide's interpretation	0.149	Increase attention
Toilets	0.146	Increase attention
Neatness of exterior and entrance areas	0.123	Increase attention
Tour route	0.109	Increase attention

Source: authors.

The order of importance of the factors is constructed using a Friedman and Wilcoxon test. The results of the analysis clearly identified the quality of the guide's interpretation as the most important factor from the perspective of the respondents, underlining the importance of expert and engaging information delivery when visiting tourist sites. Most (95.75%) of the respondents were guided in Slovak, 3% in English and the remaining (1.25%) in German, Polish or Hungarian.

Access to staff ranked second, reflecting the key role of interpersonal communication and the professional behaviour of staff in the tourism industry. The least important factors are the number of people in a group during a tour, the service of souvenir shops and signage at the destination. This finding is important for setting priorities in management, where increased attention should be paid especially to human capital development and the quality of content communication (Table 7).

Table 7. Ranking of objective factors in terms of importance

Factors	Friedman test (average ranking)	Wilcoxon test	
		order	p-value
Quality of the guide's interpretation	6.14	1.	–
Staff access	6.55	2.	0.008
Toilets	6.57	3.	0.876
Operating hours	6.91	3.	0.487
Information accessibility	6.93	3.	0.966
Location and access	6.96	3.	0.997
Price adequacy of entrance fees	6.99	3.	0.688
Tour route	7.04	3.	0.276
Neatness of exterior and entrance areas	7.21	3.	0.668
Possibility of discounts	7.47	4.	0.050
Parking	7.82	4.	0.514
Number of people in a group during a tour	8.70	5.	0.000
Souvenir shop	9.46	5.	0.000
Marking at the destination	10.27	5.	0.000

Source: authors.

There are less significant differences in the ranking of factors in terms of visitors' partial satisfaction than in the ranking of factors in terms of importance. Respondents expressed the highest satisfaction with information accessibility, the tour route, the quality

of interpretation, the neatness of the exterior and entrance areas, the attitude of the staff, and marking at the destination. The results also indicate a need for improvement, particularly in additional services and infrastructure, in which respondents were most satisfied (Table 8).

Table 8. Ranking of objective factors in terms of satisfaction

Factors	Friedman test (average ranking)	Wilcoxon test	
		order	<i>p</i> -value
Information accessibility	6.15	1.	–
Sightseeing route	6.38	1.	0.153
Quality of the guide's interpretation	6.38	1.	0.583
Neatness of exterior and entrance areas	6.65	1.	0.544
Staff access	6.82	1.	0.232
Marking at the destination	7.14	1.	0.479
Location and access	7.37	2.	0.012
Possibility of discounts	7.42	2.	0.876
Opening hours	7.61	2.	0.530
Number of people in a group during a tour	7.94	2.	0.127
Price adequacy of entrance fees	8.03	2.	0.454
Souvenir shop	8.79	3.	0.002
Toilets	9.08	4.	0.037
Parking	9.26	4.	0.971

Source: authors.

Ordinal logistic regression examines the impact of individual factors on overall visitor satisfaction. The obtained *p*-values, lower than the chosen significance level, confirm that the number of people in a group during a tour, the tour route, the neatness of the exterior and entrance areas, location and access, the services of the gift shops, the quality of the guide's interpretation and parking have a statistically significant effect on overall visitor satisfaction. The statistically significant influence of other factors was not confirmed by *p*-values greater than the chosen significance level. That is, visitors' partial non-satisfaction with admission price, staff access, information availability, signage to the attraction at the destination, restrooms, ability to redeem discounts, and hours of operation did not significantly affect their overall satisfaction rating for their visit to the cave (Table 9).

Table 9. Effect of objective factors on overall satisfaction of cave visitors (expressed by ordinal logistic regression)

Factors	<i>p</i> -value
Number of people in a group during a tour	0.002
Tour route	0.023
Neatness of exterior and entrance areas	0.053
Location and access	0.074
Souvenir shop	0.079
Quality of the guide's interpretation	0.092
Parking	0.096
Price adequacy of entrance fees	0.343
Staff access	0.418
Information accessibility	0.491
Marking at the destination	0.614
Toilets	0.615
Possibility of discounts	0.638
Opening hours	0.959

Source: authors.

5.2. SUBJECTIVE FACTORS OF SATISFACTION

Among the subjective factors we pay attention to the gender, age and education of visitors, the method of organization and the number of visits. The results of the Mann-Whitney test (*p*-value > α) do not indicate differences in visitor satisfaction by gender. Based on the mean scores, we conclude that men and women are approximately equally satisfied with their visit to the studied caves (Table 10).

Table 10. Relationship between satisfaction rate and gender of visitors (Mann-Whitney test)

Gender	Average score	<i>p</i> -value
Male	202.94	0.726
Female	199.14	

Source: authors.

The *p*-values found by correlation analysis confirm the dependence between satisfaction rate, age and education of visitors. Meanwhile, the negative values of Spearman's correlation coefficient indicate that the satisfaction of cave visitors increases with greater age and higher education (Table 11).

The *p*-values found by the Kruskal-Wallis test further confirm that there are age differences in the importance

ratings of information availability, the ability to redeem discounts, and hours of operation. Meanwhile, the positive value of the Spearman correlation coefficient indicates that the older the visitors are, the less important the factor is to them. This implies that younger visitors attach more importance to information availability, the possibility of discounts and operating hours than older respondents. The importance of other objective factors is not influenced by age (Table 12).

Table 11. Relationship between satisfaction rate, age and education of visitors

Socio-demographic characteristics	Spearman's correlation coefficient	<i>p</i> -value
Age	−0.102	0.041
Education	−0.091	0.068

Source: authors.

Table 12. Influence of age on the rating of importance of factors

Factors	Kruskal-Wallis test (<i>p</i> -value)	Spearman's correlation coefficient	<i>p</i> -value
Information accessibility	0.001	0.126	0.012
Possibility of discounts	0.038	0.118	0.018
Opening hours	0.039	0.100	0.046

Source: authors.

Differences in cave visitor satisfaction are also indicated by the Mann-Whitney test according to method of organising the visit. The results show that visitors coming to the caves individually are more satisfied than members of organised groups. This fact is related to the composition of organized groups, which are mainly pupils and students, often without real interest in the exhibits presented (Table 13).

Table 13. Relationship between satisfaction rate and the way visits are organised (Mann-Whitney test)

Method of organising the visit	Average score	<i>p</i> -value
Individual	190.95	0.004
Organized	223.60	

Source: authors.

The correlation analysis did not show a statistically significant relationship between the satisfaction rate and the number of visits, suggesting that the subjective satisfaction rating is not influenced by whether the visitor visited the cave for the first time

or repeatedly. This may be due to the consistency of the services provided, but also to variability in individual expectations and experiences (Table 14).

Table 14. Relationship between visitor satisfaction rate and visit ranking

Identification characteristic	Spearman's correlation coefficient	<i>p</i> -value
Number of visits	−0.029	0.557

Source: authors.

We also identify the influence of individual subjective factors by ordinal logistic regression. The observed *p*-values demonstrate that the subjective factors that have a statistically significant effect on overall visitor satisfaction include only the way in which the visit is organized. Although Spearman's correlation coefficient indicated a statistically significant relationship between age, education and overall satisfaction, the ordinal logistic regression results did not support this relationship. The difference may be attributed to methodological approaches. While correlation reveals even weak monotonic trends, regression operates with a probabilistic model and may treat a weak relationship as irrelevant when strictly testing for statistical significance. Thus, age and education can be identified as weakly related but not critical variables in predicting visitor satisfaction (Table 15).

Table 15. Effect of subjective factors on overall satisfaction of cave visitors (ordinal logistic regression)

Factors	<i>p</i> -value
Method of organising the visit	0.008
Age	0.100
Education	0.253
Gender	0.496
Number of visit	0.791

Source: authors.

High satisfaction is the main prerequisite for loyal visitor behaviour. This is confirmed by the moderately strong correlation between the level of satisfaction of respondents and their intention to visit the cave again in the future (Table 15). Fifty-three percent of respondents would return to a cave based on their previous experience of respondents would return to a cave based on their previous experience.

Visitor satisfaction is not only related to repeat visits, but also to spreading the reputation of the cave. Based on their own experience, almost 8% of respondents would not recommend a visit to the cave to friends. It can be expected that these visitors also become

spreaders of a cave's bad reputation. A correlation analysis confirmed the existence of a direct moderate correlation between the level of satisfaction of visitors and their willingness to recommend a visit to a cave to friends (Table 16).

Table 16. Relationship between satisfaction rate and loyal visitor behaviour

Variable under study	Spearman's correlation coefficient	p-value
Future cave visit	0.308	0.000
Recommending a cave to friends	0.314	0.000

Source: authors.

6. DISCUSSION

Through the demand survey, we observed some common and different characteristics of the respondents compared to the typical profile of a visitor in caving tourism or geotourism in general, as presented in international studies. In terms of age, respondents under 35 years of age were the most represented. The findings of European surveys (Antić, 2018; Marjanović et al., 2023) confirm that caves as tourism attractions are nowadays mainly visited by 16–35 year olds. According to gender, almost two-thirds of our sample were men; according to the results of other surveys (Jasso Barron, 2024; Vasiljević et al., 2018), women travel more often for geotourism attractions. In terms of educational attainment, those university educated were the most represented in the sample; as for the results of other studies (Antić, 2018; Marjanović et al., 2023), visitors with higher education visit caves more often. In line with the results of Tessema et al. (2022), geotourists travel mainly in groups of families with children or friends. The proportion of visitors who organized their visit to the cave individually (about 70%) corresponds to the results of the study by Shavanddasht et al. (2017) who analyzed the motivation and satisfaction level of visitors to Alisadr cave in Iran.

Of the total number of respondents, 5% were dissatisfied with their visit to the cave. In terms of exploring visitor satisfaction with caves, we took the same approach as Nowacki (2013), who looked at visitor satisfaction with cultural attractions, and focused specifically on objective and subjective factors. In contrast, some authors (e.g. Mitriková & Baranova, 2018) have investigated cave visitor satisfaction factors without distinguishing their nature. Moreover, following the model of De Nisco et al. (2015) and Deng and Pierskalla (2018), we also examined objective factors in the context of their importance to visitors. In doing so,

we came to the conclusion that the quality of the guide's interpretation and, consequently, the attitude of the staff, is the most important for visitors to the caves examined in Slovakia. Also in the study of Antić, Vujičić et al. (2022), the respondents from Serbia rated guide services as the most important. Within the category of least important factors, variables related to organisational and infrastructural aspects of the destination are found in both surveys. The study by Antić, Vujičić et al. (2022) identified the number of organised visits, the number of visitors and the proximity to tourist centres, as the least important factors. According to the results of our survey, the least important factors according to visitors are the size of a group during a tour, the presence of souvenir shops and the quality of signage at the destination, which shows consistency of results across different geographical contexts.

We identified the influence of objective and subjective factors on cave visitor satisfaction using ordinal logistic regression. We concluded that among the objective factors, selected on the basis of a content-causal analysis of the current literature, the number of people in a group during a tour, the tour route, the neatness of the exterior and entrance areas, location and access to the cave, services of the gift shops, the quality of the guide's interpretation and parking have a statistically significant influence on the overall satisfaction of cave visitors in Slovakia. Results from Jasso Barron and Xu's (2024) survey of visitor satisfaction at three selected caves in the state of Missouri indicated that age, motivation and sensory experience were key factors associated with overall visitor satisfaction with caving tourism. Although the findings of this research on the influence of factors on cave visitor satisfaction are interesting, multiple linear regression was used to examine the regression of categorical variables. Based on the theory that satisfaction is measurable on an ordinal scale, which classifies it as a categorical variable, the available literature (e.g. Gambarota & Altoè, 2024; Rimarčík, 2007; Winship & Mare, 1984) suggests that logistic regression is appropriate to examine regression with binary, multi-categorical nominal and ordinal variables being explained.

We first examined the relationship between subjective factors and visitor satisfaction using non-parametric tests. We concluded that, in general, older and more educated people who organise their visit individually are more satisfied with their visit to the cave. This is in line with Nowacki (2013) who argues that younger and less educated visitors are more satisfied with tourism attractions offering mainly entertainment and diversion, and conversely, older and more educated visitors are more satisfied with attractions offering mainly educational and cognitive functions.

Younger respondents attach more importance to the availability of information, the possibility of

taking advantage of discounts and opening hours than older respondents. These findings have practical implications for the segmentation and targeting of cave tourism marketing communications. Focusing on the availability of relevant information, discount programs and flexibility of operation may be more effective, particularly with the younger visitor segment, which perceives these factors as critical in planning a visit. For older visitors, it is more appropriate to emphasize other aspects of services that appeal to them, regardless of hours of operation or price advantages.

In spite of the demonstrated relationships, based on the results of ordinal logistic regression, only the method of organization of a cave visit can be considered as a significant subjective factor of satisfaction for the visitors of the studied caves in Slovakia.

Based on these findings, practical recommendations can be proposed for cave managers to improve visitor satisfaction and optimize the operation of natural tourist attractions. The quality of a guide's interpretation should be regularly monitored, and guides should participate in training focused on interactive and educational elements tailored to different visitor groups. Orientation and signage within the cave area should be clear, understandable and consistent, including safety instructions and information panels explaining geological and historical aspects. Group sizes should be limited or visits divided into time slots to prevent overcrowding and reduce negative experiences from long waits or restricted space. The tour route and duration should be adapted to the abilities and expectations of different visitor groups, including families with children or school groups to maximize enjoyment and minimize fatigue. Pricing policies and discounts can be flexible, e.g., for students, families, or repeat visitors, which increases the likelihood of revisits. This approach to visitor segmentation and service adaptation is supported by Tessema et al. (2022), who emphasize the importance of tailoring tourism products to different market segments to improve overall experience and support sustainable geotourism development.

It is also important to note several limitations of this study. First, respondents were selected using a convenience sampling method, which may not fully represent the entire population of cave visitors in Slovakia. Second, only six caves were included, limiting the generalizability of the results. In addition, the research was conducted outside the peak tourist season, and therefore the distribution of respondents does not fully reflect the actual popularity of the caves included in the study. Seasonal factors, individual cave characteristics, and variations in visitor profiles may also influence satisfaction outcomes. These limitations should be taken into account when interpreting the results and drawing conclusions.

7. CONCLUSION

A comprehensive analysis of objective and subjective factors of visitor satisfaction in selected Slovak caves has shown that although the overall level is relatively high there are several areas that require strategic attention. The findings highlight the priority role of quality guided interpretation and staff approach in shaping a positive visitor experience. At the same time, the need to improve infrastructure and ancillary services was confirmed, particularly in relation to parking and sanitation, the lack of which can negatively affect overall satisfaction.

The results of the ordinal logistic regression also highlighted the influence of the number of people in a group, the quality of the tour route, the neatness of the environment, the accessibility of the site, the offer of souvenirs and parking, on overall satisfaction. In terms of subjective factors, the way the visit was organised emerged as a significant determinant, with individual visitors showing higher levels of satisfaction compared to organised groups.

In the context of identified differences in preferences and satisfaction from various visitor segments, especially with regard to age and the way the visit is organised, it seems necessary to implement a more differentiated and targeted marketing approach. Focusing on improving key objective factors with lower satisfaction rates and high importance, together with strengthening the quality of guiding services and adapting the offer to the specific needs of different target groups, is the way to optimally exploit the potential of Slovak caves in domestic and international tourism.

Therefore, an integral part of sustainable and competitive operation of the caves in the tourism market should be continuous monitoring of satisfaction, including early capture of dissatisfied visitors by implementing various forms of support for expressing complaints, negating the most frequently identified causes of dissatisfaction and actively responding to visitors' suggestions.

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EDUCATIONAL CHALLENGES FOR TOUR LEADER CANDIDATES IN TOURISM AND RECREATION STUDIES: THE CASE OF ADAM MICKIEWICZ UNIVERSITY IN POZNAŃ

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ABSTRACT

The article examines the practical aspects and challenges in preparing students of tourism and recreation at the Adam Mickiewicz University in Poznań for the profession of tour leader. The findings are based on an analysis of the literature on the subject, documentation concerning the organisation of field exercises, experiences of the staff conducting these classes, and information from the economic environment. Additionally, spatial analysis of exercise routes from the years 2011–2024 was carried out. Key conclusions highlight the need to adapt educational programs to technological advancements, such as generative AI and modern navigation systems, while addressing associated risks. The study emphasizes the importance of developing narrative skills and adaptability to tourism industry changes, including deregulation and geopolitical shifts. The importance of a comprehensive approach was emphasized, combining theoretical knowledge with field practice while preparing students for the expectations of the tourism market. The authors recommend continuously improving training programs by integrating innovative teaching tools alongside traditional methods to enhance graduates' competitiveness.

KEYWORDS

tour leading, tour guiding, professional competence, sightseeing narrative, quality of tourism service

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1. INTRODUCTION

Until 2013, the profession of tour leader in Poland was regulated – in order to practice it, one had to complete a training course based on a program defined in a ministerial regulation and pass a state examination before a commission appointed by the regional marshal. The regulation specified both the content of the training and the number of hours, covering theoretical as well as practical classes.

In 2013, this requirement was abolished, officially to facilitate access to the profession and increase competitiveness, although it also sparked debate about the quality of services and tourist safety. In fact, the responsibility for training tour leaders and verifying their competences was (informally) transferred to the tour operators employing them. Since 2018, opportunities to obtain qualifications as a tour leader or tour guide have been provided by the Integrated Qualifications System – the Sectoral Qualifications Framework for the Tourism Sector, “Tourist event guiding” (*Obwieszczenie Ministra Sportu i Turystyki*, 2018), which facilitates the preparation of qualification descriptions in this area that meet nationwide needs and take into account international requirements. According to many authors, the Framework can be used to set out qualifications in the field of tour leading and guiding (Bukowska, 2023; Kruczek, 2018; Zawistowska, 2020). As a result, institutions that continue to provide training and assess qualifications remain on the market, including professional organizations, universities and travel agencies. An analysis of the learning outcomes included in the Tourism and Recreation program at Adam Mickiewicz University (AMU) shows that they are consistent with the learning outcomes described in the Sectoral Qualifications Framework.

Until the 1990s, training for the profession of tour leader in Poland was conducted outside of higher education institutions but with the political transformations of the early 1990s, changes were introduced to the course curricula, which continued until 2004. During this period, new entities were allowed to provide training (Stasiak & Wiluś, 2010).

At the same time, degree programs in Tourism and Recreation were launched at AMU in Poznań. From the very first academic year (2000/2001), the full ministerial training program for tour leaders was incorporated into the compulsory study curriculum, with a significantly extended number of hours (for example, practical training lasting six days instead of the standard three). The last internal exam before deregulation, which took place as part of the course in 2013, covered the tourism industry in Poland and globally, tourism management, the tourism geography of Poland and Europe, the history of culture and art, legal regulations in tourism,

tourist safety, and relations between the guide and the group. A necessary element, the condition for admission to the exam, was participation in practical exercises, i.e. the part required by the program of state training for tour leader candidates.

Interested students, after completing all the subjects included in this training and passing an internal exam, could take the tour leader exam as candidates before a commission appointed by the voivode; from 2006 by the Marshal of the Wielkopolska Region. In the years 2003–2013, 280 students passed the internal exam, and just below 25% of them took the state exam. The passing rate was 53%, compared to the average in the region of 42% (Potocka, 2016).

The practical aspect had been implemented in the form of field exercises from the beginning, i.e. since 2000. The first were exercises in leading and guiding (firstly, after the third year of master’s degree studies, and later after the second year of bachelor degree studies), described as “leading and guiding exercises for facilities, resorts and tourist routes” (in the following parts of the article, domestic exercises with cross-border elements or just in-country exercises). These were compulsory classes.

After the division into two-cycle studies in 2011, in order to transfer these skills to those who started studying tourism and recreation within the second cycle, the program also introduced exercises in leading and guiding in selected European countries, which in 2018 were replaced by field exercises in tourism management (after the first year of the second cycle). The change of name was connected with additional aspects that went beyond the scope of leader and guide training so that they would not be a repetition for students continuing their education. Generally, the exercises carried out during the second cycle are also referred to as ‘foreign’ in this article. They were optional classes.

These exercises cover not only preparation for the profession of leader as, among other things, they are related to tour guiding, but methodologically, without knowledge of the selected area. They do not directly concern mountain guiding, although they include the methodology of leading a group in the field to the extent that it is carried out by tour leaders.

The research issue concerns the key educational and organisational challenges in preparing university students of tourism and recreation for the profession of tour leader.

The aim of the article is to investigate practical aspects and challenges based on a case study of AMU in Poznań from 2000 to 2024. The article adopts temporal and spatial perspectives, offering insights that may support reflection and curriculum development at other universities and tour leader training centres.

2. REVIEW OF LITERATURE

The issue of tour leading and guiding has been analyzed in the academic literature from multiple perspectives, with particular emphasis on labour market conditions, professional competencies, training, and the role of the profession in shaping tourist experience.

The most frequently examined factors shaping the labour market for tour leaders include employment conditions, remuneration, and the strengths and weaknesses of the profession (Gryszel, 2007; Gryszel & Kruczek, 2007; Kaźmierkiewicz & Seweryn, 2024; Kruczek, 2006, 2008; Kruczek et al., 2020). Its deregulation in Poland in 2014 has been discussed by Sidor et al. (2014) and Magiera and Bakota (2022), who highlight both the positive and negative consequences of this process. Dahiya (2022), examining the analogous profession of tour guides, pointed to challenges such as lack of support from tour operators, low remuneration, poor regulation, emotional exhaustion and low social status – issues that also affect tour leaders. These findings underscore the need for structured, competency-based and nationally contextualized training programs.

A recurring theme in the literature is the importance of the competencies and qualifications of tour leaders for the quality of tourist services (Gołembski, 2009; Winiarski & Zdebski, 2008). The service quality has been linked directly to tourist satisfaction (Geva & Goldman, 1991; Gryszel, 2020; Mossberg, 1995) and to customer loyalty toward travel agencies, particularly through attributes such as ‘tangibles’, empathy, reliability, responsiveness and assurance (Cariena et al., 2015).

The scope of a tour leader’s professional responsibilities is broad. Weiler and Davis (1993), adapting Cohen’s (1985) typology, identified six core roles: organizer, entertainer, group leader, teacher, motivator and environmental interpreter. Fulfilling these roles requires not only extensive knowledge but also a diverse set of skills and attitudes. The roles of tour leaders often overlap with those of tour guides, which means that many insights about guiding are transferable to leading. Mason and Christie (2003) emphasize that a tour guide training course should lead to change not only in knowledge and skills but also in the way they think and act. They argue that if trainee guides learn to critique their own knowledge, attitudes and behaviour, they can offer clients experiences that go beyond a superficial introduction to a destination’s environment and culture.

The education and training of tour leaders has been discussed both in historical and practical contexts. Stasiak and Wiluś (2010) analyzed the evolution of tour leader training in Poland up to 2006, noting the introduction of mandatory practical training in 2004 as a major improvement. They also recommended that future programs integrate more psychological

and sociological content, training for working with tourists with special needs, more active learning methods, and the use of new technologies. Black and Ham (2005) proposed a tour guide training program leading to certification in Australia, while Corpuz et al. (2025) recommend integrating decision-making, crisis management, problem-solving and strategic planning skills into training programs while linking these directly to leadership development.

Studies focusing on the tourism and recreation program at AMU describe the training process between 2000 and 2013 (Potocka, 2016) and emphasize the importance of practical student placements (Borkowski et al., 2016). Carmody (2013) stressed the value of both pre-employment and on-the-job training, advocating high educational standards, interpretive skills and leadership development. In the same vein, Stasiak (2020) provided practical guidelines for consciously designing memorable tourist experiences, suggesting that tour leaders play a central role in ensuring a satisfying final product for participants.

Tour leaders have a direct influence on the quality of the tourist experience, which in turn affects tourist satisfaction and repeat travel intentions (Geva & Goldman, 1991; Mossberg, 1995; Rabotić, 2011). In the context of cultural tourism, Mikos von Rohrscheidt (2014) emphasized their role as intermediaries between cultures; a function particularly critical in international tourism. Stasiak (2020) expanded on this by outlining tools and principles for creating exceptional trips that meet participants’ expectations.

The profession also plays a role in promoting sustainable tourism. Carmody (2013) noted that tour leader training should incorporate the transmission of sustainable tourism concepts to participants.

The personal qualities of tour leaders can also influence their career outcomes. Gorenak et al. (2024) found that perseverance, rather than passion, has a stronger link to job satisfaction, suggesting that determined individuals benefit most from well-prepared training programs. At the same time, work-related stress is prevalent in the profession (Akkuş & Arslan, 2023), making comprehensive preparation crucial. Proper training can help tour leaders manage stress factors better and maintain service quality.

3. MATERIALS AND METHODS

In order to achieve the objective of the study, the following were analysed: (a) programs of 60 completed trips; (b) a training program for tour leading and guiding in terms of its transformations; (c) experiences accrued by those conducting these exercises; (d) information from the economic environment.

The research presented in this article is based primarily on the analysis of all field exercise programs from the years 2012–2024 for domestic exercises with cross-border elements, and 2011–2024 for foreign exercises. When analysing the trip programs, destinations were taken into account (here, a cartographic method was used), as well as the distance travelled in Poland and abroad, also the attractions included in the programs and their types.

The second source of data were training programs from the period 2000–2024 in leading and guiding obtained from internal AMU documents, such as study programs or guidelines for the implementation of field exercises. The focus was on their transformations over the years, especially in the practical dimension.

The third source was the more than twenty years of experience of the staff conducting these exercises, who are also the authors of this article. Only seven of the analysed programs had no participation from any of the co-authors, and all of these programs were implemented before 2014. It should be added that the authors also organise and conduct the process of preparing and selecting programs for implementation.

Another source of information is the analysis of selected evaluation documents, especially those from recent years, completed by students on the last day of their field exercises.

In the part concerning prospects and challenges, further sources of information were used, namely, opinions from the economic environment along with interviews with owners and employees of travel agencies where graduates of the study program work as tour leaders.

4. RESULTS

4.1. DESCRIPTION OF THE PRACTICAL ASPECTS OF THE TRAINING PROCESS

The process of training students for the professions of tour guide and tour leader involves a series of classes carried out during three, and later, two years of study.

Leading and guiding exercises are complementary to lectures and classroom exercises. As part of classroom training, students acquire the skills to prepare a program for a tourist event and learn the theoretical aspects of the work of a tour leader and a tour guide, in urban, countryside and mountain settings. Trip programs developed during the exercises provide the basis for preparing field exercise programs.

The situation was similar in the second cycle, during which students prepared programs for a tourist event

abroad as part of their classroom training. Among the developed projects, trip programs were selected for implementation during foreign field exercises. It should be noted that trip programs implemented during such exercises constitute the original works of students, prepared under supervision of the staff conducting those exercises. This solution requires students to develop a complete, detailed and feasible program for a tourist event. It also means that during each field exercise new trip programs are implemented, differing from the previous ones.

Programs that are best prepared in terms of content and most feasible in terms of organisation are selected for implementation by students through a vote which may be preceded by marketing activities related to those trips. In this way, the organisers, simulating the tourist market, encourage the selection of their products.

Then, authors of the selected programs proceed with preparation for implementation, playing the role of the tour organiser (for example, they book accommodation, meals, entries, prepare a cost estimate, organise currency exchange, financial and correspondence with the participants). The other participants of the field exercises prepare to work as a tour leader and a tour guide.

For the prepared programs to enable the achievement of the objectives of field exercises, including tour leading and tour guiding, students receive detailed guidelines for their development. For domestic exercises with cross-border elements, the main recommendations include the following elements: the exercises should last six days, they should be carried out in Poland with one day abroad, the program must include natural and cultural attractions, transport by coach over a distance of about 1500 km, and the price should include a minimum of five meals.

The guidelines for developing foreign exercise programs are similar. The key difference is its implementation abroad, with the first and last day allowed in Poland, and a larger recommended distance (about 2000 km). A distinction that has also becoming apparent over time is that these exercises cover not only leading and guiding, but also a broader spectrum related to tourism management.

Taking into account the specificity of the work of the tour leader, students who are not organisers during the field exercises receive tasks that approximate to real conditions of being a leader. To this end, as part of the preparation for participation, students develop allocated fragments of the planned route. Their task is to verify the selection of categories of roads for travelling by coach (in terms of the coach's size, including height and permissible total weight), parking lots and the compliance of the program with the regulations governing the driving and working time of the driver.

The next stage is the preparation of the tour leader's commentary on the assigned part of the route.

While leading a trip from the leader's seat in the coach, students were required to use analogue maps: tourist maps and/or road atlases, but the use of digital maps and applications was also gradually increasing (see "Challenges in training"). Using tourist maps and atlases to help the driver navigate is on the decrease, but they remain an important source of information about the region.

Comprehensive preparation to work as a tour leader is complemented by organisational activities carried out during field exercises. The tasks of students who are organisers include contacting partners, registering the group at a hotel, making sure that the trip program is implemented correctly, and solving problems. All these activities are carried out under the supervision and with the help of supervisors, the university teachers.

In addition to the aspects related to tour leading, an important part of field exercises is the practical training

of their participants in tour guiding. Depending on the scope of the prepared program for a tourist event, each student has the opportunity to prove him/ herself as an urban, countryside or mountain guide.

To do this, students develop a guide commentary on their allocated part of the tourist event. The commentary is prepared individually, however, those presenting the relevant parts must act in agreement so as not to repeat the general content. In addition to discussing the assigned parts of the leading activities, the student must assume the role of a local guide and create a narrative about the presented place, its history, specificity and tourism.

In addition, the specificity of countryside and mountain leading includes not only a sightseeing commentary, but also the safety aspects for the group participants related to the terrain, weather and necessary tourist equipment. This element is particularly important, as the guide is legally responsible for the safety of the group.

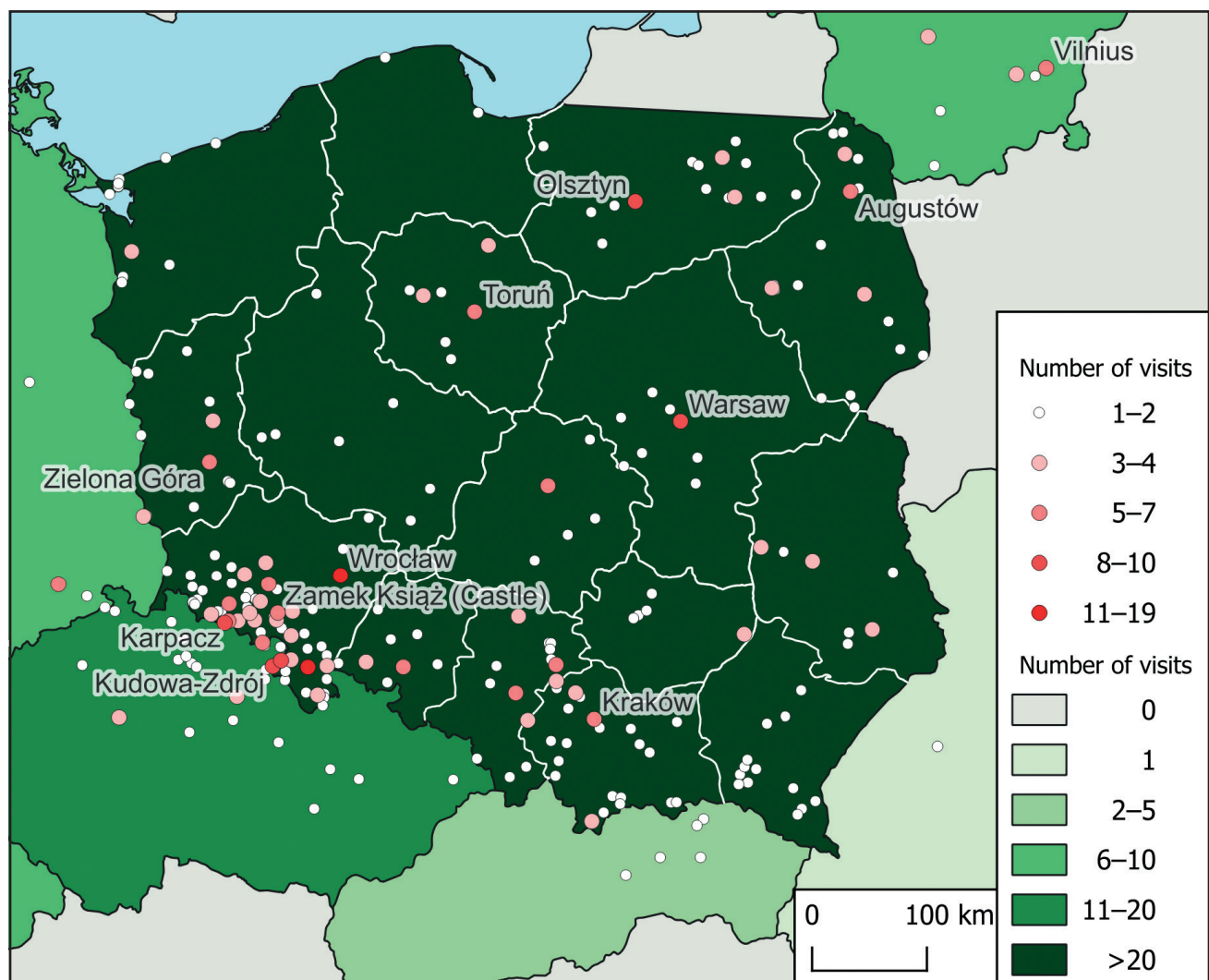


Figure 1. Domestic exercises with cross-border elements locations from 2012 through 2024
Source: based on program analysis ($n = 40$)

4.2. SPATIAL DIVERSITY OF TRAVEL ROUTES

Routes for in-country trips were analysed from 2012 through to 2024, and of foreign trips, from 2011 to 2024. The data for 2003–2011 in-country exercises is incomplete. A list of trips made from 2011 through 2016 was presented in a previous article by Borkowski et al. (2016).

4.2.1. DOMESTIC EXERCISES WITH CROSS-BORDER ELEMENTS

Of the 40 programs carried out in the period 2012–2024, the most often visited places included (see Figure 1, p. 107): Wrocław (19 times out of 40 trips), Kłodzko (13), Stołowe Mts National Park (10), Kudowa-Zdrój (9), Olsztyn, Warsaw, Karkonosze Mts National Park (8), Jelenia Góra, Kraków, Książ Castle, Karpacz and Toruń (7 each).

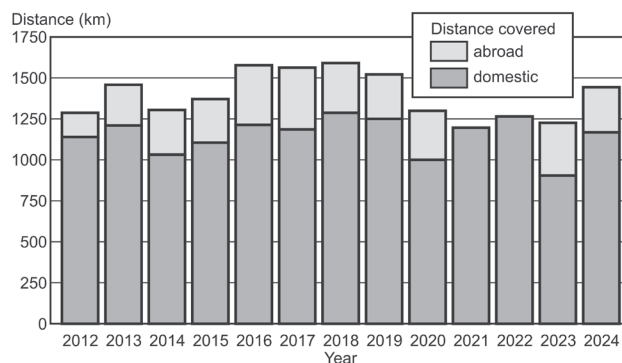


Figure 2. Average distance for domestic exercises with cross-border elements

Source: based on program analysis

In the foreign part, the most visited country was Czechia (15 times), followed by Germany and

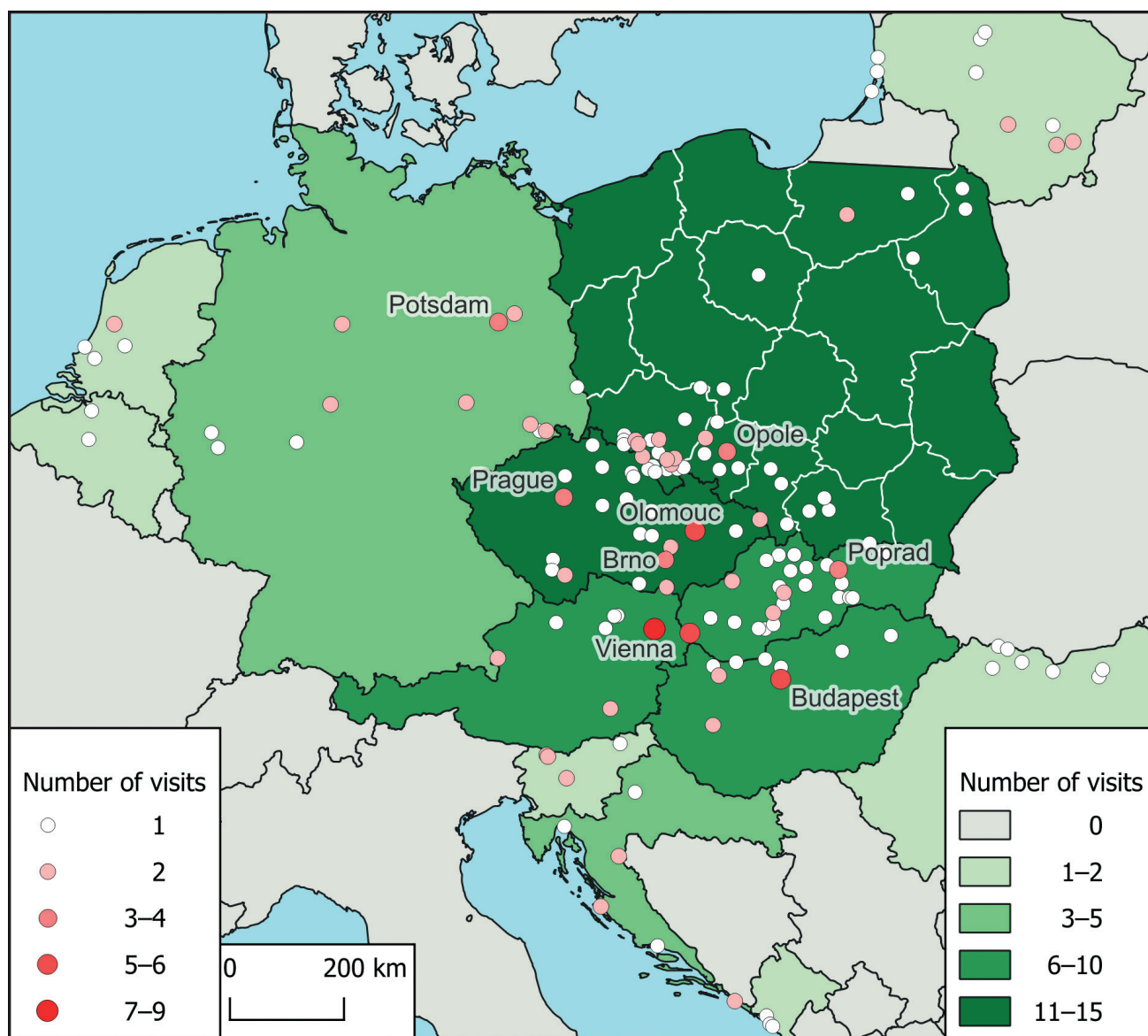


Figure 3. Foreign exercise locations from 2011 through 2024

Source: based on program analysis

Lithuania (8), and Slovakia (5). The route of one trip led through Ukraine. However, in the vast majority of countries neighbouring Poland, the trips visited attractions located close to the border. Those most often included in the exercise programs are Adršpach 'Rock City' and Vilnius (7 times), Dresden (5) and Prague (4). Travel directions were stable over time.

Each year, one of the trips had more elements of countryside and mountain leading than the others. This corresponds to the need to train leaders of active groups in protected natural areas.

Leader training takes place during the travel time, and the distances covered are between 1000 km and 1750 km (Figure 2). There is no clear trend over time but the trips that took place in 2016–2019 were slightly longer. This means that the distance for exercises per student is approximately 40 km (in a range from 25 to 60 km). The distance being reduced in recent years may have been due to the increasing use of newly constructed expressways, the gradual abandonment of more distant regions and longer travel in favour of a more detailed exploration of the qualities and specificity of regions located closer. The increase in transport costs, as an important component of the tourist event price, was also not insignificant. Apart from the limitations from the time of the COVID-19 pandemic, these trips had an element abroad, which accounted for 6% to 27% of the trip, and in extreme cases about 50%. Usually, it was 15–25%. The foreign element mostly covers one day and return to Poland for the night. In about one third of the trips, one of the nights was spent abroad while in two cases, it was two nights.

4.2.2. FOREIGN EXERCISES

For foreign exercises, namely 20 trips, there are no big differences between the four countries most often selected by students. Czechia appeared 11 times, Slovakia 10, Austria 9 and Hungary 8 (Figure 3). Germany appeared somewhat less frequently (5). The countries visited occasionally during the exercises included Croatia (3), Slovenia, Montenegro, the Netherlands and Lithuania (2), with Belgium and Romania (1 each). Six trips included no attractions in Poland. As for cities, the most common were Vienna (9 visits), Olomouc and Budapest (6 each), Bratislava (5) and Brno (4). As for the capitals of frequently visited countries, in Austria it was Vienna in each instance, and in Hungary there was usually a visit to Budapest. Bratislava was visited on half of the stays in Slovakia, while Prague was visited only three times (out of 11 trips to Czechia). This may be due to the fact that Prague is visited as part of domestic exercises with cross-border elements trips.

During foreign exercises, the distances covered decreased over time (Figure 4). In 2011 and 2012, trips reaching nearly 4,000 kilometres to Montenegro were

organised. Apart from these, the distance covered by trips ranged from 1950 km to 2550 km (until 2021). Due to the limitations related to the pandemic, the trip in 2022 was just slightly over 1000 km, however, after that time they have not exceeded 1800 km. This was due to the need to keep to financial restrictions with a decreasing number of participants. From these distances an average of 60 km per student can be derived when being trained as a leader (in a range of 40 to 100 km). This is also in line with the trend of changing the mode of transport in commercial programs over longer distances from coach to air.

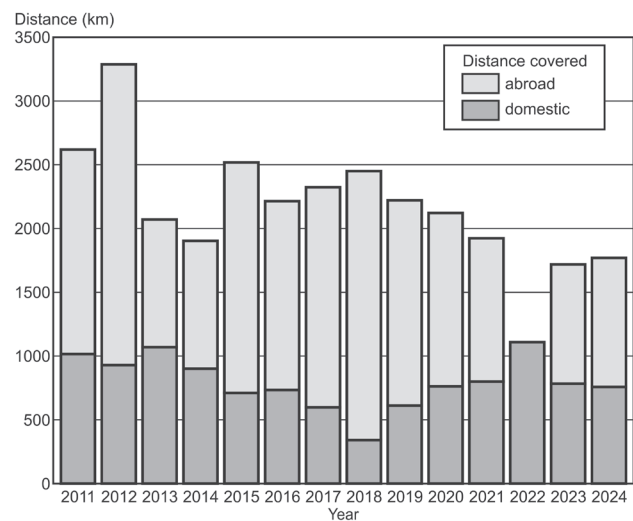


Figure 4. Average distance for foreign field exercises
Source: based on program analysis

The analysed programs can be treated as a reflection of the interests of students of tourism and recreation, as they are the authors, and they choose which ones to implement.

4.3. CHALLENGES IN TRAINING

The experience of the staff supervising the preparation of and conducting field exercises together with the analysis of the evaluations provided by students allowed challenges of an educational and organisational nature to be distinguished.

4.3.1. EDUCATIONAL CHALLENGES

The first of the educational challenges is the scope for the application of modern technologies, which on the one hand facilitate the work of the tour leader (and are used by leaders), but on the other, using them may reduce the educational value of the task.

They are significant while helping the driver navigate (here, the role of the tour leader is becoming less important with the development of navigation systems),

as well as when preparing and presenting sightseeing content, and in the assessment of the leader's actions by the trip participants.

From the point of view of the changes that have taken place in the work of a modern tour leader, an important issue is the use of cutting-edge technologies in navigation. The ability to use a map is an indispensable part of the work, however using digital maps and global satellite navigation systems is also important in this respect. These are very useful for an analysis or assessment of the route, as well as in the selection of an alternative emergency route in the event of a road accident. Satellite navigation helps to react to such events on an ongoing basis to avoid delays. In terms of educational preparation, both methods should be taught: analogue maps teach spatial orientation, the sense of scale, and build a coherent vision of the topography of a region, while digital maps usually rotate in the direction of travel, while their scale changes, even without user interaction. However, with digital technology currently prevalent in this respect, it is important to teach students how to use it effectively, including pointing out the drawbacks (e.g. the requirement to be within the range of the service, possible device failures, battery exhaustion, failure to take into account the specifications of the coach in terms of its dimensions, weight or maximum speed).

However, it has been observed that it is becoming increasingly difficult for students to use traditional analogue maps and also have less and less understanding that this technology is not useless or obsolete. This raises an educational dilemma: whether and to what extent to allow/require the use of satellite navigation or analogue maps. Using new technologies shows their strengths and weaknesses which should help to apply them better in practice. However, this is done at the cost of the ability to work with an analogue map, to orient oneself in space, and to behave in a situation where there is no service or the satellite signal is corrupted.

The second challenge is to teach how to prepare the sightseeing narrative as its preparation requires general knowledge and the ability to use existing specialist knowledge. When choosing to work as a heritage interpreter, it is necessary to continually educate oneself, often in narrow fields (e.g. cuisine), to expand one's knowledge of the destination, to self-improve one's abilities, and to be prepared for unforeseen situations. While there are many ways to use generative artificial intelligence (large language models) in preparing narrative content and finding sources that are optimally suited to the audience, this type of tool cannot be used in conducting the narrative and interpreting the observed landscape. Each guide story is special and unique, being a result of the guide's knowledge, the context of the particular situation, and the features of the group. These factors determine the

nature of the work, and future tour leaders should be prepared for such situations.

The leader's and guide's narrative should interpret the surroundings experienced in real time and not be a memorised statement. In this regard, every tour leader and guide should be aware of the strengths, capabilities and expertise that they can use in a given situation. In the context of the view outside the window, the problem often arises when travelling on highways and expressways, which usually run from towns and cities (a potential topic to be discussed), and such views are limited by noise baffles. The educational task here is to indicate to students the potential general topics that they can discuss in the coach, not directly related to what the group sees outside the window.

As regards storytelling, the use of generative artificial intelligence offers help, but is also a threat. The advantages are associated with better possibilities for searching for information, composing messages to selected groups with its help, and identifying links between threads. On the other hand, its disadvantages include 'hallucinations', namely the ability to create false information. In this case, the educational challenge seems to be to teach students to use these tools carefully. This includes an indication of how to create prompts, i.e. how to formulate precise commands to initiate the expected response, which tool to use in a given situation, and finally how to verify a text generated by artificial intelligence.

The third challenge is the growing percentage of trips using air transport compared to those using coach. The training conducted in a coach gives the opportunity to approach each student individually. The group has its own means of transport, which becomes a "classroom" where training can take place continuously and contact with students can be maintained. By incorporating air transport into the exercise program, it is possible to combine the advantages of coach training with the ability to handle groups travelling by air.

4.3.2. ORGANISATIONAL CHALLENGES

One of the most important organisational challenges is the fact that field exercises during first-cycle studies are mandatory, and not every student wants to be a leader in the future. It is not only about professional plans, but also about physical and mental capabilities. With low motivation for a student to participate in such field activities, they should be made aware that such training is a form of self-assessment, as it allows more about the area in question to be learned, and how to act in an emergency situation and cooperate with other people. It improves a number of the soft skills that are currently desirable in the labour market.

Expectations of travel agencies are also one of the organisational challenges. In order to meet these

expectations and prepare students for the challenges of the labour market, regular meetings with the industry are conducted in order to determine the optimal directions and forms of practical education, including the role of tour leader. This has become more important, in particular after the introduction of deregulation abolishing the state examinations which required mastering specific material and obtaining the appropriate level of knowledge and skills specified in the regulations.

Another organisational challenge is the need to ensure a balance between the intensity of the exercise program and time for recovery and rest. The idea behind the programs created by students is that they should be in the form of training so that each participant has a chance to practice. Sometimes, especially with larger groups, programs are very intense, causing classes to run until late hours every day.

Among the many organisational challenges, university formalities are also important and these impose restrictions to some extent and mean that, although generally students prepare the program of the training trip themselves and carry it out only under the eye of supervisors, a number of additional conditions must be taken into account, for example, the requirement to use only the coach offered by the university as part of the tender.

The world geopolitical situation is one of the challenges that are independent of university regulations, and also unpredictable and uncontrollable. Due to the migration crisis, it became necessary to plan additional time for crossing a border, including with countries in the Schengen area. Due to the political situation in Ukraine, it was necessary to eliminate this destination from the training tour programs. For example, at the beginning of February 2022, a trip covering Lviv was being planned, but the war broke out two weeks later so it was necessary to modify the trip. Moreover, foreign students, especially those from war zones, were personally affected by this (fearing for their relatives remaining in Ukraine, pressure on male students to return and fight, difficulty in obtaining a residence permit, etc.). Another challenge is the differently formulated visa and passport requirements which may limit or even prevent a foreigner from leaving the country, forcing them to miss out on the classes conducted abroad.

The situation associated with the COVID-19 pandemic brought about a number of modifications in the education of students. This started with the most drastic change with the introduction of remote learning in 2020, as well as abandoning border crossing and conducting in-country exercises only in 2021, or the introduction of a number of restrictions in hotel facilities (breakfast individually in rooms rather than together in a restaurant), or in tourist attractions, such

as the requirement to visit them in small groups and the inclusion of extra time for visiting.

Present organisational challenges also include the increasing costs of travel and there are many factors involved. On the one hand, these are internal factors related to students, i.e. their decreasing number resulting in a lower number of groups, which causes increases in the costs of trip organisation (e.g. the cost of a coach shared by fewer people), or the increasing expectations of students regarding the standard of accommodation (separate bathrooms, Wi-Fi) which translates into a higher price of accommodation. External cost-affecting factors, independent of students, include inflation and a constant increase in prices of accommodation and transport.

The final organisational challenge is students' working activity. Many work, including full-time students, and they must ask for time off for the duration of 6-day field exercises. Therefore, these are organized on different dates, including weekends, which in the case of several trips a year (for exercises in the first-cycle studies) gives the student the opportunity to choose the most preferable date.

5. DISCUSSION

The training-related challenges presented above are largely connected to professional circumstances in the subsequent work of a tour leader. The use of satellite navigation replacing analogue maps, the scope of preparation and thematic specialisation related to the requirements of specific thematic groups, or non-standard trips (e.g. cuisine-related events), require modification of the training program for a tour leader and adaptation to current market requirements. This is due to the competitive advantage of graduates from this department, which within the framework of the training creates quasi-natural and realistic leading situations, enabling them to prove themselves as a tour leader. Such factors have a significant impact on the quality and comprehensiveness of the training which must meet criteria of high quality in terms of knowledge and skills. This issue is crucial in the current situation of the deregulation of the professions of tour leader and tour guide. As Kruczek et al. (2020) point out in their research, this deregulation was negatively assessed by the industry due to a decrease in the competence of tour leaders and tour guides. Therefore, attention to the quality of these services is a key issue in terms of current training. It is important to update training programs, taking into account the quality of service, modern trends in the use of technology, and responsibility for entrusted tasks.

In the context of these challenges, it is worth considering the inclusion of elements in the educational process that would enable certification within the Integrated Qualifications System, in particular the market qualification "Tourist Event Guiding". Currently, there are no expectations from the socio-economic environment, including travel agencies, to implement such solutions, nor are there signals from students who, after graduation, take up work as tour leaders. Additionally, the university faces formal and legal obstacles in implementing this type of certification. Nevertheless, in the longer term, obtaining the status of a certifying institution could bring tangible benefits both to students and to the tourism industry, enhancing graduates' competitiveness in the labour market and raising the standard of services provided.

Describing the situation of tour operators in the market, in the light of the deregulation of the profession, Sidor et al. (2014) pointed out that the benefit is being compelled to enhance one's skills in order to remain on the market and the possibility to use one's own knowledge without having to prove this with an exam result. This shows that it is a potential tour leader that decides whether and how to develop their skills to be competitive on the market by providing high-quality services that are tailored to the type and specificity of groups. In this respect, the above-mentioned awareness of the need for self-improvement of skills and continuous further training is an essential feature of a tour leader operating in the market today.

In addition, depending on the direction or profile of the tour organiser, according to Szafranowicz-Małożęć (2014), the program, content and duration of a tour leader course can be established individually, educating those interested in improving the quality of services provided in a specific area and issue. The leader can participate in the planning and organisation of tourist events in specific destinations, using their knowledge of the area and potential partners. By contributing to the trip, participants are also more likely to assess it favourably as co-creation of a tourist event gives confidence that the tour leader concerned will implement it.

Deregulation has led to a reduction in the quality of services and economic difficulties in the profession; the number of jobs has decreased, competition has increased, and the shadow economy has expanded. As a result, many guides are forced to take up seasonal or contract work and this destabilises their professional situation and limits the possibility of a permanent income. Research also shows that deregulation has caused an increase in the employment of foreigners which affects the local market, as well as the quality of historical or cultural information transmitted (Janczak, 2015; Kruczek et al., 2020). In addition, Sidor et al. (2014) identified that deregulation offered an opportunity

for a better adapted, more varied and more effective program of tour leader training and corresponding trip quality. This allows profiling of a particular tour leader in terms of a specific topic, type of event or destination which is an opportunity to specialise in a selected area.

The quality aspect of customer service is indicated by tourists as the most important in the assessment of a tour leader's work (Gryszel, 2020). This factor also determines the overall assessment of the entire tourist event (Mossberg, 1995), as well as the further use of the services offered by a tour operator (Geva & Goldman, 1991). The crucial aspect in the assessment of a tour leader is the level of general and specialist knowledge which, as indicated by Gryszel (2020), needs to be high. However, we should note that this was the case for tour leaders who had former, state-owned licenses. In this respect, the current leader training is expected to match the previous training that has been completed by those with state qualifications. The decision to cooperate with tour leaders is significantly influenced by the quality of the services provided, the possession of a license, as well as recommendations of friends, which is confirmed by searching for potential leaders through their own contact database resources (Kruczek et al., 2020).

6. CONCLUSIONS

In the process of training for the profession of tour guide, a crucial issue is the evaluation of this process, especially by employers and training participants who have already started working. The training organiser should be willing to modify and be open to signals coming from the tourism industry. This perspective allows for the formation of competencies that are important from the point of view of the labour market, and the training should take into account the adaptation of the tour leader to modern trends. They are expected to know the specifics and uniqueness of the visited area, act as a kind ambassador for the region, and at the same time have broad horizons and interests.

Among today's challenges, the skilful use of modern technology comes to the fore, including generative artificial intelligence in guiding tours and preparing sightseeing narratives, as well as taking into account the growing role of air transport in tourism.

Paying attention to the quality level of training, the possible introduction of an internal exam and perhaps issuing a certificate, could open the way to the profession for those completing such training at university. It is worth considering the possibility of linking the study program with certification, within the Integrated Qualifications System, which could strengthen graduates' position on the labour market.

It is important to balance the use of technology and the loss of educational value. This means that it is necessary to use these technologies in the training process, as it allows advantages to be discovered, but also disadvantages.

It is important to understand that training in university settings is not a substitute for professional practice. In most cases, after completing the training, the participant is not fully ready to take up work without an internship.

Also, such training will not develop a set of soft skills useful in the work of a tour leader. However, it can emphasize their importance and indicate ways of developing them to interested students. What seems particularly important is the awareness of the need for continuous education, taking responsibility for the implemented tourist event and the role of a high standard of customer service.

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FACTORS DETERMINING THE ECONOMIC PERFORMANCE OF BUSINESSES IN THE ACCOMMODATION, CATERING AND HOSPITALITY SECTOR IN THE CZECH REPUBLIC DURING THE COVID-19 PANDEMIC

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ABSTRACT

The article is focused on the economic performance of Czech companies in the accommodation, catering and hospitality sector during the COVID-19 pandemic. The aim is to verify the influence of selected factors on their level and development using data from the Albertina database for the period 2018–2021 was used for the analysis. Return on assets (ROA) was selected as the main performance indicator and the indicators monitored included indebtedness, liquidity, size, age of enterprise and the sub-sector to which the enterprise belonged. The results showed that larger businesses and those operating in the hospitality and catering sub-sector managed the difficult situation caused by the pandemic better than those operating in the accommodation sub-sector. The factors of company size and sector therefore had the greatest influence on the value of the ROA economic performance indicator.

KEYWORDS

accommodation, catering and hospitality, performance, return on assets, ROA, COVID-19

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1. INTRODUCTION

In the Czech Republic, the hospitality and tourism sector was significantly affected by a series of public health measures including nationwide lockdowns,

closures of restaurants and hotels, border restrictions, bans on mass gatherings, and requirements for testing or vaccination. The government declared several states of emergency, which led to major limitations on mobility and business operations. These measures



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deeply influenced the demand for tourism services and the operational capacities of firms in the sector.

In previous publications, the authors have examined indicators of enterprise performance from an extensive accounting database of almost 103,000 enterprises from various branches of the national economy of the Czech Republic, in a time series from 2010 to 2021. The authors were interested in the exceptionally unfavourable position of the accommodation, catering and hospitality industry. After the onset of the COVID-19 pandemic, which negatively affected several industries, they decided to investigate how the pandemic affected this performance-challenged sector. In general, it can be stated that the pandemic had a cardinal impact on the entire sector, of which substantial income comes from tourism, which was the most affected by restrictive measures concerning the pandemic.

In Figure 1, which shows the development of the accommodation and catering sector revenue index compared to the previous year, we see a drop in revenue in 2020 to 44% of 2019 for accommodation and 66% for catering and hospitality.

From the above, it is clear that it is appropriate to divide the accommodation, catering and hospitality sector into two sub-sectors, each of which coped differently with the crisis caused by the COVID-19 pandemic. The accommodation sub-sector paid the most for the restrictive measures that led to a massive reduction in travel and had no chance of reversing the unfavourable development. Conversely, in the catering and hospitality sub-sector, many businesses

quickly adapted to the new conditions and found ways to maintain operations and customers. To secure at least part of sales, many catering businesses shifted to food delivery and takeaway services while some also managed to stay alive thanks to the government's antivirus support programs and follow-up measures. Nevertheless, the analysis results show a dramatic decline in the performance of companies in the sector.

The selection of the 2018–2021 period was intentional to cover the period preceding the COVID-19 pandemic, its peak impact and the initial signs of recovery. Although newer data exist, they were not yet sufficiently complete or available at the time of this research. Therefore, the earlier period provides the most robust and coherent dataset for analysis, enabling the authors to trace the short-term consequences of the pandemic on business performance.

The world has experienced several significant financial crises, epidemics and pandemics in the last years (such as the economic downturn from 2007 through 2010, severe acute respiratory syndrome (SARS) in 2003, swine flu (H1N1) in 2009, Ebola in 2014 and Middle East respiratory syndrome (MERS) in 2015, according to de Fátima Brilhante and Rocha (2022), yet none had similar implications for the global economy as the COVID-19 pandemic. The emergence and rapid spread of the new coronavirus had unprecedented impacts on the global tourism and hospitality market, and global travel almost stopped (Farmaki et al., 2020). The vulnerability of some sectors, especially tourism and hospitality, has come to light (Knight et al., 2020).

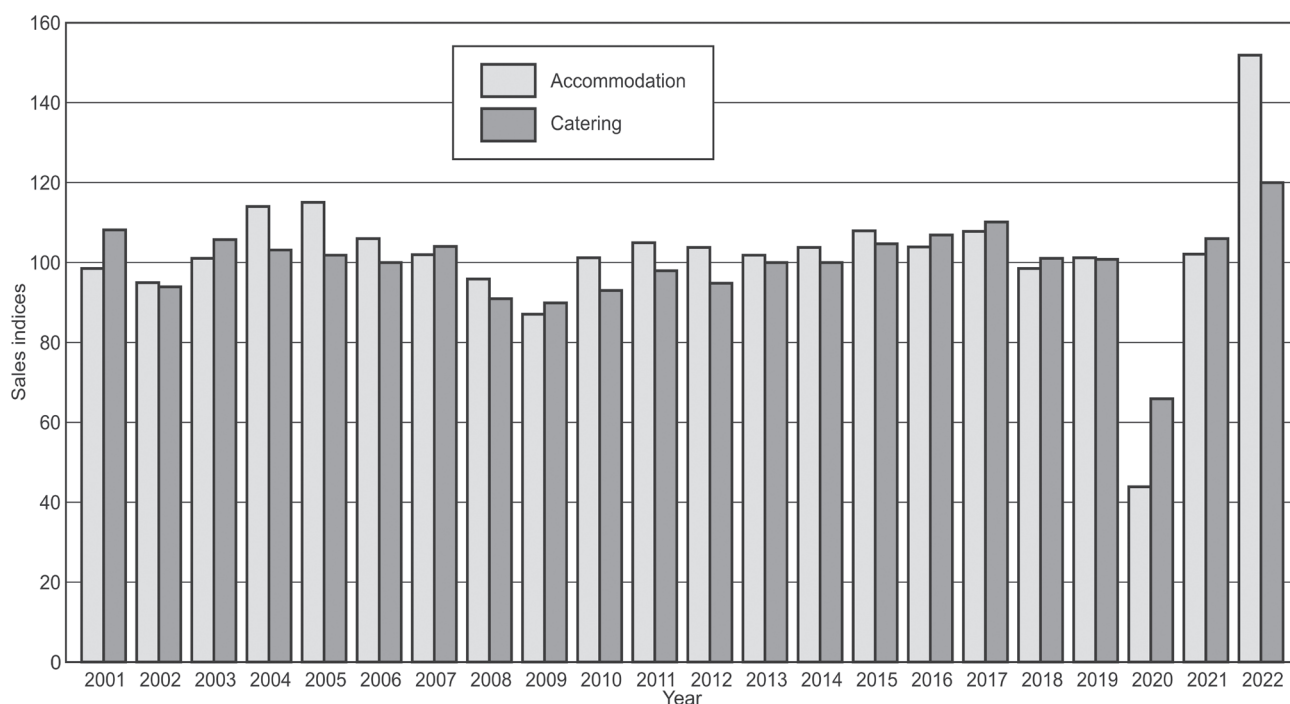


Figure 1. Revenue index in the accommodation (classification of economic activities in the European Union CZ-NACE 55) and catering and hospitality (CZ-NACE 56) sector
Source: authors

2. THEORETICAL BACKGROUND

Škare et al. (2021) concluded that the COVID-19 pandemic is different from past pandemic crises, and the global tourism recovery will take longer than the average expected recovery time of 10 months. The pandemic has had a significant impact on the accommodation, catering and hospitality sector, which according to Crețu et al. (2021) and Gerwe (2021) was one of the most affected during the pandemic. As COVID-19 cases surged and proliferated worldwide, travel cancellations and mobility constraints extended from the initial epicentre in the Wuhan region, where a local lockdown commenced on January 23, 2020, to encompass the majority of countries by the conclusion of March 2020. With measures such as lockdowns, border closures and travel restrictions, the accommodation, catering and hospitality sector was significantly affected. According to Gössling et al. (2020), in all countries, guest numbers declined significantly by 50% or more. People could not travel, which led to a decrease in demand for hotels, resorts and other accommodation facilities (Anguera-Torrell et al., 2021; Chen et al., 2021; Huang et al., 2023; Kim et al., 2020). Many tourists were afraid to travel due to the risk of contracting COVID-19 and this led to a massive drop in foreign and domestic tourism, which harmed hotels, guesthouses, hostels and other accommodation facilities.

Wieczorek-Kosmala (2021) confirms that risk preparedness driven by financial slack in their study should be considered relatively low. A significant portion of the hospitality businesses under examination exhibited low or inadequate financial slack reserves or had recently utilized those resources. There is a growing preference for individual travel, such as road trips or house rentals, as people seek to avoid crowds and the potential contagion risks associated with mass gatherings (Morar et al., 2021).

Oliveira et al. (2020) report that the catering sector experienced significant impacts, leading to the abrupt closure of numerous restaurants or the adoption of new concepts. This has compelled companies to strive to uphold their fixed costs, such as wages and rents, while also optimizing variable costs. Restaurants, bars and cafes were forced to limit operations or reorient to food delivery and takeaway services resulting in a drop in revenue, and many businesses were forced to lay off staff or close. The study by Fonseca et al. (2021) proposed a new era of catering because in many countries, the industry's transformation prompted initiatives for innovation and development, aiming to restore consumer confidence and ensure safety.

Even accommodation facilities were forced to follow strict hygiene measures and limit capacity to minimize the spread of the virus. This led to financial losses as many facilities could not operate thoroughly or had

to close completely. Nicola et al. (2020) concluded that social distancing, self-isolation and travel restrictions have reduced the workforce in all economic sectors and caused many job losses. Around the world, many traditional hospitality providers had to lay off staff, borrow contingency funds to weather the storm, seek government assistance, or temporarily suspend operations altogether.

In the Czech Republic, accommodation, catering and hospitality are relatively small sectors. In the year 2019, according to the Czech Statistical Office (Český statistický úřad, n.d.) and the Ministry of Industry and Trade (Ministerstvo průmyslu a obchodu, n.d.), it contributed 3.9% to the production of the entire tertiary sector and 3.5% to gross value added (GVA). This sector had a more significant role in employment (6.5%), mainly in the case of the self-employed (a tenth of all the self-employed working in services found their primary source of economic activity here). In 2020, the Czech Republic underwent the most profound economic downturn in its history and gross domestic product (GDP) fell by a record 5.8%. As a result of the spread of the COVID-19 infection, most of the world's governments, including the Czech one, adopted a strict ban on economic anti-social activity.

The economic performance of accommodation, catering and hospitality has already been investigated by several authors using different approaches. The study by Strýčková (2016) discusses the factors influencing capital structure and its optimization and through a questionnaire survey and subsequent factor analysis, three primary factors were identified: the financial aspects of debt financing, the use of debt for company development, and the peculiarities of the debt and capital market. The aim of research by Sudapet et al. (2020) was to find variables that influence the contribution of accommodation and catering services to regional GDP, employing a quantitative dynamic modelling approach. The findings indicate that each variable, including departing aircraft, departing passengers, arriving passengers, baggage unloading, cargo unloading and cargo loading, contribute to the GDP variable.

Singh and Schmidgall (2001) pinpoint the ratios deemed essential by property-level financial managers and assess the frequency of reference for each ratio. The findings underscore the significance of traffic, profitability and activity indicators as crucial factors to monitor, categorizing indicators into those frequently referenced and those rarely used. Poldrugovac et al.'s (2016) study offers insights into hotel efficiency, aiming to identify high-performing hotels. Hotel efficiency is examined through data envelopment analysis (DEA), with the application of the output-oriented BCC model to their internal accounting information. The BCC (Banker–Charnes–Cooper) model is according to Cooper et al. (2007) a DEA specification with

variable returns to scale (VRS) that measures “pure” technical efficiency relative to the piecewise-linear frontier. In the output-oriented form, it asks by how much a decision-making unit could proportionally expand its outputs while keeping inputs fixed, thereby separating managerial (technical) inefficiency from scale inefficiency.

Another analysis by Costa and Costa (2019) used the differences in the financial ratios of hotels and other tourism companies and tests were applied for the existence of statistically significant differences between these two groups. The indicators of corporate performance under consideration are return on assets (ROA), return on equity (ROE), earnings before interest, taxes, depreciation and amortization (EBITDA), business volume (BV), gross value added (GVA), apparent labor productivity (ALP), general liquidity (LG), solvency (SLV) and financial autonomy (FAUT). Kizildag et al. (2022) use cost-benefit (C-B) and breakeven (B-E) analyses for financial sensitivity.

This article aims to evaluate the impact of selected indicators on the economic performance of Czech companies operating in the accommodation, catering and hospitality sector during the COVID-19 pandemic. This sector in this period is associated with a significant decline in profitability, specifically ROA, as one of the most common economic performance indicators. Our research is inspired by individual determinants based on other articles and analyses and we especially focused on debt ratio and current liquidity. As mentioned in the introduction, it is also necessary to realize the sub-sector itself as another determinant. We decided not to include determinants that are part of the decomposition of the indicator ROA (e.g. ROE or activity indicators), choosing size (as total assets) and age instead. The question arises as to whether and to what extent the proposed indicators determined the development of the performance of companies in the given sector.

3. METHODS AND DATA

In this paper, the “accommodation” sub-sector refers to short-term lodging services, such as hotels, hostels, guesthouses and similar establishments (NACE – classification of economic activities in the European Union 55). The “catering and hospitality” sub-sector (NACE 56) includes food service activities such as restaurants, cafés, pubs, catering services and other hospitality-related operations. The distinction is important as these sub-sectors experienced different patterns of resilience and adaptability during the pandemic.

Professional sources often discuss the relationship between profitability, indebtedness and liquidity (e.g. Růčková, 2014; Singh & Schmidgall, 2001) as these

variables are the first consideration of whether the level of indebtedness and notional ability to pay affects economic performance. Other monitored factors are the focus of the business (sub-sector), and the size and age of the company.

Based on the defined objective and the monitored variables, the following research questions were established:

RQ₁: How did the set indicators determine the performance of companies (ROA) in the accommodation, catering and hospitality sector in 2018–2021?

The question is focused on whether there is a mutual connection between the variables, i.e. whether the defined indicators can affect the value and development of ROA. The authors verify how increasing indebtedness supports or, on the contrary, limits the performance of a company. The question targets the theoretical premise that higher liquidity negatively affects ROA. Finally, attention is paid to the fact that the sub-sector, and the size and age of a company, play a role in managing such situations as the COVID-19 pandemic and thus affect its economic performance.

RQ₂: How exactly can the level of ROA be estimated based on the set variables?

Using the variables mentioned, the model and the degree to which ROA can be predicted will be verified. Individual variables and their impact on ROA will be evaluated.

Data from the Albertina CZ Gold Edition database for 2018–2021 was used for the analysis and a total of 3,170 enterprises were monitored in NACE I – accommodation, catering and hospitality sector. These companies met the following conditions: existence throughout the entire monitored period 2018–2021, the condition of complete financial statements for 12 months (to calculate the relevant indicators), and the range of the ROA indicator in an interval from –5 to 5. The set consists of 706 companies in the sub-sector “accommodation” and 2,464 enterprises in the sub-sector “catering and hospitality”.

The data used are publicly accessible, and the method of their collection, processing, interpretation and publication of results follow ethical considerations. The authors work with the sector and sub-sectors, no specific entities are mentioned, are based on the assumption that the data used show the real and actual state of the financial statements of companies in the monitored industry.

Data were analyzed using the statistical software R 4.3.2 (R Core Team, 2025). We used a series of linear regression models predicting ROA indicators based on year, type of sector (either accommodation or catering), liquidity, indebtedness, age of company and size of company. Given the high skewness of liquidity and indebtedness, we first log-transformed both variables. To evaluate effect sizes, we used Cohen’s *d* for differences

between individual conditions and standardized beta coefficients with traditional distinctions into small, medium, and large as suggested by Cohen (2013). To compare individual conditions (such as differences between sectors for individual years) we used two-sample *t*-tests with Welch's correction to compensate for different sample sizes. We used core R functions for evaluating regression models and package effect (Ben-Shachar et al., 2020).

In particular, we evaluated models in the following way: all models had ROA as a dependent variable with the same independent variables, but they differed in included interaction coefficients. The first model (denoted as A) included all interactions between sector type and other variables (this models the situation that both sectors possibly moderate the relationship between ROA and other variables). After evaluating this model, we kept only the interactions that were significantly different from zero, forming model B. Finally, the third model (denoted as C) contained no interactions (the effect of variables was thus only additive) and served as a baseline. As the models were nested, we tested their differences using an *F*-test. Observations with missing data were omitted from the appropriate models and no imputation was performed.

4. RESULTS

First, we inspect the normality of selected variables. Because of the skewness of both indebtedness (skewness = 22.8) and liquidity (skewness = 29.2), we first log-transformed both variables prior to further analysis. After log transformation, the visual inspection did not show further deviations from normality. The means and *SD*s, and the number of observations per variable, are shown in Table 1 separately for accommodation and catering.

Table 1. Descriptive statistics for each group for all four measured years together

Variable	Accommodation		Catering	
	missing	mean (<i>SD</i>)	missing	mean (<i>SD</i>)
Return on assets (ROA)	0	−0.04 (0.43)	0	−0.11 (0.60)
Age of company	0	15.15 (8.24)	0	12.18 (7.50)
Size of company	0	8.12 (2.50)	0	6.98 (2.18)
Indebtedness (log-transformed)	172	−0.53 (1.66)	706	0.05 (1.66)

Source: authors.

When we show changes in ROA for the measured years (Figure 2, subplot A), we found a large decrease in both sectors in the year 2020. Simple analysis showed significant differences between the two types of sector for the years 2018–2020 (all $p \leq 0.005$) and nonsignificant for the year 2021 ($t(1422) = 0.02$; $p = 0.281$). Although the differences were significant, the measured effect was small for all years (Cohen's $d \leq 0.15$). Similar differences between sectors were found for other variables (Figure 2, subplots B–D). Moreover, accommodation companies were generally older (mean age = 15.2; $SD = 8.24$) than companies in catering (mean age = 12.2; $SD = 7.51$; $t(1058) = 8.54$; $p < 0.001$; $d = 0.39$).

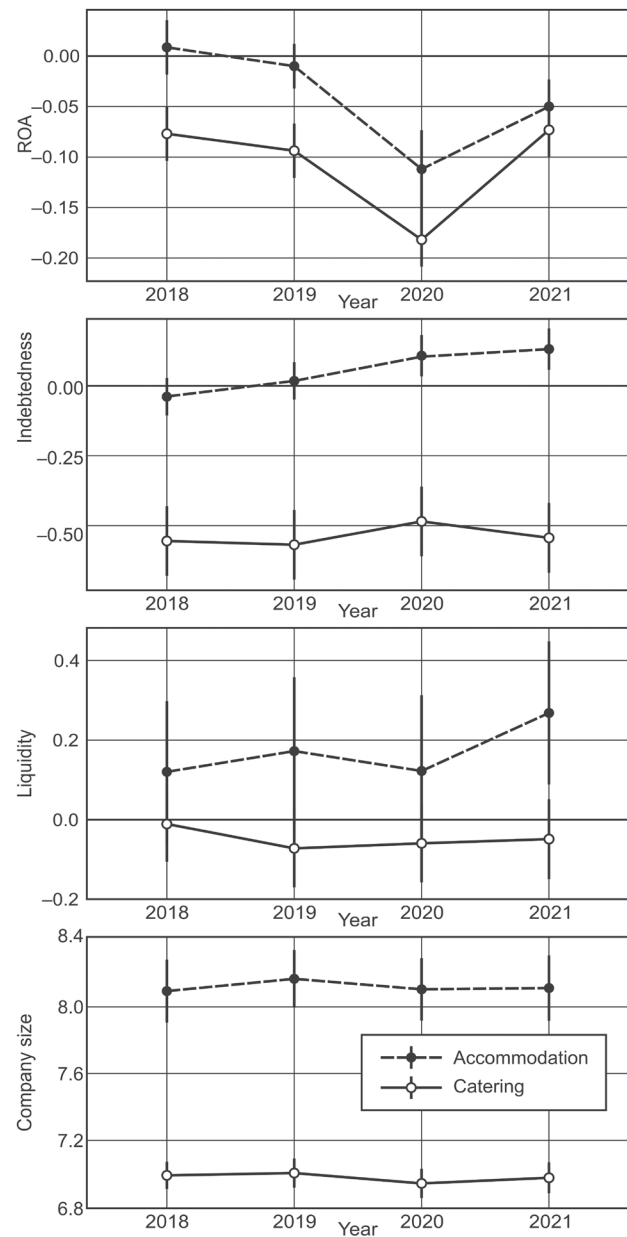


Figure 2. Return on assets (ROA) estimate for each of the measured years, separately for accommodation and catering
Note: Vertical lines denote a 95% bootstrapped confidence interval
Source: authors

Table 2. Pearson's correlation between variables

Variables	Return on assets (ROA)	Liquidity	Indebtedness	Company size
Liquidity	0.02	–	–	–
Indebtedness	–0.03***	–0.01	–	–
Company size	0.15***	0.03**	–0.20***	–
Company age	0.10***	–0.01	0.02*	0.29***

Note: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Source: authors.

Linear relationships between measured variables are captured in Table 2 (when we pooled both sectors together). Each of the variables, indebtedness, age of company and size of company, correlated with ROA. All of the correlations were small, while company size was the largest. Note that given the large sample size, even a small correlation would be significant and it is more important to look at the actual values of size effects.

Regarding the complex prediction of ROA based on other variables, the results show that the model showing all interactions with the type of sector (model A) has a significantly better fit than the model without any interactions (model C, $F(7.7752) = 3.511$; $p < 0.001$). To construct model B, we kept only significant interactions of the sector with other variables. In this case, the only significant interactions were the those of year and type of sector and the interaction of indebtedness with type of sector. This model showed a comparable fit to model A ($F(7.7752) = 1.067$; $p = 0.362$) and although being significant from the null model ($F(12.7752) = 65.54$; $p < 0.001$), it explained only 9% of the variance. Table 3 shows standardized coefficients for individual predictors for model B.

Return on assets differed significantly between years. In 2020, ROA in both sectors decreased ($\beta = -0.12 [-0.20, -0.05]$; $p < 0.01$). Although both sectors differed in all variables, after accounting for other variables in the model, the performance of both sectors was comparable ($\beta = -0.03 [-0.09, 0.03]$). Both sectors behaved similarly in each year with the exception of 2021 in which catering improved more after the decrease in 2020. On the other hand, other variables significantly predicted ROA. Other variables also significantly predicted ROA with the largest effect of indebtedness ($\beta = -0.10 [-0.13, -0.07]$; $p < 0.001$), company size ($\beta = 0.05 [0.04, 0.07]$; $p < 0.001$) and company age ($\beta = 0.03 [0.02, 0.04]$; $p < 0.001$). In other words, having lower debts, being an older company and being a larger company, resulted in higher ROA. On the other hand, liquidity did not predict ROA ($\beta = 0.00 [-0.02, 0.02]$; $p > 0.05$). In the case of indebtedness, catering showed an even higher effect of indebtedness on ROA than accommodation ($\beta = -0.06 [-0.10, -0.03]$; $p < 0.001$).

An interesting finding is that although both sectors seem to differ in ROA, after explaining the portion

of ROA by other variables, this difference disappears. Indeed, when we ran an additional model in which we removed the size of the company, we observed significant differences between both sectors.

Table 3. Standardized coefficients for the final model

Coefficient		β 95% CI
Year	2018	–
	2019	–0.01 [–0.09, 0.06]
	2020	–0.12 [–0.20, –0.05]**
	2021	–0.06 [–0.14, 0.01]
Sector type	accommodation	–
	catering	–0.03 [–0.09, 0.03]
Company age		0.03 [0.02, 0.04]***
Company size		0.05 [0.04, 0.07]***
Liquidity		0.00 [–0.02, 0.02]
Indebtedness		–0.10 [–0.13, –0.07]***
Year – sector type	2019 – catering	0.02 [–0.07, 0.10]
	2020 – catering	0.03 [–0.05, 0.12]
	2021 – catering	0.11 [0.02, 0.19]*
Sector type – indebtedness	catering – indebtedness	–0.06 [–0.10, –0.03]***

Note: CI – confidence intervals; * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Source: authors.

5. DISCUSSION

The above-mentioned statistical methods and procedures identified the most significant factors that influenced the economic performance of enterprises in the monitored sector.

The answer to the research question on the relationship between ROA and the investigated factors in the accommodation and catering sector during the COVID-19 pandemic, is that the size of the business

has a significant effect. We identified the factors that enabled businesses to respond more effectively to new challenges and maintain stability in uncertain times.

If we are looking for reasons why companies with longer histories do better, we have some answers. Geller (1985) suggests that older companies often have a better market position and more excellent financial stability. Their years of experience and deep industry knowledge have enabled them to understand the market, customers and competitors well allowing them to build a financial cushion and gain access to financial resources. The reputation and credibility of legacy companies attract customers, quality employees and business partners. Throughout their long history, companies have learned to adapt to changes in the industry and economic environment, enabling them to better respond to new trends and challenges.

Larger businesses often have higher financial reserves than smaller entities, enabling them better to absorb the economic shocks caused by the pandemic at a critical time. These businesses were better able to handle the decline in demand and ongoing restrictions because they could maintain operations even with lower revenues. Similar conclusions can be found in research by Strýčková (2016) or Costa and Costa (2019). An empirical study by Serrasqueiro and Maças Nunes (2008) demonstrates that performance is positively related to size; the author states, "...the relationship suggests greater importance of size effects, diversification and the greater ability of larger companies to cope with market changes..." (p. 195). Another explanatory factor is that larger enterprises often have better access to technological innovation and may be better equipped to implement digital solutions. During the pandemic, the ability to offer online reservations, contactless services, food delivery, etc. was important. Larger businesses could more easily implement these changes and maintain contact with customers. This confirms the study by Fonseca et al. (2021).

Larger businesses often have larger teams and better-developed processes, which may have enabled them to respond more quickly to crisis situations. Thanks to rapid adaptation and flexibility, businesses have been able to change their operating models and strategies in a short period of time, for example refocusing on food delivery or renting out their accommodation spaces to long-term tenants. The same conclusions are based on the research of Skydan et al. (2021) who focused on farms in Ukraine: the bigger the farm, the better the flexibility. Also according to Oliveira et al. (2020) and Nicola et al. (2020), the catering industry suffered significantly, leading to the immediate closure of numerous restaurants or the adoption of new concepts.

Larger enterprises could more easily acquire the necessary resources, such as suppliers and personnel,

thanks to a larger network of contacts and wider opportunities for securing operations which allowed them to maintain stability even in difficult conditions. A study by Drempetic et al. (2020) confirms that larger firms have more available resources.

Gyódi (2022) mentions another factor: the variety of services. Larger businesses can often offer a wider range than smaller entities. During the pandemic, they were able to diversify their portfolio and look for new ways to sustain demand, for example, larger hotel chains could offer long-term stays for telecommuters.

Another effect we found in the period of analysis was that ROA varied significantly between 2018 and 2021. Unsurprisingly, due to the pandemic, ROA profitability in both industries declined significantly in 2020 but in 2021, however, it increased significantly in the food service industry. This economic improvement can be explained by a combination of factors including changes in consumer behaviour, the ability of businesses to adapt, and the subsector's level of dependence on tourism.

Our research shows that the well-known premise (e.g. Růčková, 2014; Sibilkov, 2009) "higher liquidity negatively affects ROA" does not apply in the accommodation and catering sector. The relationship between profitability and liquidity is not demonstrated in the sector under study. This is in addition to the conclusions of Růčková (2014), who proved this theoretical assumption only in the construction services sector on the basis of a negative correlation. In other sectors, she showed that the premise does not fully correspond to the situation in Czech companies. One of the reasons why the relationship between liquidity and ROA is zero may be, for example, seasonality and fluctuation of demand in the industry. Higher liquidity allows companies to better adjust to these fluctuations by having enough cash to cover costs during times of lower demand. In this way, higher liquidity can help maintain stability and minimize losses. Operations in the accommodation and catering sector can be susceptible to various unexpected events, such as equipment breakdowns, hygiene issues or changes in regulations.

The findings of this study should be interpreted with caution and in the context of the selected time frame. Since 2021, additional macroeconomic and sector-specific developments have occurred (e.g. inflation, shifts in consumer behaviour, energy crises), which are not captured here. Therefore, the conclusions primarily reflect the short-term impact of the COVID-19 pandemic, and their applicability to the post-2021 period may be limited.

As reported above, the model explains about 9% of the variance ($R^2 \approx 0.15$), which reflects its deliberately parsimonious specification. With a limited set of readily available covariates, a substantial share of variation

necessarily remains outside the model. Unobserved or excluded factors are likely to include granular market and regional conditions over time, firms' cost structures (fixed vs variable costs, rents, energy), pricing and margin dynamics, management quality and staff turnover, business-model differences (chain vs independent/franchise), degree of digitalization and channel mix, demand composition and seasonality, access to and timing of public support programs, and heterogeneity in accounting policies or fiscal-year timing. Design features also matter – nonlinear responses (e.g. thresholds), interactions among predictors and lagged effects can depress fit in a linear, contemporaneous model. Potential selection (e.g. focusing on survivors) and measurement noise in both predictors and outcomes further attenuate explanatory power. Extending the specification to include richer operational and market covariates, region- and time-fixed effects, and panel/hierarchical or nonlinear models would likely account for a larger share of the variance.

6. CONCLUSIONS

The COVID-19 pandemic that hit the world in 2020 had a huge impact on the global economy. One of the most affected sectors, according to Li (2021), was accommodation and catering which suffered significant losses and underwent major changes in its operations. In this article, we have focused on examining the factors that have affected the economic stability and performance of businesses operating in this sector.

The authors focus on the question of whether the established indicators can influence the value and development of the return on assets (ROA). The research examines the impact of rising debt levels on corporate performance and whether they support or limit it. They also analyze the impact of industry, size and age of a company on the ability to cope with situations such as the pandemic and how these factors affect its economic performance.

Indicators of size, age of enterprise and the sub-sector to which the enterprise belonged were marked as essential. The results of the analysis showed that larger businesses and those operating in the hospitality and catering sub-sector managed the difficult situation caused by the pandemic better than those operating in the accommodation sub-sector. The factor of company size and sector therefore had the greatest influence on the value of the economic performance indicator – ROA. Although we showed that the size of a company was an important predictor of ROA, this model explained only 9% of the variance. Thus, there are still other important factors that would predict ROA in the selected sectors.

The findings of this study have several practical implications. First, they may guide policymakers in targeting support schemes to the most vulnerable business types, especially small and accommodation-focused firms. Second, they can inform company-level strategic planning by emphasizing the role of financial stability, company age and size in crisis resilience. Finally, the research provides a valuable reference point for future studies exploring the long-term adaptation of the hospitality industry to external shocks.

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COST LEADERSHIP STRATEGIES IN LOW-COST AIRLINES: A DEEP LEARNING-BASED COMPARATIVE ANALYSIS OF RYANAIR AND PEGASUS

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ABSTRACT

Air transportation plays a crucial role in the development of the global tourism industry, facilitating the movement of travellers across different regions and enhancing accessibility to tourism destinations. Airline companies generally operate under traditional, low-cost, non-scheduled, or regional business models. This study focuses on low-cost carriers (LCCs) that implement a cost leadership strategy to maintain competitiveness in the industry. It investigates whether these airlines effectively apply this strategy, identifies their similarities and differences, and evaluates the impact of their cost leadership approach on social media perceptions. A mixed-methods approach was employed, incorporating two key methodologies: (a) document analysis of airline financial reports to assess cost leadership practices and (b) sentiment analysis of customer perceptions using deep learning algorithms, including recurrent neural networks (RNNs), long short-term memory (LSTM), bidirectional LSTM (Bi-LSTM), and gated recurrent units (GRUs). This AI-driven analysis ensured a high degree of classification accuracy in sentiment evaluation. The results indicate that Ryanair strictly adheres to its cost leadership strategy, yet it experiences lower customer satisfaction levels on social media. Conversely, Pegasus Airlines receives higher customer satisfaction ratings, but its cost leadership implementation is less effective. These results highlight the trade-off between operational cost efficiency and the overall tourism experience, offering valuable insights for airline executives, tourism policymakers and industry researchers.

KEYWORDS

cost leadership, low-cost airlines, competitive strategy, sentiment analysis, deep learning

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1. INTRODUCTION

The extensive travelling undertaken by individuals to explore diverse countries, uncover novel cultures, and establish business relationships have significantly

contributed to the global advancement of tourism (O'Connell, 2018). The swift evolution of air transportation has transformed many nations into accessible hubs, allowing passengers to reach renowned destinations and less familiar places (Belobaba & Odoni, 2009). Over



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the years, the progression of technologies utilised in civil aviation has markedly expedited travel and invigorated the tourism sector (Devlet Hava Meydanları İşletmesi, 2020). Furthermore, the rising availability of economical flights has catalysed the expansion of the travel industry, and this serves as a vital component of the tourism sector (Roney, 2018).

Low-cost airlines, the focus of this research, have played a key role in opening up new destinations like Northern Italy and expanding destination diversity. Similarly, long-haul charter flights have boosted tourism in popular spots including Caribbean Islands, the Maldives and Seychelles (Bieger & Wittmer, 2006). In 2019, global airline revenue surpassed \$838 billion, and the passenger count exceeded 4.54 billion (International Air Transport Association [IATA], n.d.b). Analysing figures related to the airline industry reveals its substantial contributions to employment, welfare, trade and tourism in the increasingly global economy (Çelik, 2017).

As a service-intensive industry, the aviation sector demands continuous monitoring of customer expectations. Air travel is primarily chosen for its speed; however, factors such as comfort, safety, connectivity and cost also influence consumer preferences (Morrisson & Winston, 1985). To remain competitive, airlines develop their business models based on market dynamics, positioning themselves strategically within the industry. Airline business models are generally classified into traditional, low-cost, non-scheduled and regional operators (IATA, n.d.a). Each category follows a distinct strategic approach, where Porter's (1980) competitive strategy framework aligns differentiation with traditional airlines, cost leadership with low-cost carriers (LCCs), and focus strategy with regional airlines (Sarılğan, 2019).

Despite the prevalence of cost leadership in LCCs, there is a notable gap in the literature regarding its real-world effectiveness and competitive implications. This study aims to bridge this gap by analyzing two low-cost airlines (Ryanair and Pegasus Airlines) to assess how they implement cost leadership and how their strategic choices influence customer perceptions on social media. The central research problem addressed in this study is to determine the extent to which cost leadership strategies are effectively applied by low-cost airlines and how these strategies shape public perception as expressed on social media.

A mixed-methods approach was adopted, incorporating document analysis of airline financial reports to assess cost leadership implementation, and sentiment analysis of X.com (formerly Twitter) discussions using deep learning algorithms (recurrent neural network [RNN], long short-term memory [LSTM], bidirectional LSTM [BiLSTM], gated recurrent unit [GRU]) to evaluate passenger perceptions.

This study reveals similarities and differences in competitive strategies between Ryanair and Pegasus

Airlines, offering insights into how the low-cost airline business model is evolving. Additionally, the application of deep learning algorithms in social sciences remains underutilized. Traditional research methods, such as surveys, dominate social science disciplines, whereas AI-driven sentiment analysis presents a novel approach to analyzing large-scale consumer data. This research, therefore, not only enhances understanding of cost leadership in LCCs but also provides a comprehensive methodological framework for future investigations in the field.

2. THEORETICAL BACKGROUND

2.1. AIRLINE INDUSTRY IN THE TOURISM SECTOR

The relationship between tourism and the aviation industry has been extensively analyzed in previous studies, consistently demonstrating a strong interdependence (Bieger & Wittmer, 2006; Duval, 2013). As a dynamic sector, air transportation has undergone substantial developments, significantly impacting the global tourism industry. The increasing number of tourists in various regions has led airline operators to expand their networks, adding new airports and destinations (Lohmann & Duval, 2014). Alongside long-haul flights, 'thermal' tourism has emerged as an alternative to traditional winter tourism, contributing to the diversification of international tourism markets (Bieger & Wittmer, 2006).

Low-cost airlines have been able to provide their customers with a quick alternative to other airlines and modes of transportation, often at the expense of reduced service offerings. However, studies have shown that service quality remains a critical determinant of passenger satisfaction, even in the low-cost segment (Kaspar, 1993; Lohman & Duval, 2014; Signorini et al., 2002). Strategically, low-cost airline operators are often more likely than traditional airline operators to focus on regional or secondary airports that were no longer preferred (Costa et al., 2017), and where high-speed trains cannot reach. The development of these destinations has been made possible by offers that attract tourists to these regions, diverse and quality services, as well as collaborative strategies between airlines, local airports, and regional and local authorities (Costa, 2016; Dobruszkes et al., 2016; Tucki et al., 2019).

2.2. BUSINESS MODEL CONCEPT IN THE AIRLINE INDUSTRY

In the airline industry, various business models influence service quality, which in turn creates distinctions among companies. These distinctions impact

customer expectations and perceived values. The two predominant models in the sector are traditional (full-service) airlines and low-cost (charter) airlines (Doganis, 2006; Gillen & Gados, 2008). Additionally, regional airlines connect smaller locations to major hubs, contributing to enhanced connectivity (Forbes & Lederman, 2007). The impact of these models on passengers varies significantly. For instance, traditional airlines tend to focus on providing a comfortable journey, whereas low-cost carriers, like Ryanair – the first to introduce low-cost service in Europe – offer shorter flight times and charge extra for additional services, thereby prioritising low ticket prices over service differentiation.

In recent years, the boundary between low-cost and full-service airline models has become increasingly blurred. Pegasus Airlines, for example, offers connecting flights through its hub in Istanbul and operates medium- to long-haul international routes, including destinations in Asia. Although it identifies as a low-cost carrier, Pegasus incorporates features more commonly associated with hybrid or full-service models, such as tiered service packages, loyalty programs and central airport operations. This evolution reflects a broader trend in the industry where airlines adopt mixed strategies to meet diverse customer expectations while maintaining competitive efficiency (Baláz, 2021; Stoenescu & Gheorghe, 2017). This convergence of business models highlights how carriers once classified as strictly low-cost are increasingly incorporating features of full-service airlines, thereby blurring the traditional boundaries between different airline business types (Liubarets et al., 2022; Lohmann & Koo, 2013).

The literature contains extensive research on low-cost airline operators (Brueckner et al., 2013; Chou, 2015; Kos Koklic et al., 2017; Mikulić & Prebežac, 2011). Gillen and Lall (2004) investigated the sources of competitive advantages of low-cost airlines such as EasyJet, Ryanair, and Southwest. They stated that this point-to-point business model provides a strategic advantage, and operational efficiency complements this choice.

Comparative studies on low-cost airline operators show that topics are categorized into areas such as customer loyalty, customer behaviour, competition, business models, tourism, airports, management, frequent flyer programs and pricing. Detailed analyses reveal that competition and business models, along with their influence on tourism and customer loyalty, are the most studied aspects. Generally, low-cost carriers are compared with traditional airlines (Alderighi et al., 2012). When comparing low-cost airlines within their business model framework, studies often focus primarily on pricing. This research compares two low-cost airline operators and is significant for not just examining pricing but also

exploring the characteristics of these operators in relation to their cost leadership strategies, similar to previous studies.

2.3. COMPETITIVE STRATEGIES IN AIRLINE BUSINESS MODELS

In order for each business to create a successful competition process in the sector in which it operates, it must establish differences based on strong competition with other businesses. In this way, the target audience can be engaged with the capabilities and approaches of the business that can be perceived differently from other businesses when viewed by customers, making a difference. Porter (1980) divided the general competitive strategies employed by businesses to gain a competitive advantage into three categories: differentiation strategy, cost leadership strategy and focus strategy. The fact that Porter's generic strategies are still relevant in competition during the digital age is also acknowledged in academic research and adapted to the present day (Kim et al., 2004).

Several studies have explored competitive strategies in the airline sector from different perspectives. İbik (2006) highlighted the importance of service quality in the airline sector's competitive landscape, while Karasu (2007) examined the advantages that low-cost airlines possess on long-haul routes. Tunç (2007) compared the competitiveness of Turkish airlines with European counterparts during negotiations, whereas Aldemir and Kuyucak Şengür (2018) explored competition strategies among Turkish airlines. Erdoğan (2014) discussed regulatory and competitive strategies influenced by liberalization, and Saldıraner (2016) proposed a strategic model for low-cost airlines in Turkey. Tanrıverdi and Küçükylmaz (2018) analysed the collaborative competition strategies of traditional airlines, and Yaşar (2020) investigated market strategies affecting passenger purchasing behaviour in Turkey's domestic market. Additionally, Karabulak (2016) contrasted traditional and low-cost airlines, while Şenel (2018) addressed the role of human resource management in providing sustainable competitive advantages for air cargo companies. Finally, Aldemir (2018) and Şimşek (2018) evaluated competitive strategies within the Turkish airline industry, alongside Hopalı (2016), who conducted a competitiveness analysis in aviation.

The existing literature highlights the importance of strategic differentiation and cost efficiency in maintaining long-term competitiveness in the airline industry. This study builds on previous research by investigating how cost leadership strategies influence both airline operations and consumer perceptions, using deep learning-based sentiment analysis to provide data-driven insights.

3. METHODOLOGY

This study used a mixed-methods technique to examine low-cost airlines' cost leadership strategies. Data was collected using two primary methods. First, airline company reports were studied using the document analysis approach, with a focus on the operational and strategic characteristics of airlines that follow a cost leadership strategy. The document analysis included publicly available annual reports, investor presentations and official press releases published on the corporate websites of Pegasus Airlines and Ryanair. These documents provided insights into pricing strategies, operational performance, ancillary revenue streams and service models between 2020 and 2025. This approach made it possible to thoroughly assess how airlines incorporate cost leadership concepts into their business plans. Second, the deep learning method was applied to perform sentiment analysis on data obtained from X.com, a widely used social media platform. This phase aimed to assess customer perceptions regarding cost leadership features implemented by airlines. The data collected consisted of secondary data accessed on X.com. Sentiment analysis was conducted to determine public perceptions towards the cost leadership strategy and to classify the sentiments with high accuracy using deep learning algorithms including RNNs, LSTM, BiLSTM and GRUs.

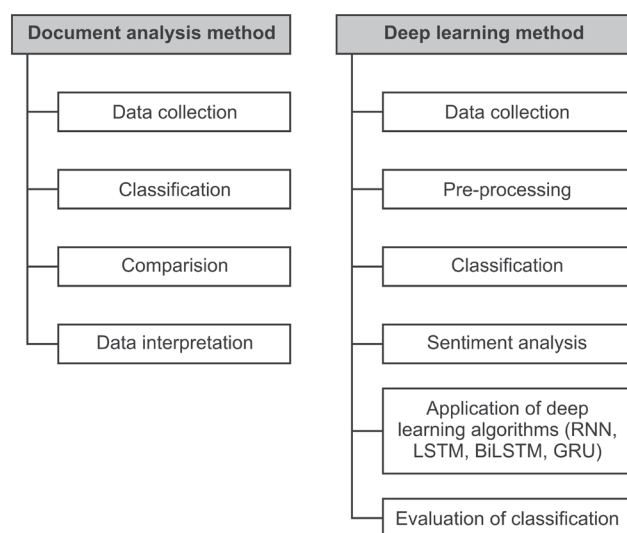


Figure 1. Research process

Note: RNN – recurrent neural network, LSTM – long short-term memory, BiLSTM – bidirectional neural network, GRU – gated recurrent unit

Source: authors

The research process consisted of several phases, as shown in Figure 1. In the document analysis method, the phases included data collection, classification, comparison and interpretation. In the deep learning

method, the phases included data collection, preprocessing, classification, sentiment analysis, algorithm application and classification evaluation. This combination of methods ensured a robust analysis of both operational reports and customer sentiments, providing a holistic view of cost leadership strategy implementation in the airline industry.

3.1. RESEARCH SAMPLE

3.1.1. RYANAIR

Ryanair has modelled its operations on Southwest Airlines, establishing itself as Europe's first low-fare airline. Today, it is the continent's largest airline group, operating Ryanair, Buzz, Lauda and Malta Air. As of 2025, it has managed a fleet of over 600 aircraft and serves more than 230 destinations across 40 countries, with approximately 2,600 daily flights (Flightradar24, n.d.; Ryanair, n.d.a, n.d.b; Tran et al., 2015). The company continues to prioritize punctuality and cost-efficiency, maintaining a high on-time performance and focusing on secondary airports and ancillary revenues to sustain its cost leadership strategy (Ryanair Group, 2025).

3.1.2. PEGASUS

Pegasus Airlines, established in 1990 in Istanbul, began operations as a joint venture with Aer Lingus. After being acquired by ESAS Holding in 2005, it transitioned into a scheduled low-cost airline. Emphasizing affordable travel with its slogan "everyone has the right to fly", Pegasus has grown steadily. As of 2025, it operates flights to over 130 destinations in 50 countries, including more than 40 domestic and 90 international routes, with a modern Airbus-dominated fleet (CAPA, n.d.; Pegasus Airlines, n.d.).

3.2. DATA EVALUATION TOOLS

3.2.1. DOCUMENT ANALYSIS

This study assessed airline strategies related to cost leadership by analyzing textual data from corporate reports published between 2020 and 2025. These documents offered valuable insights into pricing models, operational efficiency, ancillary revenue structures and overall service strategies. The data were categorized and interpreted in accordance with the cost leadership framework. Subsequently, sentiment analysis results for both Ryanair and Pegasus were incorporated to provide a comparative evaluation. This dual approach enabled a comprehensive understanding of how low-cost carriers implement and communicate their cost leadership strategies.

Figure 3. Most used words in Ryanair data set
Source: authors

number of classes offered on flights was considered, revealing the streamlined approach of low-cost carriers to cabin configurations (Table 2).

Furthermore, in-cabin services, such as crew, food, and luggage management, were assessed as part of the cost control strategies. The evaluation extended to aircraft utilization rates, which are critical for maximizing operational efficiency and minimizing

idle time. Waiting time on the ground was another important metric, highlighting the airlines' ability to minimize delays and cancellations to enhance operational reliability. Secondary revenues, derived from ancillary services such as baggage fees and seat selection, were also a key area of focus. The analysis included customer service, which reflects passenger satisfaction and service quality, and operational

Table 2. Ryanair and Pegasus' competitive strategy practices

Category	Classification	Ryanair (no. of tweets, %)
Mission	"We believe that everyone has the right to travel by air. The Pegasus Family, our suppliers and our business partners are all working together to achieve this"	"We are offering low fares that will drive increased passenger traffic, while continuing to focus on limiting costs and efficient operations"
Sub-brands	–	Buzz, Lauda, Malta Air, Ryanair
Ticket price	Pegasus promotes affordable flights, offering additional services (e.g. seat selection, meal selection) for extra charges. Passengers can customize their experience based on their preferences	Ryanair's low fares are designed to stimulate demand, especially among budget-conscious travelers. Fares are adjusted based on demand and proximity to departure dates. Promotional campaigns are periodically introduced
Distribution	Tickets are sold via Pegasus' website, mobile app, and through commission-based agencies with enhanced integration systems for faster booking	Ryanair's reservations are primarily managed through the Ryanair.com website and mobile app. Real-time booking and payment are supported by a reservation system developed by Navitaire
Links	Pegasus focuses on short and medium-haul flights, covering 113 destinations in 43 countries, including 35 domestic and 78 international routes	Ryanair operates point-to-point short-haul flights, covering 88 destinations in 40 countries. It eliminates extra services such as transit baggage handling and transfer passenger support to reduce costs
Number of classes	Economy class only, with four flight packages: Super Eco, Eco, Advantageous, and Flexible Packages	Economy class only, with three flight packages: Plus, Family Plus, and Flexi Plus
In-cabin services	All services, except cabin baggage, are chargeable	All services, except cabin baggage, are chargeable
Aircraft utilization rate	An average of 9 hours per day	An average of 9 hours per day
Waiting time on the ground	Approximately 87% as of March 2024	Approximately 96% in 2024
Airport usage	Operates in secondary airports in Europe (e.g. Brussels South Charleroi, Marseille, Berlin Schoenefeld)	Operates in secondary airports in Europe (e.g. Brussels South Charleroi, Bordeaux, Liverpool, London Luton)
Secondary revenues	Ancillary revenues ~30% of total revenue in 2023 (~€810 m), covering seat selection, baggage, meals, etc.	Ancillary revenues ~35.7% in FY 2023 (€3.845 bn), from inflight sales, seat upgrades, baggage fees etc.
Aircraft	Fleet includes 118 aircraft, primarily Airbus A320-200 CEO/NEO and A321 NEO, plus 9 Boeing 737-800 (average fleet age: 4.6 years)	Fleet includes approximately 619 Boeing 737s, including 410 B737-800 and 157 B737 MAX 8/8200
Seats	Seat pitch: B737-800 (73.66 cm), A320 (71.12 cm). Emergency exit seats: 83.82 cm to 101.6 cm	Seat width: 43.2 cm; seat depth: 58 cm; seat pitch: 76.2 cm
Customer service	Includes Travel Assistant (mobile app), WhatsApp support, website help, and phone services	Daily calls with airport staff to address delays and baggage issues. Live Chat, phone support, and online surveys are used to measure satisfaction
Operational activities	Focused solely on transportation services	Focused solely on transportation services

Source: Boeing (n.d.), CAPA – Centre for Aviation (n.d.), Pegasus Investor Relations (n.d.a., n.d.b), Planespotters.net (n.d.), Ryanair Group (2024).

activities, which encompass the airlines' overall performance in delivering cost-effective and efficient services. These combined characteristics provide a comprehensive view of how low-cost carriers implement cost leadership strategies to maintain competitiveness in the airline industry.

4.2. SENTIMENT ANALYSIS RESULTS

The sentiment analysis results provide key insights into customer perceptions regarding the cost leadership strategies implemented by Ryanair and Pegasus Airlines. Following the pre-processing stage, sentiment analysis was conducted using TextBlob, which categorized tweets into positive (polarity > 0), neutral (polarity = 0) and negative (polarity < 0) classifications.

For Ryanair, the analysis revealed that 32.07% of tweets were classified as positive, 53.24% as neutral and 14.67% as negative. Among all categories, airport operations received the highest proportion of positive mentions, followed by crew, luggage, food, wait and

cancellation. Conversely, the in-cabin service category (crew, luggage, food) had the highest share of negative sentiment, indicating customer dissatisfaction with service quality and ancillary charges. Additionally, while price, customer service and comfort were positively perceived, cancellations and waiting times led to significant negative feedback, suggesting operational challenges in these areas.

Similarly, for Pegasus Airlines, 35.53% of tweets were positive, 50.30% were neutral, and 14.15% were negative. The wait and cancellation category were the most positively rated, followed by airport operations and in-cabin services (crew, luggage, food). However, the same category also had the highest percentage of negative tweets, reflecting mixed passenger sentiments regarding delays and cancellations. Further analysis indicated that price, online bookings, customer service and operational activities were generally well-received by Pegasus customers, contributing to a favourable brand image.

A detailed breakdown of sentiment distribution for various service categories is provided in Table 3,

Table 3. Sentiment analysis results for Ryanair and Pegasus Airlines

Class	Ryanair negative (%)	Ryanair neutral (%)	Ryanair positive (%)	Pegasus negative (%)	Pegasus neutral (%)	Pegasus positive (%)
Brand	26.2	34.9	38.9	13.4	52.9	33.8
Price	20.1	34.4	45.5	19.7	38.9	41.4
Online	20.6	41.6	37.8	12.0	46.6	41.4
Booking	17.0	40.2	42.8	13.3	39.9	47.8
Airport	17.0	47.0	36.0	18.1	40.0	41.9
Transfer	19.3	43.6	37.1	19.3	37.7	43.9
Class	23.5	31.2	45.3	19.7	35.4	44.9
Crew	16.6	48.8	34.6	15.0	36.8	48.2
Luggage	17.4	43.9	38.7	18.7	37.7	43.6
Food	20.9	39.6	39.5	12.5	50.7	36.8
Frequent	21.8	33.2	45.1	21.5	33.6	44.9
Wait	18.6	37.4	44.0	16.3	39.8	43.9
Cancellation	20.9	43.4	35.8	14.5	48.3	37.1
Quality	7.7	6.2	86.0	20.2	10.9	68.9
Fee	19.5	41.2	39.4	18.1	39.9	42.0
Airbus	14.6	56.5	28.8	17.2	36.0	46.8
Boeing	15.1	54.7	30.2	16.6	34.5	49.9
Seat	16.8	39.6	43.6	18.2	43.6	38.3
Comfort	10.7	36.7	52.6	16.3	41.2	42.5
Customer	20.1	36.8	43.1	14.3	38.9	46.9
Transport	21.4	38.0	40.6	19.6	34.9	45.6

Source: authors.

illustrating the percentage of positive, neutral, and negative tweets for each classification. The results show that both airlines perform well in some areas while experiencing severe consumer dissatisfaction in others.

Tweet analyses provided insights beyond just aggregated sentiment. A negative Pegasus tweet cited airport operations, in-cabin services and Boeing/Airbus issues, expressing frustration with flight delays. A Ryanair tweet on cancellations and customer service was flagged, showing customer dissatisfaction with operations but one about customer service and cancellations received positive feedback for quick responses and accessible care. Although both airlines have a strong brand presence, the sentiment research results indicate that they face customer discontent in operational areas like cancellations and delays. However, Pegasus Airlines has a marginally stronger public image in terms of comfort and customer service, whereas Ryanair's cost-cutting efforts, including greater luggage costs, seem to contribute to higher negative attitude.

4.3. DEEP LEARNING ANALYSIS RESULTS

Recurrent neural network (RNN), bidirectional long short-term memory (BiLSTM), gated recurrent unit (GRU) and long short-term memory (LSTM) models are used to illustrate the dataset's results in this part. To achieve optimal model performance, the pre-processed tweets were separated into training, validation and testing datasets.

The deep learning models were first trained and tested on the Ryanair dataset. The dataset from Pegasus Airlines was then classified using the most successful model, which was used to confirm the classification. A total of 70% of the dataset was devoted to the training set, with 30% going to each of the validation and testing sets. When validation performance deteriorated, training was stopped using an earlystopping method to avoid overfitting.

The effectiveness of the deep learning models that were used was assessed using important classification measures, such as F_1 score, accuracy, recall and precision. Root mean square propagation (RMSprop) was used as the optimizer, sigmoid as the activation function, and binary cross-entropy as the loss function in order to optimize the models. The batch size was set at 128 and the number of epochs was set at 10. Because too many training cycles could result in overfitting, the epochs were chosen to balance training effectiveness and model generalization.

A loss score near 0 is indicative of a high-performing model. All models were tested for accuracy, precision, recall and F_1 scores, with scores close to 1 indicating high success (Alharbi & de Doncker, 2018).

4.4. COMPARISON OF DEEP LEARNING MODELS

The results obtained from RNN, LSTM, GRU and BiLSTM models are presented in Table 4. The analysis indicates that the RNN model exhibited relatively lower performance across all metrics. The LSTM model outperformed all other models, achieving the highest performance in almost all metrics, with an accuracy rate of 90%. The GRU model also performed well, demonstrating high sensitivity (recall) with a score of 0.89.

Table 4. Results of deep learning algorithms

Deep learning algorithms	Loss	Accuracy	Precision	Recall	F_1 score
RNN	0.08	0.83	0.87	0.81	0.84
LSTM	0.04	0.90	0.94	0.88	0.91
GRU	0.05	0.90	0.92	0.89	0.90
BiLSTM	0.06	0.87	0.88	0.87	0.87

Note: RNN – recurrent neural network, LSTM – long short-term memory, GRU – gated recurrent unit, BiLSTM – bidirectional neural network.

Source: authors.

The training and validation loss curves, presented in Figures 2 and 3, indicate that while the loss decreased progressively during training, overfitting was detected after 10 epochs, leading to the decision to limit training cycles.

Accuracy curves of all deep learning models show that LSTM achieved the highest accuracy, while RNN exhibited the lowest verification rate. Loss curves indicate that LSTM had the lowest loss score, whereas RNN had the highest loss score (Figures 5 and 6).

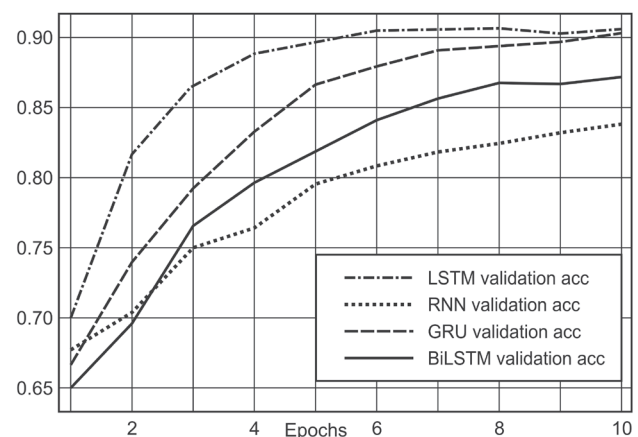


Figure 5. Deep learning algorithm accuracy curves

Note: RNN – recurrent neural network, LSTM – long short-term memory, GRU – gated recurrent unit, BiLSTM – bidirectional neural network

Source: authors

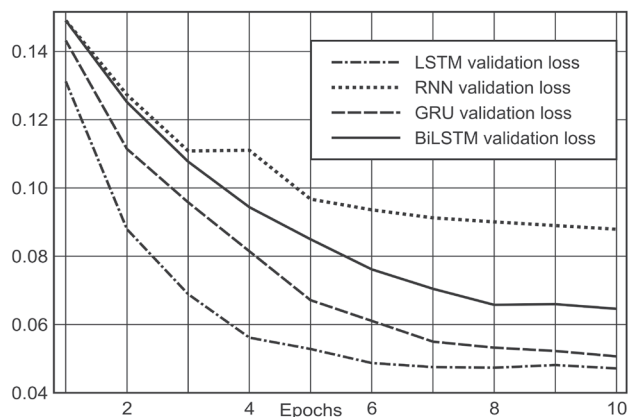


Figure 6. Deep learning algorithm loss curves
 Note: RNN – recurrent neural network, LSTM – long short-term memory, GRU – gated recurrent unit, BiLSTM – bidirectional neural network
 Source: authors

The RNN model exhibited lower performance compared to other models. While its accuracy improved from 0.49 in the first cycle to 0.89 in the tenth cycle, the validation accuracy only reached 0.83. The training loss decreased from 0.20 to 0.02, while the validation loss declined from 0.14 to 0.08 (Figures 7 and 8).

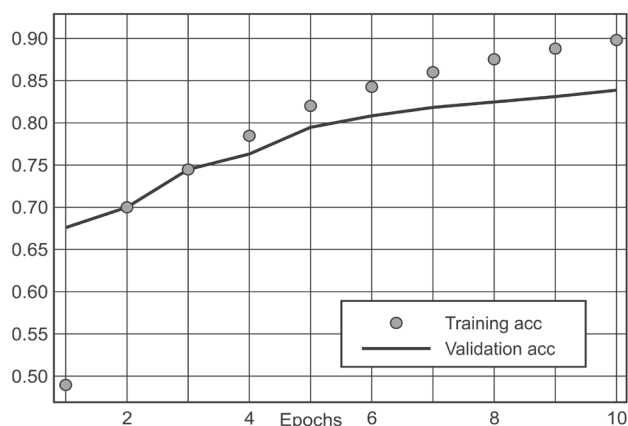


Figure 7. Recurrent neural network (RNN) accuracy curves
 Source: authors

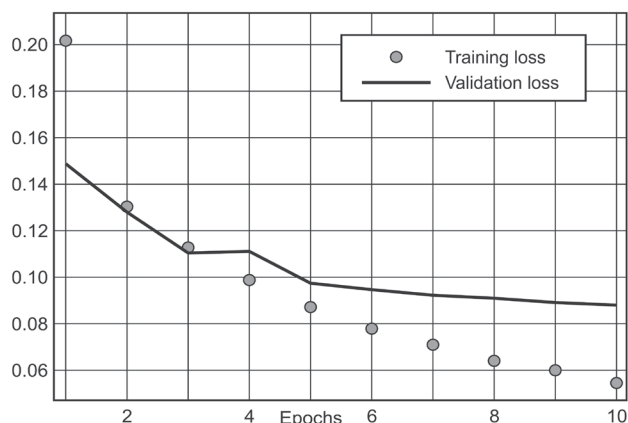


Figure 8. Recurrent neural network (RNN) loss curves
 Source: authors

The GRU model showed significant improvements, achieving 93% training accuracy by the tenth cycle and a validation accuracy of 90%. The training loss dropped from 0.20 to 0.03, while validation loss decreased from 0.14 to 0.05 (Figures 9 and 10).

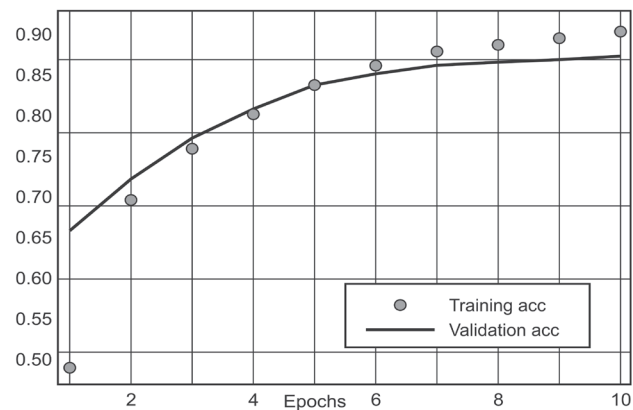


Figure 9. Gated recurrent unit (GRU) accuracy curves
 Source: authors

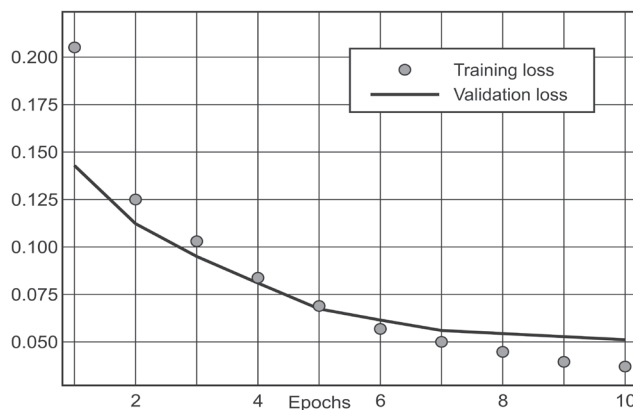


Figure 10. Gated recurrent unit (GRU) loss curves
 Source: authors

The LSTM model achieved the highest overall accuracy (94%) with an F_1 score of 0.91. The training loss dropped significantly from 0.20 to 0.02, and the validation loss was reduced from 0.13 to 0.04 (Figures 11 and 12).

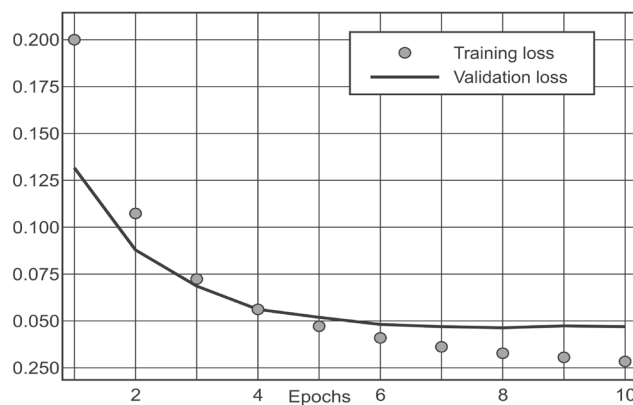


Figure 11. Long short-term memory (LSTM) accuracy curves
 Source: authors

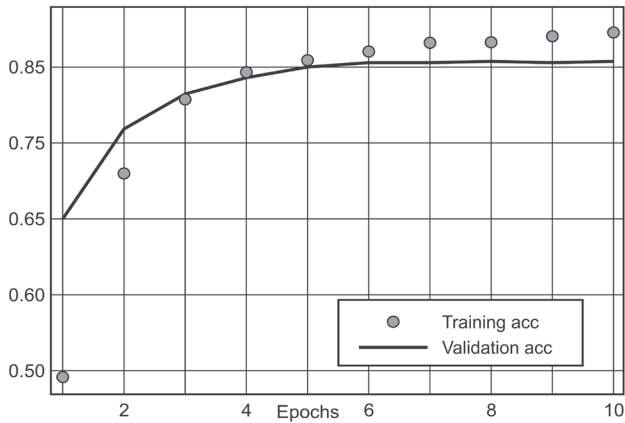


Figure 12. Long short-term memory (LSTM) loss curves
Source: authors

The BiLSTM model performed slightly lower than the LSTM and GRU models, with an accuracy of 87% and an F_1 score of 0.87. The training accuracy improved from 0.50 to 0.90, while validation accuracy increased from 0.64 to 0.87. The training loss decreased from 0.19 to 0.04, and the validation loss dropped from 0.14 to 0.06 (Figures 13 and 14).

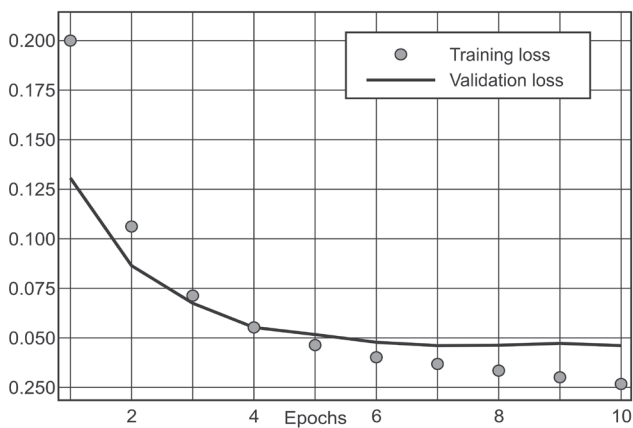


Figure 13. Bidirectional neural network (BiLSTM) accuracy curves
Source: authors

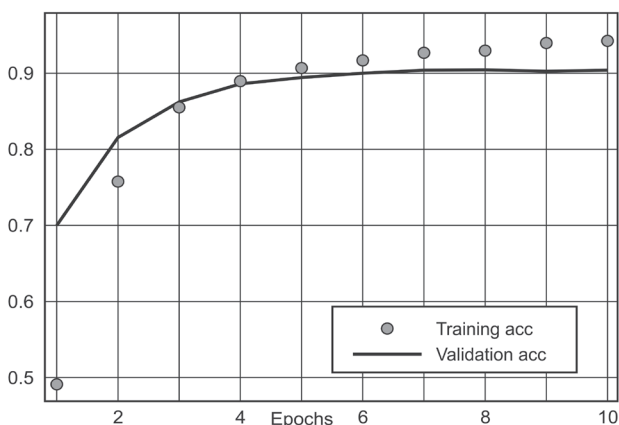


Figure 14. Bidirectional neural network (BiLSTM) loss curves
Source: authors

4.5. EVALUATION OF CLASSIFICATION RESULTS

The classification results from the deep learning models were evaluated within the framework of the cost leadership strategy characteristics. The precision, recall (sensitivity), and F_1 score for each category were analyzed using RNN, LSTM, GRU and BiLSTM.

4.5.1. PERFORMANCE ANALYSIS OF KEY CLASSIFICATIONS

For the brand category, LSTM and GRU achieved 96% precision, 87% recall and an F_1 score of 91%, making LSTM the most effective model. Similarly, price classification had 97% precision and 96% recall, confirming LSTM's strong performance (Table 5).

Table 5. Evaluation of tweets belonging to classifications

Category	Model	Precision	Recall	F_1 score
Brand	LSTM	0.96	0.87	0.91
Price	LSTM	0.97	0.96	0.97
Online	GRU	1.00	0.97	0.98
Booking	LSTM	0.77	0.83	0.80
Airport	LSTM	1.00	1.00	0.99
Transfer	GRU	0.98	0.96	0.97
Class	LSTM	0.63	0.46	0.53
Crew	LSTM	1.00	1.00	1.00
Luggage	GRU	0.97	0.95	0.96
Food	RNN	1.00	0.14	0.25
Frequent	GRU	0.99	0.65	0.77
Wait	LSTM	0.90	0.76	0.82
Cancellation	GRU	0.98	0.99	0.99
Quality	LSTM	0.99	0.97	0.98
Fee	GRU	0.99	0.99	0.99
Airbus	LSTM	0.98	0.97	0.96
Boeing	LSTM	0.97	0.97	0.97
Seat	LSTM	0.97	0.85	0.91
Comfort	LSTM	0.99	0.96	0.98

Note: LSTM – long short-term memory, GRU – gated recurrent unit, RNN – recurrent neural network.

Source: authors.

In the distribution category, GRU achieved 100% precision in online booking classification, while LSTM performed best in standard bookings (80% F_1 score). Airport-related tweets were classified with 100% precision and recall using the LSTM model, confirming high accuracy in this category.

For transfer classification, GRU performed best with 98% precision, 96% recall and an F_1 score of 97%. Meanwhile, flight class classification showed lower accuracy, with LSTM achieving 63% precision and 46% recall, indicating a more complex classification process.

In the in-cabin services category, crew classification was highly accurate across all models, reaching 100% precision and recall. Luggage classification was most effective with 97% precision and 95% recall (GRU model), while food classification had 100% precision with RNN but lower recall (84% with GRU model).

For aircraft utilization rate (frequent), GRU achieved the highest precision (99%), but recall was lower (65% with LSTM). The waiting and cancellation classifications had high accuracy, with LSTM achieving 90% precision for wait and 99% precision for cancellations (GRU model).

These findings indicate that LSTM and GRU models were the most effective at classifying tweets related to cost leadership characteristics. The airport, price, and crew categories were classified with high precision, while the class and frequent categories showed lower accuracy due to the complexity of classifications.

4.6. DATA EVALUATION PROCESS

4.6.1. CLASSIFYING BASED ON DOCUMENT AND SENTIMENT ANALYSIS RESULTS

The mission statements of both airlines reveal their emphasis on cost and pricing strategies, aligning with the cost leadership approach. Pegasus focuses on accessibility, stating, "We believe that everyone has the right to air travel", while Ryanair explicitly connects its mission to its cost leadership model, declaring, "Continue to focus on limiting costs ... to offer low fares". This clarity in Ryanair's mission aligns directly with its business model, whereas Pegasus takes a broader approach.

In terms of branding, Pegasus operates as a single brand, while Ryanair benefits from being part of a larger group that includes Buzz, Lauda and Malta Air. Sentiment analysis showed that Ryanair's users have a positive perception of its brand, likely influenced by its group identity, while Pegasus was perceived neutrally. This suggests that Ryanair's brand positioning within its group may enhance its user appeal despite not strictly adhering to cost leadership strategies. Another important dimension is the organizational and legal form of the airlines. Ryanair operates as part of a holding group (including Buzz, Lauda and Malta Air) and this allows economies of scale and strategic diversification (Castro & Lohmann, 2014). Moreover, Ryanair's standardized fleet of Boeing 737s significantly contributes to maintenance and training cost reductions, reinforcing its cost leadership

strategy. In contrast, Pegasus operates a mixed fleet which, while offering flexibility, may lead to relatively higher operational costs.

Pricing, a critical element in the cost leadership strategy, was positively perceived for both airlines. Pegasus emphasizes affordable pricing with optional services to enhance comfort, while Ryanair highlights its promotional campaigns and transparent pricing models. These pricing strategies resonate well with users, as reflected in the positive sentiment analysis for both operators.

In distribution, Ryanair uses its proprietary online reservation system (Navitaire), adhering to a strict cost leadership approach, whereas Pegasus relies on agency collaborations that incur additional costs. Despite this deviation, Pegasus received positive sentiment for its distribution system, indicating that customers value the convenience it offers, while Ryanair's feedback remained neutral.

For airport usage, Ryanair serves a greater number of secondary airports compared to Pegasus, aligning with cost-reduction strategies. However, this approach impacts customer satisfaction negatively, as Ryanair received neutral sentiment, whereas Pegasus was viewed positively. Secondary airports often require passengers to travel further, reducing convenience and satisfaction.

In terms of route networks, Pegasus operates in more destinations (124 in 47 countries) compared to Ryanair (88 in 40 countries). This larger network aligns with Pegasus's emphasis on accessibility, contributing to a positive perception among users. In contrast, Ryanair received neutral feedback in this category, despite its focus on frequent point-to-point short-haul flights.

Both airlines offer economy-class only services, with options to upgrade through flight packages. Users perceive these offerings positively, reflecting the appeal of affordable travel options combined with customization possibilities. This reinforces the effectiveness of their cost leadership models in meeting customer expectations.

In-cabin services, such as meals, baggage and cabin crew, are chargeable for both airlines, consistent with their cost leadership strategies. However, Pegasus received positive sentiment for these services, while Ryanair's sentiment was neutral. The difference may stem from variations in service quality, pricing or the overall user experience.

Aircraft utilization rates are crucial for low-cost operators. Ryanair operates at 9.11 hours per day, outperforming Pegasus's 6.2 hours. Sentiment analysis for both airlines was positive, indicating that frequent flights enhance customer satisfaction.

Regarding on-time performance, Ryanair reported a 96% on-time departure rate, compared to Pegasus's 88.4%. Despite this difference, sentiment analysis for

both airlines was positive, suggesting that passengers are generally satisfied with their operational efficiency.

Low-cost airlines often simplify their services, providing only the essentials, such as a seat for passengers. This approach received positive sentiment for both airlines, indicating that their streamlined offerings meet passenger expectations.

Secondary revenue streams, including add-ons like seat selection, baggage fees and travel services, account for 37% of Ryanair's revenue and 31% for Pegasus. While Ryanair generates higher ancillary revenue, its sentiment analysis was neutral, suggesting dissatisfaction with additional charges. In contrast, Pegasus's positive sentiment reflects greater acceptance of its optional services.

Fleet uniformity is another key cost-saving measure. Ryanair exclusively operates Boeing 737-800s, while Pegasus uses a mix of Boeing and Airbus models. Surprisingly, Pegasus's diverse fleet received higher customer satisfaction, as reflected in the sentiment analysis.

Lastly, customer service, often limited in low-cost airlines, is handled through various digital and traditional channels by both operators. Pegasus received higher satisfaction ratings due to tools like its Travel Assistant app and WhatsApp support, while Ryanair's sentiment was positive but included a higher proportion of negative tweets. The accessibility and responsiveness of digital tools appear to play a significant role in customer perceptions.

Both airlines focus exclusively on transportation services as part of their low-cost models. This aligns with customer expectations, as evidenced by the positive sentiment in this area. These findings demonstrate how specific elements of the cost leadership strategy impact user perceptions, with some deviations yielding mixed results.

5. DISCUSSION AND CONCLUSION

The research analyzed low-cost airline companies within the framework of the cost leadership competition strategy. It utilized document analysis to examine the strategies and practices of Ryanair and Pegasus, as well as sentiment analysis using deep learning methods on user-generated data from the social media platform X.com. The findings revealed how cost leadership features influence customer perceptions and satisfaction.

This study is subject to several limitations. First, the document analysis was based on publicly available corporate reports and investor materials, which may not fully reflect internal strategic decisions. Second, the sentiment analysis relied solely on data from X.com,

which may not represent the entire customer base due to demographic and usage biases. Additionally, deep learning models, while powerful, can produce classification errors if trained on imbalanced or noisy data. Finally, the data were collected within a specific time frame (March–September 2021), and therefore the findings may not be generalizable to other time periods. These limitations should be considered when interpreting the findings.

5.1. KEY FINDINGS

The classification of data based on cost leadership strategy characteristics highlighted significant differences between Ryanair and Pegasus. The most discussed topic for Ryanair was related to airports, while for Pegasus, it was waiting time on the ground. For Ryanair, user perception of airports was neutral, indicating dissatisfaction with the use of secondary and less accessible airports – a common cost-cutting strategy in the low-cost airline model. On the other hand, Pegasus received positive sentiment for waiting time, though negative tweets revealed that passengers still expressed dissatisfaction with delayed or cancelled flights.

Sentiment analysis showed that Ryanair implemented the cost leadership strategy more effectively, particularly in areas such as pricing, point-to-point transportation, and aircraft utilization rates. However, the overall satisfaction level was lower, particularly in categories like in-cabin services, seat comfort, secondary revenues and airport accessibility. These findings suggest that Ryanair's strict adherence to cost leadership principles may lead to dissatisfaction in areas where customers expect higher service quality. Moreover, regional differences between the European Union (EU) and Türkiye play a critical role in shaping cost leadership strategies and passenger expectations. While Ryanair operates within the highly liberalized EU market, benefiting from uniform regulatory frameworks and extensive low-cost travel culture, Pegasus must navigate a more complex regulatory and infrastructural landscape in Türkiye. These contextual factors may influence both the implementation of cost strategies and consumer perceptions across regions.

In contrast, Pegasus demonstrated higher satisfaction rates in categories like seat comfort, in-cabin services, secondary revenues and airport usage. However, this satisfaction indicates a partial deviation from the strict cost leadership strategy. Pegasus aligns more closely with the hybrid airline model, blending features of low-cost and traditional business models. Although Pegasus defines itself as a low-cost carrier, its operational practices increasingly reflect characteristics of a hybrid model. These include offering tiered service packages, using primary airports, and implementing customer

service tools that go beyond basic low-cost operations. This divergence between declared strategy and actual practice reveals a shift toward balancing cost efficiency with service quality, especially in response to customer expectations in the Turkish market.

Another important dimension concerns the spatial configuration of the route networks of the two airlines. Ryanair's route map is heavily concentrated within Western and Central Europe, with most destinations clustered in EU countries and a limited reach beyond the region. This model supports short-haul, intra-European tourism. Conversely, Pegasus Airlines, through its hub in Istanbul, operates a wider geographic network, covering not only European destinations but also cities in the Middle East, Central Asia and South Asia. This east-west connectivity reflects Türkiye's unique geostrategic position and plays a significant role in facilitating transregional tourism flows. The contrast in their spatial footprints reveals differing market focuses and opportunities for tourism development aligned with geographical expansion (CAPA, n.d.; Flightradar24, n.d.; Pegasus Investor Relations, n.d.a.; Ryanair Group, 2024).

5.2. COMPETITIVE STRATEGIES AND IMPLICATIONS

Ryanair's competitive approach aligns closely with the ultra-low-cost airline model observed in carriers like Spirit, Frontier and Wizz Air. These airlines adopt an aggressive pricing policy, charging for all additional services, such as seat selection, baggage and onboard refreshments. Ryanair's high aircraft utilization rate and limited amenities align with this model, although differences remain in its implementation of some cost-reduction strategies (Bachwich & Wittman, 2017).

Pegasus, on the other hand, appears to have adopted a hybrid model. This strategy emerged post-2008 economic crisis and combines elements of both low-cost and traditional airline models. Features like in-flight entertainment, more diverse fleet structures, and a focus on central airports illustrate Pegasus's approach. While this model enhances customer satisfaction, it deviates from the core principles of cost leadership.

5.3. CONCLUSIONS AND FUTURE DIRECTIONS

The study demonstrates that while Ryanair adheres strictly to the cost leadership strategy, it often sacrifices customer satisfaction in areas where users expect better service. Pegasus, despite defining itself as a low-cost airline, incorporates elements of a hybrid model that cater to customer preferences but dilute the cost leadership approach. These findings suggest that customer awareness and expectations regarding low-cost airline business models play a critical role in shaping satisfaction levels.

For future research, understanding passenger awareness and perceptions of the low-cost airline business model will be critical. Educating customers on the trade-offs involved – such as the benefits of lower fares when using secondary airports – may help align expectations with operational realities. Additionally, further studies could explore how hybrid models can balance cost efficiency with enhanced customer satisfaction, providing a blueprint for airlines seeking to compete in this dynamic industry.

In conclusion, Ryanair demonstrates a more accurate implementation of cost leadership strategies, while Pegasus achieves higher customer satisfaction by adopting a flexible, hybrid model. This contrast highlights the challenge of balancing cost efficiency with customer expectations in the low-cost airline industry.

These findings contribute to the literature by offering a novel AI-driven methodological approach and providing managerial insights for airline executives striving to balance cost efficiency and customer satisfaction.

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FACTORS AFFECTING VISITORS' MEMORABLE WINE TOURISM EXPERIENCES AT THE URLA VINEYARD ROUTE (TÜRKİYE – AEGEAN COAST)

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ABSTRACT

This paper aims to identify the key factors that contribute to a memorable wine tourism experience for visitors to the Urla Vineyard Route (UVR). This route the second most important wine tourism route in Türkiye after the Thrace Vineyard Route, was created by seven vineyard owners in 2015. In the research 378 comments of visitors posted on TripAdvisor between 2016 and 2023 were collected and the data was analyzed using MAXQDA Analytics Pro 2020 software. This research employed the netnographic research process. Results show that six factors affect visitors' wine tourism experiences: the scenery and atmosphere of the vineyard and winery, winery staff, grape variety, food taste, wine tasting and price. Scenery is the most influential factor, while the price is the least in visitors' wine tourism experiences.

KEYWORDS

wine tourism, experience, wine route, vineyard, winery, Urla

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1. INTRODUCTION

Wine tourism or oenotourism has grown to be a very popular and rapidly expanding segment of the tourism market in wine-producing regions across the world (Barth & Salazar, 2011; Charters & Ali-Knight, 2002; Hall & Mitchell, 2000; Qiu et al., 2013). The terms “wine tourism” and “oenotourism” are frequently used interchangeably but in travel contexts, “wine tourism” is the more prevalent term. Meanwhile, “oenotourism” – derived from the Greek *oinos* (meaning ‘wine’) – tends to be used more in professional, academic or European contexts conveying a more scholarly or culturally

embedded perspective. Oenotourism emphasizes a more educational and immersive experience centered on wine, as well as the exploration of the region's natural beauty, history and heritage (Gündoğan & Yankı, 2021). According to Süer and Keskin (2024), oenotourism involves not only wine tasting but also appreciating the cultural and natural richness of the wine-producing area.

Wine tourism offers unique experiences in an atmosphere surrounded by distinctive natural landscapes and cultural heritage (Quadri-Felitti & Fiore, 2013), encompassing a wide range of different experiences, such as wine-related travel (Santos et al., 2020),



as well as cultural, rural, community and natural attractions. Regarding the literature review, the most popular wine tourism activities are wine tasting and winery and vineyard visits (Brochado et al., 2021). According to Sekulić et al. (2016), visiting vineyards, wine tastings, trying a variety of wines, learning about winemaking, and planning the trip are the main reasons for tourists to engage in wine tourism.

Visits to vineyards allow tourists to take in the unique scenery and its aesthetic qualities and wineries provide visitors with a variety of immersive experiences during their trips. According to Madeira et al. (2019), the wine tourism experience usually involves the concurrent interactions of the cellar, wine, staff, education, entertainment and aesthetics.

In a natural setting like a vineyard, tourists may learn about terroir – unique environmental factors shaping a wine's character – while taking a break from everyday life. During the visit to the winery, tourists are given explanations about the various techniques used for aging and elaboration, the varieties of wine made, and some of the traits unique to each one. Additionally, visitors can partake in tastings as well as wine-related fairs and festivals (Brochado et al., 2021; Carlsen, 2004; Marzo-Navarro & Pedraja-Iglesias, 2009). At tastings, visitors usually try many wines, and they can also pair them with local food specialties. Wine tourism has become a viable and sustainable kind of trip that improves visitor interactions with the environment and with local customs such as winemaking.

In the literature on wine tourism, Alebaki et al. (2014, pp. 228–229) distinguished two important, overlapping streams: a “winery” focus and a “region” focus. “Winery” focuses on wine culture, quality, the marketing of specific wines and wineries, and tourists' behavior. “Region” refers to the area where wine is produced, the appeal and life of a destination and the administration of tourism based on wine's allure. While the analysis in this study was predicated on winery evaluations, it leans more toward a “region” perspective.

It is well acknowledged that wine tourism experiences have a significant influence on consumer behavior and attitudes, and this can influence customers' purchasing decisions (Velikova et al., 2015). As noted by Cohen and Ben-Nun (2009), wine perception is significantly influenced by prior wine tourism experiences with positive attitudes arising from those if they are seen positively, while negative attitudes may arise from an unpleasant experience (Bagozzi et al., 1999; Mano, 2004). Therefore, future purchases will be influenced by favorable customer perceptions (Alant & Bruwer, 2010; Bruwer & Lesschaeve, 2012), while positive ones will also boost brand loyalty (Quadri-Felitti & Fiore, 2013). Accordingly, most wine tourism experiences involve a substantial educational component that visitors will remember when making future purchases (Lee et al.,

2017; Sönmez & Graefe, 1998). Therefore, understanding the factors that influence the wine tourism experience is essential, since it can lead to more sales, more tourists, and more money spent in a region (Saayman & A. van der Merwe, 2015).

According to Ali-Knight and Carlsen (2003), wine experience marketing helps to advance the idea of wine tourism with exceptional experiences from the wineries providing strong feelings of emotion. If the wine tourist has a positive experience, they will tell their friends and peers about it, which is beneficial to the winery. Leri and Theodoridis (2019) explored how the emotions of tourists influence their willingness to visit and recommend a winery. According to Bruwer et al. (2013), wineries that have a beautiful physical and natural landscape provide tourists with enjoyment that is linked to such emotional experiences. As a result, from the time a tourist enters the winery for the first time until they leave, their experiences are determined by their unique internal reactions (such as feelings).

In today's competitive market, offering tourists a positive travel experience is crucial for the success of wine tourism (Back et al., 2020) and it is essential to comprehend the wine experiences of tourists to gain insights into their characteristics, motivations and preferences when visiting wine regions. This understanding is crucial for the development of wine tourism, effective marketing of wine destinations, and maintaining competitiveness within the wine tourism market. By analyzing tourists' experiences, stakeholders can tailor their offerings better to meet the demands of this niche market. Regarding the influence of wine tourism experiences on consumer behavior, this study aims to explore those of tourists visiting Urla Vineyard Route (UVR).

Türkiye's wine tourism has not received much attention from researchers but it adds significance to this article's contribution to the wine literature. Results offer valuable insights for stakeholders such as local authorities, winery owners and marketers to enhance tourists' wine experiences as well as develop and promote the wine route.

2. LITERATURE REVIEW

Scholarly research on wine tourism first appeared between 1990 and 2000 (Getz, 2000; Mitchell & Hall, 2006) focusing on three themes: destination strategies, actors in the wine tourism sector, and the behavior of wine tourists. Research on destination strategies examines the promotion of wine regions, associated costs and benefits, and the impact these campaigns have on the destination's image (Hojman & Hunter-Jones, 2012). The second focuses on the tourism strategies of

wine producers (Dawson et al., 2011), while the third examines the choices and actions of wine tourists when selecting a wine region (Carlsen & Boksberger, 2015).

Studying the experiential aspect of wine tourism has been the focus of work in more recent years (Cohen & Ben-Nun, 2009; Pikkemaat et al., 2009; Quadri-Felitti & Fiore, 2012, 2013), and is positioned at the core of tourism consumption in studies on marketing. Experience in tourism has emerged as a key notion both for scholars and practitioners (Bosangit et al., 2015). Although the wine tourism experience has been extensively researched from a number of dimensions, including wine involvement, winescape – the entire attributes of a wine region – the experience economy, service experience quality and experiential marketing, scholars still disagree on what the fundamental elements of the wine tourism experience are (Zhang & Lee, 2022).

Research results indicate that the wine tourism experience is a multidimensional concept and Mitchell et al. (2000) have proposed an experiential viewpoint regarding wine tourism. They emphasize that the appealing imagery associated with wine extends beyond just the mere consumption of a drink; it encompasses a broader experience that transcends the senses and emotions related to the wine itself. Wine tourism, like many other tourism types, involves a rich tapestry of elements. These include the characteristics of the individual visitor, the environment in which the experience takes place, interactions with the personalities involved in winemaking, and connections with other integral aspects such as food, accommodation and fellow visitors. It is the combination of these varied components, rather than each element in isolation, that constitutes the overall winery experience.

Wine tourism is seen as a hedonic experience but Crespi-Vallbona and Mascarilla-Miró (2020) found that, besides hedonism, factors such as nostalgia, tasting, involvement, knowledge, significance, novelty and local culture are important in a memorable and satisfying wine tourism experience. It has been discovered that the most crucial factor generating tourists' satisfaction is wine tasting.

Attractiveness and authenticity are also crucial elements in producing a remarkable wine tourism experience (Getz, 2000; Roberts & Sparks, 2006), even though high-quality wine is something that many winery visitors take for granted. General winescape elements like the production facilities, vineyards and tasting rooms are other factors (Bruwer & Lesschaeve, 2012; Galloway et al., 2008; Johnson & Bruwer, 2007).

The traditional focus of wine tourism has been on the senses (smell, taste, touch, hearing and sight), emotions and the pleasure of pastoral environments. Getz (2000) claims that wine tourism is a fully immersive sensory experience, encompassing the following five senses:

1. Smell: grapes and the land, the fresh air of the countryside, wine fermentation, cellars where the wine ages, and fresh herbs and roses from the garden.
2. Taste: local food and wines, as well as fresh grapes and other products.
3. Touch: from the perception of the procedures involved in making wine, to the bottle and glass, to cooking with wine and harvesting grapes.
4. Sight: the bright sky and vineyards, the distinctive local architecture, people having a good time, traditional festivals and the color of the wine.
5. Hearing: the act of bottling, the opening of a bottle, joyful music, the wine production machinery, and the kitchen and cooking.

Studies have focused on rural landscapes and the natural environment (Bruwer & Alant, 2009; Bruwer & Lesschaeve, 2012). According to Cohen and Ben-Nun (2009), a wine tourism experience encompasses more than just the pleasure of seeing a winery and sampling its offerings; it also includes other activities like taking in the surrounding area's scenic beauty and other local tourism attractions. Konuk (2013) categorized the experiences of consumers visiting Sensuswine under five factors and named them as lifestyle, emotion, belonging, atmosphere and satisfaction.

Singh and Hsiung (2016) determined the crucial elements for Napa Valley's wine tourism using importance-performance analysis (IPA). The top five factors that are important for wine visitors are the scenery, high-quality wines, fine-dining and gourmet restaurants, pleasant and attentive staff, activities, and opportunities for relaxation. Wine-related items that scored highly include quality, purchase options, and a consistent image. Additionally, using IPA, Stergiou (2018) studied service quality during trips to Greek wineries. According to the survey, the top factors drawing wine tourists are the scenery, wines, food, people and activities other than wine tasting and/or drinking. The staff scored the highest in terms of performance.

Using Pine and Gilmore's four stages of economic progression, Quadri-Felitti and Fiore (2012, 2013) applied the "four realms of an experience", the 4Es (entertainment, educational, esthetics and escapism), to wine tourism activities. Their study on the Lake Erie Wine Country Trail revealed that aesthetics had the greatest influence on establishing a memorable wine-tourism experience. Sensual environments such as winescapes, boutique hotels and wines, countryside drives with vineyards alongside, and winery art and craft fairs enhance the traveler's experience. Similarly, Amaral et al. (2024) discovered that the most important component of the wine tourist experience is entertainment (winery, wine, heritage, festival, etc.) utilizing the 4Es. Aesthetics, which includes things like cuisine, art and landscape, is the second

most influential component. The third is educational (tasting, pairing, guided tour, etc.), while the final dimension is escapism. Wine tourists can participate in a genuine wine experience at wineries by witnessing the production process in an on-site setting, which is followed by bottling and labeling. After that, visitors can learn more about specialized information, like the vintage.

Mason and O'Mahony (2007) highlighted six themes: cuisine, lifestyle, regionalism, environment, rurality and health – all of which are crucial for a memorable culinary tourist experience on the food and wine route. Some other studies have identified factors such as the event's atmosphere, nature, wines, scenery, the opportunity to engage in activities beyond wine tasting, the uniqueness of the experience, education about the wines, interaction with the wine maker, meeting new people, signage, complimentary wine-related gifts, child-friendly activities, live entertainment, and the quality of amenities and entertainment provided by the winery (Saayman & A. van der Merwe, 2015).

In their research conducted on one of South Africa's greatest routes, the Robertson Wine Route, Saayman and P. van der Merwe (2015) identified four key factors that impact tourists' wine experience: the quality of the route, food and entertainment, information dissemination and amenities. The study revealed that, among these factors, the quality of the route had the least influence, while amenities had the most significant impact.

Carmichael (2005) investigated the experience of wine tourism in relation to two factors: the regional rural experience and activity-place experiences. The regional rural experience refers to the atmosphere, ambience, surrounding environment, local wine styles and varieties, and regional culture and food, which are just a few that come together to make up this experience (Williams, 2001). Therefore, the rural landscape is a crucial component of the wine tourism experience. Activity-place experiences are linked to the factors that influence the quality of a tourist's experience at the winery while according to Dodd and Gustafson (1997), four categories may affect a visitor's attitude: service, wine characteristics, winery environment and price.

According to Pivac (2012), an "overall wine experience" consists of the following ten features: (a) wine tasting and purchasing; (b) socializing with friends; (c) enjoying the rural setting and vineyards; (d) spending time outside; (e) learning about wine; (f) learning about wine production; (g) winery tours; (h) wine tasting at restaurants; (i) relaxation; and (j) experiencing other attractions and activities.

In order to investigate their effects on the wine tourism experience, Gu et al. (2019) proposed a model that incorporates perceived wine tourism facilitators and constraints and tested the moderating role of

involvement in these effects. This study, which used a sample of Chinese outbound wine tourists visiting Australia, found that the perceived facilitating factors were local attractions, interpersonal facilitators and winery fame. The constraining factors were personal language and transportation barriers, time and information barriers, and winery fame. This last had a negative impact on the wine tourism experience, whereas both interpersonal facilitators and local attractions had a positive impact. According to the study, involvement moderated the influence of facilitators and constraints on the experience of wine tourism. Local attractions have a significant impact on high-involvement wine tourists; however, interpersonal facilitators have a negative impact on their experience.

There are few academic studies on wine tourism in Türkiye, especially on its experience. Güzel et al. (2021) explored the strategic success factors for wine tourism entrepreneurs in the Elmalı (Antalya) region, highlighting that success relies not merely on economic and legal structures but also on providing visitors with a compelling experience that reflects the region's distinctive identity, encompassing its geographical and cultural richness, climate, preserved architectural heritage and vibrant religious traditions. In this context, Güzel et al. (2021) highlighted several key elements vital to the wine tourism experience, including location, authenticity (alignment with brand and local values), physical appearance (well-designed spaces, stylish owners, adequate car parking and overall property aesthetics), branding, accommodations, restaurants and cafes, event management and guided tours.

Meanwhile, in their study of local and international tourists visiting the Thrace Vineyard Route, Bekar and Benzergil (2025) characterized visitors as experiencers who are eager to learn, thereby underscoring the significance of the educational aspect of the wine experience and participants' attitudes towards wine tourism as seekers of information.

A study conducted by Akyürek et al. (2024) identified four key factors that shape the visitor experience: gastronomic elements, the conduct of business owners and employees, the overall atmosphere (music, scenery, landscaping, etc.), and various additional factors such as cleanliness, hygiene, parking and pricing. Soylu (2022) analyzed the holiday experiences of tourists visiting food and beverage venues along wine routes, categorizing these experiences into seven distinct categories of which four – atmosphere, service, product quality and price – play a crucial role in defining the wine tourism experience. Oyan and Akdağ (2020) compared the wine tourism experiences of Turkish and Portuguese wine tourists and organized their findings into four main aspects: tasting, interaction with staff, wine purchasing and pricing.

As a result, the findings of studies that concentrate on the wine experience are subject to change. Wine tourists' expectations vary from region to region, according to Charters and Ali-Knight (2002), and are based on a number of crucial success criteria that are implemented in certain locations, such as particular geographical and cultural characteristics. After examining the crucial success factors for wine tourism destinations, Getz and Brown (2006) came to the conclusion that the combination of three core elements – the cultural product, the core destination appeal and the core wine product – as well as their adjacent dimensions result in the success of the experience.

2.1. THE URLA VINEYARD ROUTE (UVR)

Wine production in Urla is as old as the history of the region. The ancient city of Klazomenai, where Urla was first mentioned, existed in 2000 BC and inhabited by the Ionians, who originated in Greece in the first century BC and moved into Anatolia, establishing new cities in the region that stretched from Izmir Bay to the Mandalay Gulf. The oldest olive oil workshop ever discovered was in ancient Klazomenai while the microclimate there and its terrain made it suitable for viniculture so wine production developed and expanded. Anciently, amphorae were used to store

the wines made in this region ("Urla Vineyard Route: A rhapsody of colors", n.d.) and during that period, wine was a significant commercial item in a large geographic area that included the Western Mediterranean and Black Sea coasts.

Wine trade and production in these regions stretch back to 4000 BC, as seen from archeological evidence (Urla Şarapçılık, n.d.). According to the travelogue of the renowned traveler Evliya Çelebi, "Ulice", the daughter of the King of Kıdafi, created the city, which was then given the name "Urli" before becoming more commonly known as "Urla" (T.C. Urla Kaymakamlığı, n.d.). Today, the regional wine labels use these names and due to the significance of wine in historical events and its connections to culture, this area is now a popular destination for wine tourists.

To promote Turkish wines and preserve the long-standing Anatolian winemaking tradition, Urla winemakers created the UVR in 2015. Urla Bağcılık ve Şarap Üreticileri Derneği (The Urla Viticulture and Wine Producers Association) was formed by seven vineyard owners: Limantepe, MMG Şarapçılık, Mozaik, Urla Şarapçılık, Urlice, USCA and Urla Bağ Evi (Urla Vineyard House) (see Table 1). The owners of the vineyards hope that the UVR will help the area become a well-known wine tourism destination, comparable to Tuscany and Bordeaux.

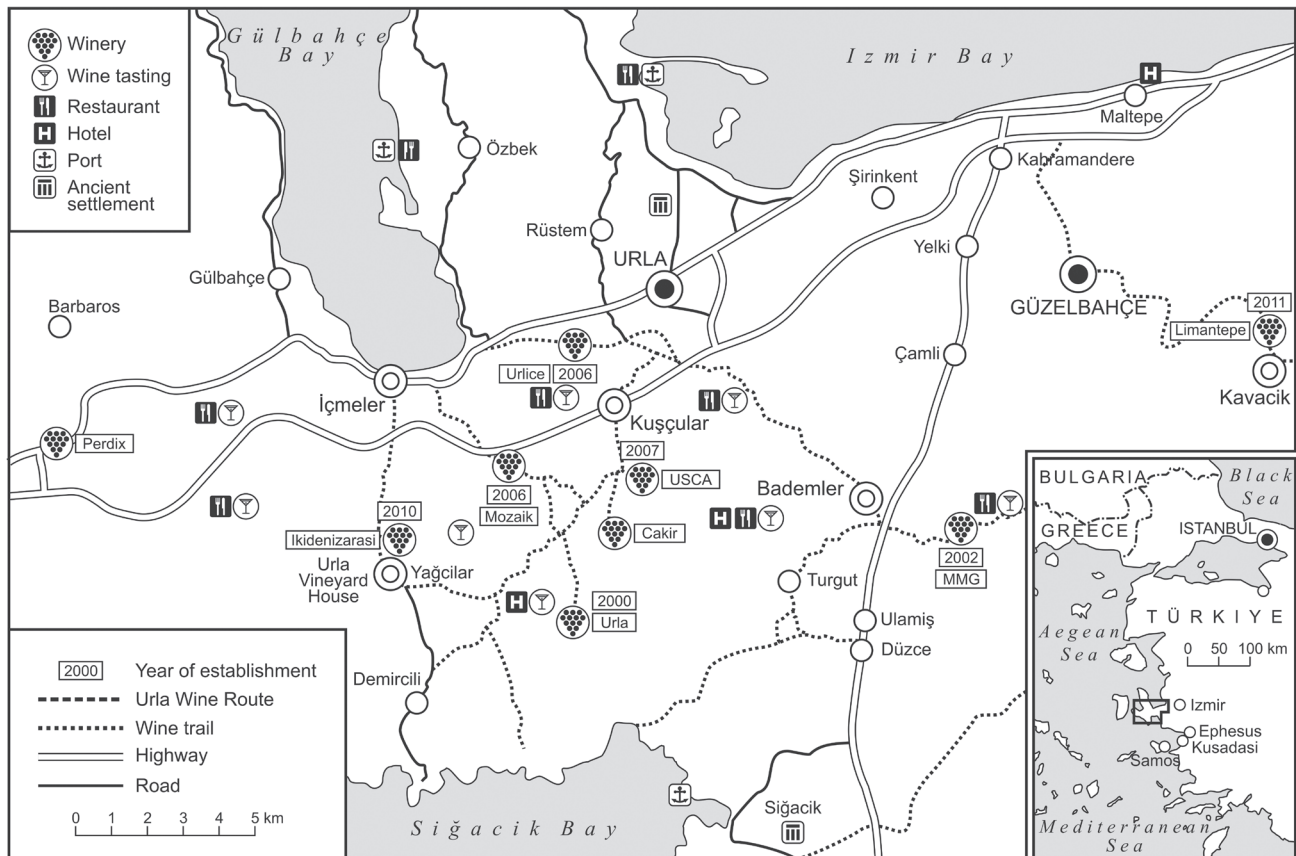


Figure 1. Urla Vineyard (Wine) Route
Source: Urla Bağ Yolu (n.d.)

Table 1. Wineries in the Urla Vineyard Route

Winery	Location	Year of establishment
Urla Şarapçılık	Kuşçular	2000
MMG Şarapçılık	Bademler	2002
Mozaik Şarapçılık	Kuşçular	2006
Urlice Şarapçılık	İçmeler	2006
USCA Şarapçılık	Kuşçular	2007
Limantepe Şarapçılık	Kavacık	2011
Urla Bağ Evi (Urla Vineyard House)	Kuşçular	2010

Source: author.

Situated in the Aegean Region, the UVR has been a significant wine producer for thousands of years, currently accounting for over 50% of Türkiye's wine production. Urla Vineyard Route is located 50 kilometers from Izmir, which is about a one-hour drive (see Figure 1, p. 145).

The wineries along this route are primarily chateau-style establishments, upholding a rich wine-making tradition by utilizing indigenous grape varieties such as Bornova Misketi, Sultaniye, Boğazkere, Foça Karası, Gaydura, and the almost forgotten Urla Karası which has been successfully revived. In addition to these local grapes, the wineries also produce wines from several international varieties, including Merlot, Cabernet Sauvignon, Sauvignon Blanc, Shiraz, Sangiovese, Chardonnay and Nero d'Avola.

The UVR offers visitors a unique and immersive wine tourism experience that showcases the rich history and culture of the Urla region of Türkiye. Numerous wine-related experiences are available to visitors to the area, including tours of nearby wineries, wine tastings, grape harvesting events and food pairings. Along with wine tasting, the route provides many options for biking and trekking, horse riding, accommodation in boutique hotels where visitors may experience the local culture, and delectable meals at gourmet restaurants. The municipality of Izmir has also developed 20 separate "olive paths" to promote cycling and hiking excursions in the region.

3. METHODOLOGY

The research employed the netnographic process, which is based on the survey of secondary data that is accessible online in the form of reviews with the assessment of tourists visiting the region (Kozinets, 2010). To determine the factors influencing wine

tourism experiences, reviews posted by travelers on TripAdvisor, which is well known for being a popular review website (Pearce & Wu, 2016), were collected.

Online reviews on sites like TripAdvisor are regarded as reliable sources of information that help wine enthusiasts and wine tourists evaluate various services and facilities (Cassar et al., 2018). Recent research has also shown the benefits of using web reviews to assess visitor experiences and identify satisfaction dimensions (Brochado et al., 2019; Rodrigues et al., 2017).

Thus, the primary goal of the current study is to determine the key elements of wine tourism experiences from visitor-shared internet reviews. The study aims to answer the research question:

RQ: How do visitors explain their wine tourism experiences in online reviews?

In the study, reviews between the years of 2016 and 2023 were collected; 478 (mainly from Turkish travelers) focused on wine tourism experiences (covering wineries, accommodation facilities, restaurants and the wine route). However, only 378 reviews were considered, as some of them were irrelevant to the topic.

In this study, a quantitative approach was adopted, and content analysis was carried out on visitors' comments using the MAXQDA Analytics Pro 2020 program to analyze the data. MAXQDA is software used for qualitative and quantitative data analysis, providing a variety of tools for analyzing and understanding qualitative data, such as the capacity to code and classify, identify patterns and themes, and produce visualizations (MAXQDA, n.d.). MAXQDA is widely utilized in hospitality and tourism research to define visitor experiences, determine their primary characteristics, and examine the core themes.

The analysis of the data included several steps. The initial one involved transferring reviews into a word document and then all were examined by the author and translated into English. In the second step, considering the text against the literature, a coding scheme was determined. Significant and related categories were then grouped using these codes, after which the key themes were identified. Three distinct researchers who are experts in gastronomy and wine decoded the data set to ensure the validity of the study and MAXQDA program's project merge tab was used to combine the codes that were obtained. The consensus tab between encoders was then used to conduct a reliability and validity analysis. After agreement on the codes, sub-themes and main themes were determined.

4. FINDINGS

The analytical process identified six themes (factors) that influence the wine experience of visitors. These are

the scenery and atmosphere, winery staff, grape variety, food taste, wine tasting and price. The frequencies of the factors and main themes affecting wine experiences are presented in Figures 2 and 3.

The findings indicate that the most significant aspect influencing the wine experience is the scenery and atmosphere of the winery and the wine region, mentioned 229 times, followed by winery staff with a frequency of 175, grape variety with 117, food taste 116, wine tasting 113 and price 79.

Scenery and atmosphere include the scenery of the vineyards, wineries and accommodation facilities, the natural surroundings of the wineries, a peaceful environment, the exterior and interior decoration of wineries, the music played in the tasting room, etc. The results suggest that the natural surroundings, the scenery of the vineyards, and the overall ambience of the wineries play a crucial role in shaping visitors' wine tourism experiences.

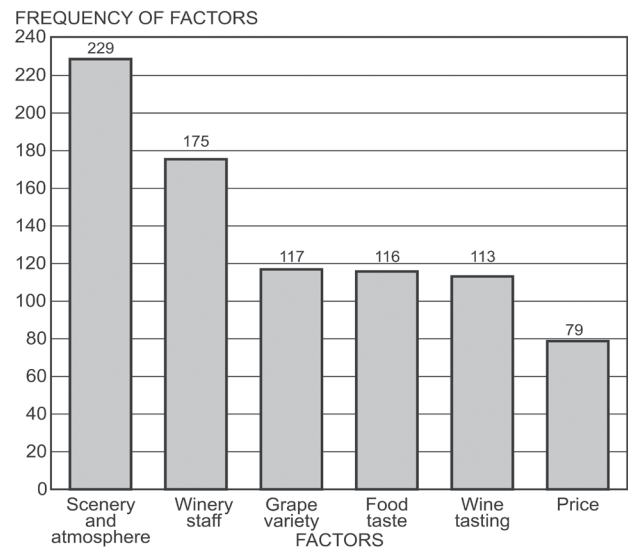


Figure 2. Frequency of themes (factors)
Source: author



Figure 3. Main themes affecting wine experience
Source: author

A typical review written by a couple:

When you step into the winery, a magnificent view, landscape, and privileged ambiance welcome you, and you start to be impressed from the very first moment. Our greatest pleasure was to sip our wines in the beautiful view of this place.

A group of female friends who wanted to escape their routine lives wrote:

The decoration of the hotel lobby and dining areas are wonderful; there are cacti, succulents, various plants. The hotel has a bohemian style, a nice area is designed in the middle of the outdoor seating areas where you can light a fire. ... To the left of the hotel, there are vineyards you can take a walk, and in wintertime, you can drink your wine in front of the fireplace, accompanied by nice jazz music.

The winery staff theme is related to the helpful, kind, and friendly behaviors of the winery and the hotel staff and their knowledge about grapes, wine production, serving, and food and wine pairings. Courtesy and helpful behavior, their knowledge about grapes and wine, the production process, etc. are other influential factors in UVR.

A young visitor wrote:

The staff was smiley, helpful, and friendly. ... During the wine tasting, detailed information (from how wine is produced to, how it is drunk, to what food it goes well with) was given about the wines we tasted. It's important to know how the wine you taste is produced.

A Turkish visitor living in the USA said:

The gentleman, who is extremely knowledgeable and works as the winery coordinator, told us the story of the winery, the technologies they use, and the added value they create. ... It was a unique experience to listen to the story of how the Urla Karası grape was brought back.

Grape varieties also affect the experiences of consumers. Wineries on the Urla Wine Route produced wines from local grapes such as Urla Karası, Foça Karası, Misket (Muscat), as well as international ones, i.e. Viognier, Shiraz, Merlot, Chardonnay, etc. A young woman wrote:

Definitely try the wine made from local grapes. Especially Sonnet 5 is great. The winery has named its wines after Shakespeare's *Sonnets*, each wine corresponding to a sonnet. Sonnet 5 wine is made from the local grape, Bornova Muscat. Its smell takes you to different places before you even drink it. A medium-bodied and smooth wine, muscat but not sweet, almost dry.

A man commented:

Foça Karası, which is the grape of these lands, was beautiful, but viognier was awesome. If you like white wine, Viognier is the best; if you say red, Foça Karası is my favourite.

A couple choosing wine for their restaurant:

Among the red wines, Urla Karası and Tempus, which are made from Cabernet Sauvignon, Shiraz, Merlot, Petit Verdot and Cabernet Franc, are excellent. However, Urla Karası is above Turkish standards.

A woman shared her experience:

I tried blush, followed by Viognier & Chardonnay. Viognier & Chardonnay is very nice; you can smell the fresh fig aroma intensely in the front nose. Afterwards, the vanilla aroma releases itself. Viognier & Chardonnay is a nice wine to enjoy with appetizers on summer evenings.

The taste of food that is served at restaurants located in wineries and the snacks consumed during the wine tasting is also an important factor. Visitors typically comment on the quality and the taste of the food, which is regularly praised as being outstanding or delicious and which they thought was fantastic. People expect fresh and delicious food prepared from local ingredients while drinking a glass of wine.

A family living in İstanbul:

If you want to enjoy nature with delicious food and drinks, this is the right address. It's a small and cozy place run by the owners. There is a wine house next to the vineyards. ... You won't be able to get enough of both delicious food and wine. Risotto and pizza were great.

A couple celebrating their wedding anniversary commented:

My wife and I came on the recommendation of our friends for our anniversary. ... The first night, we had excellent food which was served by Chef Kaan Baysallı. Grilled octopus with sauce, goat cheese in kadayıf, and grilled beef were very tasty, and their presentation was very nice.

An owner of a small hotel wrote:

... We loved the food; it was simply perfect. The menu of the restaurant includes wines, especially those from the Urla region. All the ingredients used in the meals are local, and most of them are supplied from the village; moreover, the restaurant chef is very nice and helpful. ... Every dish on the menu is worth exploring and is delicately prepared. As a starter, we ordered bruschetta and goat cheese with kadaifi. As the main course, we preferred seafood, octopus with wine sauce,

The opinions of tourists regarding vineyards are positively impacted by experienced cellar staff (Brochado et al., 2019). Visitors who travel for wine and gastronomy have a curiosity about discovering new things and learning about wine, which is referred to as an educational dimension in the literature and is an important appeal for tourists (Galloway et al., 2008; Leri & Theodoridis, 2019). Sparks (2007) claims that wine tourists consider personal growth as a defining characteristic.

Grape variety is the third factor affecting the wine tourism experience. The main product of wine tourism is wine and as tourists seek out distinctive flavors (Bruwer & Rueger-Muck, 2019), the grape variety is important in the wine tourism experience (Williams, 2001) as grape variety affects the flavor of wine. Winemakers can produce distinctive flavor profiles by combining various grape varieties, including both domestic and foreign. The narratives highlight local grape varieties such as Urla Karası, Foça Karası and Misket (Muscat). Tasting wines produced from international grapes such as Viognier, Shiraz, Merlot and Chardonnay is also mentioned for a good wine tourism experience. Grapes grown in the sunny terroir of the Aegean region produce wines with a distinct flavor and tourists place a high value on wines made from native grape varieties since they typically symbolize the particular region (Bešlić et al., 2012).

Food provides memorable experiences for visitors in a wine tourism destination. As emphasized by Getz (2000), there is a close connection between wine tourism, local cuisine and authentic experiences. High-quality food served in the vineyards' restaurants, cafes and tasting rooms enhances the experiences of visitors. When enjoying a bottle of wine, visitors highlight the fresh and delectable food that is made using local ingredients while the guests can also learn about wine and food combinations. Pine and Gilmore (1999) assert that creating a remarkable wine and cuisine experience requires using genuine, indigenous food and wine that represent the place of origin, and research has indicated that authenticity plays a crucial role in augmenting wine tourism encounters through the appreciation of regional cuisine and distinctive wines (Ali-Knight & Carlsen, 2003; Quadri-Felitti & Fiore, 2012). Food was determined to be one of the most significant aspects of wine tourism experiences in the research of Hernández et al. (2022), examining the comments of wine tourists visiting Mexican wine regions, while in addition, food and entertainment were rated as the second most important factor contributing to a memorable experience on the Robertson Wine Route (Saayman & P. van der Merwe, 2015). This sensory component, which links various interconnected themes and concepts, emphasizes how vital food or flavors are for a memorable wine tourism experience.

Wine tasting is an integral part of visitors' overall wine tourism experience. Visitors who could sample a variety of wines made from both domestic and foreign grapes, each of which is a distinctive expression of the terroir of Urla, expressed their satisfaction with wine tastings which were paired with mouthwatering regional cuisine. According to Pivac (2012), wine tasting is one of the ten components that make up the "overall wine experience". Cohen and Ben-Nun (2009) noted that wine tasting is one of the primary components of the wine tourism experience and the most popular activity for creating good memories and ensuring visitors' satisfaction. When visitors attend a wine tasting, they get to see, smell and taste the wine in addition to hearing an informative discussion of its different characteristics (Quadri-Felitti & Fiore, 2013).

The price of wine affects the experiences of visitors and as stated by McNamara and Cassidy (2015), visitors prefer free wine tastings. Some visitors in this research found the prices high but this is mostly because of the high taxation that the Turkish government has placed on wines, and this has a negative impact on the tourist experience. According to Alant and Bruwer (2010), there are two main reasons why people travel for wine: wine tasting and wine purchasing. Four categories of winery attributes – service, wine characteristics, winery environment and price – that influence visitors' attitudes toward buying wine have been identified by Dodd and Gustafson (1997). These factors may also be indicative of the quality of the visitors' experience.

6. THEORETICAL IMPLICATIONS

From an academic standpoint, the most significant contribution of this paper is the integration of MAXQDA with the netnography approach to analyze the experiences of wine tourists with netnography offering faster, higher-quality opinions than consumer surveys (Kozinets, 2002). Besides, this paper makes several contributions to the literature on wine tourism. Firstly online visitor reviews on the experiences of tourists visiting UVR, which is the second most popular wine route in Türkiye, were used to create the six dimensions of wine tourism experiences. Visitors exchange details about the complete experience, including the surrounding scenery, landscape, winery staff, regional cuisine, wines, wine tasting and price. The findings of this study demonstrate how important web review content analysis is for comprehending such experiences.

Second, although academic studies on wine tourism experience have increased in recent years, studies on

wine tourism and wine routes in Türkiye are quite limited. Because there is virtually no research in the literature regarding the experiences of Turkish wine tourists, this study adds theoretical insights to the field. The research findings of this study have implications that should inspire further investigations into wine tourism experiences on a country-wide basis. New empirical studies that go considerably beyond current research limits are strongly encouraged.

Third, the results highlighted the significant impact that the environment and scenery, the wine itself and winery staff have on the wine tourist experience. Positive memories are largely shaped by the winery staff and the wine, and social interactions with winery staff play a major role in the experience, satisfaction and memorability of wine tourists, as well as in their revisiting intention and recommendation of the winery to others.

7. PRACTICAL IMPLICATIONS

The findings of this study can be used by wine industry stakeholders, including winery managers, travel companies, policymakers and government organizations, to build strategies and plans that will help promote wine regions, improve visitor satisfaction, and enhance wine tourism experiences through an improved understanding of them. In particular, this research helps winery owners by providing them with the necessary knowledge to improve visitor experiences and increase their satisfaction. Since wine tourists cannot be categorized as generic, a deeper understanding of their expectations and preferences is important in reaching the goal and gaining a competitive advantage for wineries. It also helps to identify the most crucial variables that impact visitors' choices (Giampietri et al., 2018).

It is important to note that visitors to the Urla Vineyard Route typically arrive on day trips, and these influence their assessment of the wine route experience. Therefore, understanding the expectations and experiences of these visitors will be beneficial for wine producers and marketers aiming to promote the region and attract future tourists looking to relax by the sea while exploring the wine trail. Mitchell et al. (2000) emphasize the significance of consumer behavior research in wine tourism for stakeholders, as it offers the crucial insights of wine tourists themselves. This understanding enables marketers and managers to effectively target and develop their offerings on winery tours, guided experiences, wine festivals or purchasing wine. Additionally, they highlighted that the characteristics of wine tourists in one area should not be assumed to mirror those in another, nor should they

be generalized across different wineries. Recognizing variations among visitors is essential for marketers and operators in effectively targeting potential wine tourists.

The most important factor in this research affecting experiences is the scenery and atmosphere. To this end, wine stakeholders should continue to highlight the visual experience because it contributes significantly to the tourists' overall visit while keeping in mind the other five elements.

Due to wine's major role in wine tourism experiences, wineries must offer consistently high-quality wines with a fine taste that are served properly. Wines made from local grape varieties or international award-winning ones should be promoted. These local grapes, which grow in the unique *terroir* of the Aegean, are different from other regions in their distinctive flavors, while wines blended with international grape varieties also offer fine tastes to visitors. This can create a significant advantage in competition for the wineries on the wine route and can also increase wine sales.

Since attitudes, behaviors, courtesy and employees' expertise about wine are important to the positive experiences of tourists, winery managers should give importance to the training of staff, especially on the wines produced by the company, grape varieties, production procedures, wine tasting, food and wine pairings, the neighboring wine area and effective communication. According to Quadri-Felitti and Fiore (2012), increasing wine knowledge can have a big impact on making tourists feel satisfied and able to create memories.

Importance should be given to food on wine routes. This suggests that such routes ought to prioritize the quality and variety of local cuisine available as well as national or international meals prepared using local ingredients. These should be highlighted on the menus of restaurants and hotels operating in the region. Delectable snacks should also be served at wine tastings. It is recommended for wineries to display reasonable wine prices and make sure that wine tastings are free as the cost of wine can have a favorable or negative impact on the wine tourism experience.

A comprehension of the experience is necessary for the development of wine tourism routes. Local government agencies should ensure that access roads are well maintained and that information on wine routes, trails and other rural activities is easily accessible in order to support the UVR. A wide range of activities (e.g. cultural, wine and vintage events, local gastronomy, rural tourism activities, etc.) will enrich the experiences of visitors. Extending overnight stays at the vineyard accommodation is possible by rounding out the experience with additional activities, such as hiking, cycling or other escapism-focused pursuits like harvesting.

Local administrations and wine producers have great responsibility for improving wine tourism

in the region. Given the region's rich historical and cultural legacy, the stakeholders ought to take into account its wine heritage. Therefore, it is important to promote the region's natural and cultural features, as well as its wine heritage, in order to offer distinctive, memorable and authentic experiences. It is a fact that their marketing and strategy development may draw on this historical context. The construction of new wine hotels in the vineyards will provide a good opportunity for tourists who want to experience the landscape and atmosphere.

8. LIMITATIONS AND DIRECTIONS FOR FUTURE STUDIES

There were certain limitations to this study. The sample was limited to visitors who left reviews for wine tourism experiences was used to determine the factors affecting their experiences. These reviews may not accurately reflect the experiences of all visitors (i.e. those who place a higher importance on things other than scenery). Furthermore, as the research employed a netnographic approach, which limits the sample, participant demographic data were not available. More comprehensive findings will be attained if a tourist's psychographic profile is incorporated into the investigation.

Second, the study's findings might not be broadly applicable because data was collected from a single case study, and it only examined the experiences of tourists visiting the UVR in Türkiye. Collecting data only from TripAdvisor may also be a limitation; using the reviews of multiple social networks and websites to assess wine tourism experiences would be better.

Despite some recent advancements in this field, research on consumer experiences is still quite limited. For future studies, demand-side research on wine tourism is necessary in order to gain a deeper understanding of the experiences of visitors in wine tourism. Besides, even if utilizing content analysis taking into account visitor feedback on social media was chosen, measurement scales should be developed to measure wine experience in the context of wine tourism.

This study focused on a single route and a specific region. To confirm the added value of wine tourism route experience and its potential for economic, social and cultural growth, more wine routes in other regions need to be investigated.

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Turyzm/Tourism 2025, 35(2)

MEMORABLE SUSTAINABLE TOURISM EXPERIENCES (MSTE) A MIXED-METHOD STUDY

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ABSTRACT

This study investigates and validates the concept of memorable sustainable tourism experiences (MSTE) and examines their influence on tourists' revisit intentions through an exploratory sequential mixed-method design. In the qualitative phase, in-depth interviews with eight tourism operators in Langkawi Island, Malaysia, were conducted to identify key dimensions of MSTE, which include hedonism, local culture, refreshment, knowledge, meaningfulness, novelty, involvement, responsible practices, and the role of local guides. These components were subsequently tested in the quantitative phase through a survey of 233 tourists who had participated in sustainable tourism experiences on the island. Data were analysed using partial least squares structural equation modelling (PLS-SEM), which revealed significant positive relationships between hedonism, local culture, refreshment, responsible practices and revisit intention. The study advances the theoretical understanding of MSTE by introducing novel dimensions such as responsible practices and the involvement of local guides. By integrating the perspectives of both tourism operators and tourists as well as employing a mixed-methods approach, this research addresses existing methodological and conceptual gaps in the literature. It contributes meaningfully to the growing body of knowledge on sustainable tourism and tourism experience. Furthermore, the findings offer practical implications for destination managers and tourism stakeholders aiming to strengthen tourist loyalty through the design of meaningful, memorable and sustainability-oriented experiences.

KEYWORDS

exploratory sequential mixed-method study, memorable sustainable tourism experience, memorable tourism experience, sustainable tourism experience and revisit intention

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1. INTRODUCTION

In recent years, the travel industry has seen an increased interest in the desire for sustainable tourism experiences (Seeler et al., 2021; Spence et al., 2022). Tourists today prefer to participate in wildlife conservation activities, indulge in local produce, stay in eco-friendly accommodation, and support local indigenous artists. This shift is attributed to tourists becoming more discerning in the current era, desiring authentic interactions and profound insights rather than purchasing mere photos and souvenirs (Paulauskaite, 2017; World Economic Forum, 2022). Such a transformation offers a distinctive opportunity for the tourism sector to shift from traditional approaches and adopt sustainable tourism experiences. By providing tourists with memorable sustainable tourism experiences, stakeholders in the industry can collectively foster a positive impact by protecting the environment and culture, thus stimulating economic growth (Sofronov, 2017), promoting education and awareness about environmental and cultural conservation (Moscardo, 2015), enhancing perceived value and collectively contributing to the overall well-being of destinations (Breiby et al., 2020).

Despite this great potential, the tourism industry continues to face challenges in delivering memorable sustainable tourism experiences (MSTE). A substantial obstacle is the absence of a comprehensive and clear framework for understanding and executing MSTEs. Despite research recognising the importance of MSTEs in creating perceived value and promoting tourist's revisit intention (Breiby et al., 2020; Rahim et al., 2023), the concept remains poorly defined and inconsistently used. The lack of clarity hinders tourism stakeholders from effectively planning, promoting and assessing these experiences, resulting in missed opportunities for impactful and memorable offerings (Neuenburg et al., 2022). Numerous operators combine sustainability with fundamental eco-friendly practices, such as reducing plastic usage, while overlooking critical sociocultural elements, including the empowerment of local communities and the preservation of cultural traditions (Raveendran, 2024). Such superficial implementations of sustainability had caused difficulties for tourists to differentiate between genuinely sustainable experiences and those simply marketed with superficial "green" claims, thereby hindering the industry's efforts to promote authentic sustainable tourism experience (Alyahia et al., 2024).

Another challenge is the dominance of quantitative analysis usage in tourism experience study, with few studies utilising mixed-method approaches to explore the complexities of MSTEs (Hosany et al., 2022). Moreover, although tour operators significantly

influence tourism experiences, their viewpoints are frequently neglected in tourist experience research, resulting in a disparity between theoretical comprehension and practical application (Hosany et al., 2022). This scarcity highlights the need for more comprehensive research using mix method approaches that includes the viewpoints of industry players.

Hence, this work aims to explore elements of MSTEs and assess their influence on tourists' propensity to revisit a destination. The research employed an exploratory sequential methodology, beginning with a qualitative thematic analysis based on interviews with tour operators. Results from this phase were used to develop a structured questionnaire, which was sent to a broader group of tourists. The collected data were analysed using partial least squares structural equation modelling (PLS-SEM) to investigate the relationships between the identified MSTE components and revisit intentions, as well as to evaluate the model's predictive power and theoretical validity.

This study seeks to provide both theoretical and practical advancements in sustainable tourism research. The findings aim to provide tourism stakeholders with clear directives for the design, management and promotion of MSTEs, ensuring that these experiences meet tourists' expectations while promoting the long-term sustainability of tourism destinations.

2. LITERATURE REVIEW

2.1. EXPERIENCES

Over the years, tourism experience has been the focus of tourism studies. Scholars began focusing on the experience concept in the 1960s (Uriely, 2005), and the topic was widely discussed in the social science fields in the 1970s (Quan & Wang, 2004). The pioneering works began with Csikszentmihalyi (1975), followed by Cohen (1979) and other scholars like Berry (1981), Turner and Bruner (1986), and Otto and Ritchie (1996). Among the widely known research papers are those by psychologists Thorne (1963) and Maslow (1964) who published their studies on so-called peak experiences, defined as the most exciting and rich experience a person can have as highlights in one's life although of rather short duration.

The experience concept proposed by Thorne (1963) and Maslow (1964) is consistent with the experience economy developed by Pine and Gilmore (1999), where the authors suggested four different experiential dimensions: education, entertainment, aesthetics and escapism. They further explained that when consumers perceive that they will learn something and be entertained, immersed, or do something active,

the experience will become meaningful. As supported by Chen et al. (2020), consumers nowadays are not ultimately seeking the elements of satisfaction and quality, but rather of unique and memorable experiences. As the concept of memorable tourism experience becomes widely known, tourism suppliers have begun to sell memorable experiences to their target market rather than focusing on their products and services (Kim, 2017).

2.2. MEMORABLE SUSTAINABLE TOURISM EXPERIENCE

The tourism literature has only recently shifted its focus to link sustainability and tourism experiences, with scholars around the world researching both topics independently (Breiby et al., 2020). However, bringing together these two fields remains relatively new and, in many cases, underdeveloped, as underlined by Signori et al. (2019).

Understanding the concept of a sustainable experience has proven to be challenging, partly due to the limited research available and the absence of precise definitions (Chen et al., 2011; Liu et al., 2016; Lu et al., 2017; Poudel & Nyaupane, 2013). While several experts have sought to examine this subject, there is no consensus yet on what genuinely characterises a sustainable experience. One notable effort came from Breiby et al. (2020), who classified sustainable experience as “an experience that awakens deep, significant emotions and memories that can stimulate tourists’ commitment toward destination sustainability” (p. 346). This definition has laid some groundwork for understanding sustainable experiences, which have since been examined in various contexts, including national parks (Obradović et al., 2023), social tourism (Torres-Moraga, 2021), responsible tourism (Nowacki et al., 2023) and lake tourism (Breiby et al., 2020).

Previous studies have revealed numerous dimensions that contribute to the formation of memorable tourism experience (MTE). Kim (2017) identified seven experience domains that are likely to affect a memorable tourism experience, including engagement, hedonism, refreshment, local culture, meaningfulness, knowledge and novelty. Building upon this basis, Breiby et al. (2020) highlighted crucial components including interaction with nature, cultural immersion and emotional connections. In the context of sustainable tourism, Lu et al. (2017) and Hwang and Lee (2019) highlighted that the co-creation of experiences with local guides, as well as responsible practices, boosts the memorability and perceived authenticity of the experience.

Finally, scholars in sustainable tourism recommend tourism suppliers to prioritize the design of memorable, sustainable tourism experiences. Doing so not only helps tourism suppliers to preserve a competitive edge

but also promotes the destination’s sustainability and the value of the whole experience (Lu et al., 2017; Smit & Melissen, 2018). When tourists build a meaningful connection with a destination through sustainable experiences, they are more likely to consider returning in the future and spread good word of mouth (Breiby et al., 2020; Shien et al., 2022). For these reasons, sustainable and memorable tourism experiences serve as the core focus of the present study.

2.3. REVISIT INTENTION

Revisit intention refers to a tourist’s likelihood of returning to a destination based on their past experiences. Research has consistently shown that positive travel experiences increase the chances of tourists revisiting a destination (Breiby et al., 2020; Nik Hashim et al., 2019; Rahim et al., 2023). Additionally, incorporating sustainable tourism practices, helps to create a strong emotional connection with a destination, making tourists more inclined to return (Chen et al., 2020). When a destination aligns with a tourist’s personal values – such as environmental responsibility or cultural appreciation – it further reinforces their desire to revisit in the future (Patwary et al., 2023; Sofronov, 2017). Therefore, integrating sustainable practices and memorable experiences into tourism offerings is crucial in fostering lasting impressions and encouraging revisit intentions among tourists. Hence, the following hypothesis is proposed:

H₁: There is a significant relationship between MSTE and revisit intention.

3. METHODOLOGY

To bridge the potential gap between tour operators’ and tourists’ perceptions of what constitutes MSTE, and to address the limited use of mixed-method approaches in MTE studies highlighted by Hosany et al. (2022), this study employs an exploratory sequential mixed-methods design and aligns with Creswell and Plano Clark’s (2018) guidelines for exploratory sequential mixed-methods. The process of the study is depicted in Figure 1.

The research began with a qualitative phase to explore the main components of MSTE from the perspective of tourism operators, who are key tourism stakeholders. In this phase, the study sought to uncover operators’ professional insights and perceptions of their clients’ experiences as they participated in sustainable tourism experiences such as mangrove tours, hiking and birdwatching. The study employed a purposive sampling method focused on information-rich cases from key informants (Patton, 2015).

By embracing participant engagement, the qualitative research phase encouraged active contributions of narratives or experiences, fostering participants in the research process (Charmaz, 2014). Semi-structured interviews were performed over three days in July 2023 with eight local tourism operators on Langkawi Island. The interviews mostly focused on the MSTE model, with enquiries related to its fundamental attributes. The questions were modified and enhanced based on prior studies on MTE and sustainable tourism by Kim (2017) and Hwang and Lee (2019) to guarantee clarity and pertinence. An inductive methodology was employed to discern the elements of MSTE that surfaced from tourism operator narratives. The interviews lasted between 30 and 40 minutes, and all were taped and completely transcribed. The data gathering persisted until the researchers noted that the respondents' tales exhibited repetition, with no novel themes or patterns arising – indicating data saturation (Guest et al., 2006; Saunders et al., 2018). Thematic analysis was employed as the primary technique to identify, analyse and interpret the themes emerging from the interviews, in line with Braun and Clarke (2019). Through thematic analysis, nine key MSTE components were identified, which subsequently informed the design of the structured quantitative questionnaire.

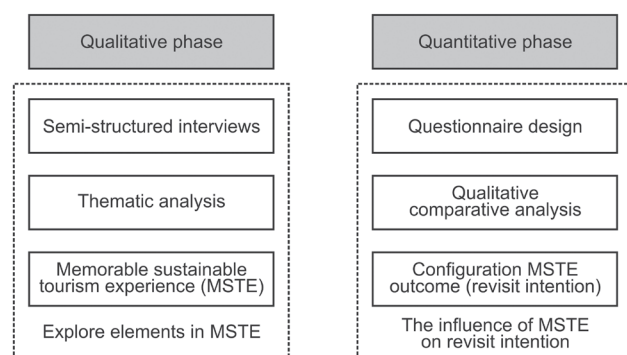


Figure 1. Exploratory sequential mixed methods process
Source: authors

For the quantitative phase, the nine identified themes were used to develop a questionnaire consisting of 45 items measured on a 7-point Likert scale. The instrument was pre-tested through expert evaluations and cognitive interviews with tourism academics, industry professionals and survey methodologists to ensure content clarity and validity. The questionnaire was then distributed to 250 tourists who had participated in sustainable tourism experience in Langkawi Island between July and September 2024, with 233 valid responses collected. The quantitative data were analyzed using partial least squares structural equation modelling

(PLS-SEM) via SmartPLS to test the relationships between MSTE components and revisit intention. The final model showed strong predictive and discriminant validity, providing a comprehensive understanding of how memorable and sustainable tourism experiences influence tourists' intention to revisit Langkawi Island.

4. RESULTS

4.1. QUALITATIVE RESULT

The data transcribed from eight semi-structured interviews were thematically analysed, being denoted as Respondent 1 (R1) to Respondent 8 (R8), respectively. These respondents consist of tour operators in Langkawi Island. Eight item dimensions for coding were used. An inductive analysis of the interview data resulted in the following themes: (a) hedonism, (b) local culture, (c) refreshment, (d) knowledge, (e) meaningfulness, (f) novelty, (g) involvement, (h) responsible practices, and (i) local guide.

4.1.1. HEDONISM

Hedonism surfaced as an important element from the interview data. All interviews began by asking the respondents about their memorable moments when engaging in sustainable tourism activities, and most of them claimed to have experienced hedonistic adventures. For instance, R1 highlighted,

The majority of the tourists felt a harmonious blend of indulgence and responsibility towards the environment; experiencing hedonistic pleasures while respecting the delicate balance of nature after partaking in eco-friendly adventures like snorkelling among vibrant coral reefs.

Naturally, as observed by the tour guides, the excitement of tourists was apparent when joining the activities offered. As stated by R2,

I could see that they were so excited because they don't do this every day. Some of them were even first-timers. So, they felt the excitement.

Furthermore, exploring mountainous terrain, mangrove tours, birdwatching and structured trip organisation significantly contribute to the overall memorability of the tourism experience by evoking hedonistic pleasure. These experiences not only offer novelty and adventure but also allow tourists to feel a deep sense of enjoyment, freedom and emotional uplift.

4.1.2. LOCAL CULTURE

Tourists have the chance to immerse themselves in local culture and traditions. According to one tour operator, most college or foreign students tend to engage in such a programme to connect with local individuals. Part of the programme includes placing participants with foster parents for a short while. According to R4,

One thing that tourists frequently note is how friendly and inviting the locals are. They feel like members of the family, not simply tourists. I recall a tourist saying, "I didn't feel like I was staying in a homestay; I felt like I was visiting relatives". They'd join the family for meals, assist out in the kitchen, and even participate in nightly conversations on the verandah. That genuine friendliness leaves a lasting impression.

In addition, tourists were able to learn about the island's local community creative economy. For example, R2 said,

Participants have the opportunity to learn the process of making *gamat* oil from sea cucumbers directly from producers.

Overall, the respondents believe that sustainable tourism, enriched with experiences, highlights the importance of social engagement at the site. This feature focuses on promoting continuous social interaction between residents and tourists to enhance their experience. As such, the key components involve promoting a favourable perception of the local culture, encouraging tourists to interact with the local population, and enjoying the hospitality of the destination's citizens.

4.1.3. REFRESHMENT

Refreshment is a crucial motivator for tourism engagement, as they offer an escape from the stress of daily life and its demanding environments. Langkawi Island provides a refreshing experience through various activities such as the mangrove tour, which offers a soothing experience and a sense of relaxation to tourists. As R3 said,

After spending the day partaking the mangrove tour, the tourists reportedly felt completely rejuvenated and refreshed, ready to take on whatever challenges ahead.

The concept of refreshment in tourism goes beyond mere relaxation; it encompasses a desire for mental and emotional rejuvenation. Regardless of exploring natural landscapes, indulging in leisurely activities, or disconnecting from technology and responsibilities, tourists seek experiences that uplift their spirits, spark

curiosity, and promote a sense of well-being. According to R1,

With the activities provided, tourists may be able to release their stress. This is a big part of why people travel – it gives them a much-needed break from the stress and expectations of modern life.

Thus, refreshment fulfils the fundamental human need for rejuvenation, exploration, and renewal, making tourism an appealing and rewarding pursuit.

4.1.4. KNOWLEDGE

Tourists gain knowledge during an eco-friendly tour or activity. For instance, R4 said,

Many tourists was surprise with how much they learn from the local people. Tourists gain fresh perspectives on nature. When tourists book our mangrove tour package, our guide will educate them about the importance of mangroves in the ecosystem and share details about specific animals seen, which will help them understand how important the environment is. Throughout the activity, guides also explain the medicinal benefits of certain trees.

Interestingly, the example above shows that tourists indeed appreciate knowledge on Langkawi's flora and fauna. Furthermore, R4 added,

The tourists expressed genuine appreciation for our forests upon visiting, particularly enjoying the hiking experience. When we educate them about our commitment to environmental awareness, emphasising practices such as litter prevention and refraining from feeding animals, they value it immensely.

R2 commented that:

One tourist stated, "This vacation felt like a living classroom". They not only explore nature, but also learn about customs, taboos and the significance of everyday actions.

This example indicates that tourists demonstrated a greater appreciation in acquiring new knowledge. Tourists' intellectual growth through explorations of the history, lifestyle, culture, language and natural surroundings of a destination can profoundly influence their memory. In fact, experiencing learning and education through storytelling is considered more desirable in tourism rather than merely focusing on tourism products.

This concept highlights that contemporary tourists are increasingly in search of travel experiences that provide unique learning opportunities, skills acquisition or insights. By utilizing educational storytelling and interpretation, ordinary sightseeing

transforms into extraordinary experiences. The integration of guided interpretation and factual explanations enhances the engagement of tours. These experiences not only satisfy intellectual curiosity but also enrich memory by presenting exploration as an educational journey.

4.1.5. MEANINGFULNESS

Meaningfulness is another predominant theme emerging from the interview data, as the activities offered provide valuable experiences to tourists. As stated by R5,

The tourists observed distinct differences between our forest and their own, noting variations in tree species. They discovered a profoundly meaningful and sustainable experience that not only nourished their souls but also played a positive role in preserving this beautiful island paradise for future generations.

Such reflections illustrate how engagement with nature can foster deeper appreciation and emotional connection.

Additionally, meaningful tourism experiences are often shaped by both the content of the activity and the quality of the interpretation provided. This is supported by R3, who mentioned,

Some of the tourists said that this was the best trip they have ever had as it was a meaningful trip and they learned a lot.

This indicates that travellers increasingly seek experiences that align with personal values, such as learning, self-growth and environmental conservation. These findings affirm that meaningful experiences are not only memorable but also transformative in nature.

4.1.6. NOVELTY

Novelty was also highlighted in the interviews. According to R8,

Most international tourists would love fresh experiences like food hunting. They were able to sample local cuisine during their time here. They could also learn to cook local cuisine and serve it to their friends or anyone. They can even learn on how to make sea cucumber massage oil. You can't have this experience anywhere else; it's rare and unique, and many tourists cherish it.

In addition, as emphasised by R6,

Many of our guests consider this a once-in-a-lifetime trip especially among first-timers or don't come very often. Basically, when people join the normal boat tour,

they do not get any tour guide. But here, we have an experienced tour guide to accompany you during your trip and you will gain more new knowledge from joining this trip. Eventually, you will have new views on nature.

This novelty factor often emerges from the specific characteristics of the experiences delivered, frequently followed by unexpected delights and excitement to tourists.

Novelty enhances the vividness of experiences; people tend to remember new and unusual events more than those that are familiar. In practical terms, highlighting the unique aspects of a tour such as distinctive cuisine, rare sights and exceptional storytelling can ignite tourists' excitement and joy. Tour operators aim to ensure that trips are memorable and cherished by providing unexpected highlights and original activities.

4.1.7. INVOLVEMENT

Evidently, tourists participated in each phase of tourism consumption throughout their tour. For instance, R7 stated,

Tourists can take a mangrove forest boat excursion at Kilim Geoforest Park, which was not only gorgeous but also educational. Tourists can engage in activities that allow them to connect with nature while also giving back.

Thus, it is no doubt that tourists' involvement in such activities would benefit them. R7 also added:

When they join a mangrove tour and actually plant a seedling, they often say it's the most memorable part of their trip.

Furthermore, according to R2,

Tourist appreciate being involved and making a direct contribution to nature conservation.

From the above example, it can be deduced that such a deep involvement not only enriches the tourists' experience but also fosters their stronger connection with the destination. This aligns with their desires to engage in activities of their choice and explore the primary attractions of the tourism experience.

High involvement significantly enhances memory retention and loyalty, as tourists engage with their experiences more deeply. When travellers actively participate in co-creating their experiences by selecting activities or aiding in various tasks, they forge a stronger connection to the destination. This indicates that incorporating participatory elements, such as

guided trekking or craft-making, enriches the overall experience, allowing tourists to feel more integrated into the narrative of their journey.

4.1.8. RESPONSIBLE PRACTICES

Sustainable tourism practices on Langkawi Island encompass tour operators who prioritise ethical and eco-conscious excursions, endorsing activities that minimise environmental impact and uphold respect for the island's natural resources. For example, as mentioned by R8,

Throughout the trek, participants receive informative briefings on the local trees, plants and their medicinal benefits. They were also taught not to pluck leaves or leave trash in the bush. Which they did.

Moreover, R3 added within the same context,

Tourists are prohibited from bringing plastic mineral bottles to prevent monkeys from being attracted to them, which could pose harm to the tourists. Instead, the tour operator would provide beverages during the boat journey.

Local community engagement and economy contribution is a major part of responsible practices while travelling. For example, R8 emphasised,

Our tourists often tells us how meaningful it is to meet and connect with the local communities. They're learning, helping and connecting. For example, when tourists join our cooking lessons or handicraft sessions, they know their money goes directly to the families involved.

R7 commented that:

Normally, when tourists are asked by the tour operator to engage in this kind of responsible practices, they feel a sense of responsibility to care for the environment and people.

In this regard, such responsible tourism practices help shape memorable tourism experiences by encouraging authenticity, good impact, emotional connections and personal growth among tourists. Tourists who embrace responsible travel principles not only create great memories but also help make the world's destinations more sustainable and equitable.

4.1.9. LOCAL GUIDE

In addition to helping preserve the environment and local culture, local guides also play an essential role in providing tourists with an authentic experience of the destination. Beyond preserving the environment and local heritage, they act as key facilitators of meaningful

engagement between tourists and the destination. According to R5,

We chose to only hire locals, including boat drivers and tour guides. Besides that, we collaborate with local fishermen and communities. For example, during our mangrove tours, we take tourists to a floating fish farm operated by a local family. Tourists learn about traditional fishing techniques and the importance of sustainable practices.

These highlights how the integration of local guide knowledge and community participation contributes to both sustainability and tourist enrichment.

In addition, the expertise and hospitality of local guides significantly influence the overall tourist experience. R3 reported that:

Most tourists comment that our local guides possess extensive knowledge of the area and offer tourists comprehensive insights into the destination.

R3 further added that:

... most comments received about local guides are very helpful and friendly. They assist tourists in discovering top dining spots, shopping venues and attractions.

Overall, it can be deduced that local guides and the involvement of the local community play a crucial role in sustainable tourism, contributing to the creation of enjoyable and meaningful experiences for tourists. Thus, collaborating with local guides allows tourists to delve deeply into the destination while aiding in the preservation of the environment and local culture.

4.1.10. SUMMARY OF QUALITATIVE FINDINGS

The thematic analysis process is depicted in Table 1, initially revealing nine themes accompanied by twenty codes at the subsequent layer. Ultimately, example quotes are incorporated into the table, facilitating the acquisition of insights into experience-rich sustainable tourism within the study area. Based on the data from interviews with tour operators, all themes (hedonism, local culture, refreshment, knowledge, meaningfulness, novelty, involvement, responsible practices and local guide) contribute to the formation of tourist revisit intentions. These themes collectively serve as the major factors influencing tourists' decision to return to Langkawi Island.

4.2. QUANTITATIVE RESULTS

In this study, a total of 250 tourists who had engaged in sustainable experiences were approached to acquire their opinions; however, only 233 respondents

Table 1. Summary of thematic analysis

Theme	Code	Example quotes
Hedonism	Thrill	Most of the tourists felt a good balance between indulgence and responsibility towards the environment after doing eco-friendly activities like snorkelling and canoeing (R1)
	Excitement	I could see that they were so excited because they don't do this every day. Some of them were even first-timers. So, they felt the excitement (R2)
Local culture	Local friendliness	One thing that tourists frequently note is how friendly and inviting the locals are. They feel like members of the family, not simply tourists. I recall a tourist saying, "I didn't feel like I was staying in a homestay; I felt like I was visiting relatives". They'd join the family for meals, assist out in the kitchen, and even participate in nightly conversations on the verandah. That genuine friendliness leaves a lasting impression (R4)
	Local cultural customs	Participants have the opportunity to learn the process of making <i>gamat</i> oil from sea cucumbers directly from producers (R2)
Refreshment	Relieve stress	With the activities provided, tourists may be able to release their stress. This is a big part of why people travel – it gives them a much-needed break from the stress and expectations of modern life (R1)
	Refreshing	After spending the day partaking in the mangrove tour, the tourists reportedly felt completely rejuvenated and refreshed, ready to take on whatever challenges ahead (R3)
Knowledge	Information	Tourists gain fresh perspectives on nature. When tourists book our mangrove tour package, our guide will educate them about the importance of mangroves in the ecosystem and share details about specific animals seen, which will help them understand how important the environment is. Throughout the activity, guides also explain the medicinal benefits of certain trees (R4)
	Learn culture	One tourist stated, "This vacation felt like a living classroom". They not only explore nature, but also learn about customs, taboos, and the significance of everyday actions. It is learning by doing – very powerful (R2)
Meaningfulness	Meaningful	The tourists observed distinct differences between our forest and their own, pointing out variations in trees species. In this experience, they found something deeply important and long-lasting that not only fed their souls but also helped protect this beautiful island paradise for future generations (R5)
	Worthwhile	Some of the tourists said that this was the best trip they have ever had as it was a meaningful trip and they learned a lot (R3)
Novelty	Unique	Most international tourists would love fresh experiences like food hunting. They were able to sample local cuisine during their time here. They could also learn to cook local cuisine and serve it to their friends or anyone. They can even learn how to make sea cucumber massage oil. You can't have this experience anywhere else; it's rare and unique, and many tourists cherish it (R8)
	Once in a lifetime	Many of our guests consider this a once-in-a-lifetime trip especially among first-timers or don't come very often. Basically, when people join the normal boat tour, they do not get any tour guide. But here, we have an experienced tour guide to accompany you during your trip and you will gain more new knowledge from joining this trip. Eventually, you will have new views on nature (R6)
Involvement	Interacting with nature	Tourists can take a mangrove forest boat excursion at Kilim Geoforest Park, which was not only gorgeous but also educational. Tourists can engage in activities that allow them to connect with nature while also giving back (R7)
	Involvement in preserving the environment	Tourists appreciate being involved and making a direct contribution to nature conservation (R2) When they join a mangrove tour and actually plant a seedling, they often say it's the most memorable part of their trip (R7)
Responsible practices	Responsible practices	Normally, when tourists are alerted to this kind of responsible practices, they feel a sense of responsibility to care for the environment (R7)
	Socio-economy engagement	Our tourists often tell us how meaningful it is to meet and connect with the local communities. They're learning, helping, and connecting. For example, when tourists join our cooking lessons or handicraft sessions, they know their money goes directly to the families involved. One guest said, "It's the first time I felt like my trip spending really mattered to someone" (R8)

Responsible practices (cont.)	Environmental conservation	Throughout the trek, participants receive informative briefings on the local trees, plants, and their medicinal benefits. They were also taught not to pluck leaves or leave trash in the bush. Which they did (R8)
Local guide	Knowledgeable	Local guides possess extensive knowledge of the area and offer tourists comprehensive insights into the destination (R5)
	Helpful and friendly	Local guides are very helpful and friendly. They assist tourists in discovering top dining spots, shopping venues, and attractions (R5)
	Local Involvement	We chose to only hire locals, including boat drivers and nature guides. Besides that, we collaborate with local fishermen and communities. For example, during our mangrove tours, we take tourists to a floating fish farm operated by a local family. Tourists learn about traditional fishing techniques and the importance of sustainable practices (R3)
Revisit intention	Revisit intention	We've observed that the sustainable experiences that we offered to the tourists have somehow inspired them to return to Langkawi and purchase another package from us (R8) When tourists are satisfied with the sustainable experiences we provide, they not only revisit but also recommend us to their friends (R7)

Source: authors.

completed the questionnaire. Based on Table 2, nearly 58% of the respondents were females, while almost 43% of them were males. The majority of the respondents ($n = 83$; 35.6%) were 31–40 years old, married ($n = 122$; 52.4%), and had a degree ($n = 95$; 40.8%). In addition, most of them had indulged in sustainable experience at least once ($n = 178$; 76.4%).

Table 2. Demographic profiles

Respondent's profile	Classification	Frequency ($n = 233$)	Percentage (%)
Gender	Male	99	42.5
	Female	134	57.5
Age	<20	15	6.4
	21–30 years old	46	19.8
	31–40 years old	83	35.6
	41–50 years old	58	24.9
	51 years old and above	31	13.3
Marital status	Married	122	52.4
	Single	102	43.8
	Others	9	3.8
Education	Secondary school	34	14.6
	Form 6	11	4.7
	Diploma	72	30.9
	Bachelor's degree	95	40.8
	Master	17	7.3
	PhD	4	1.0
Frequency of purchasing sustainable experience	Once	178	76.4
	Twice	46	19.7
	More than twice	9	3.9

Source: authors.

4.2.1. MEASUREMENT MODEL AND STRUCTURAL MODEL

Table 3 shows the mean scores and reliability of each item and the measurement model. The mean scores ranged from 5.142 to 6.554, while the standard deviation ranged from 0.654 to 1.264. In the measurement model, the loadings, Cronbach's alpha (α), average variance extracted (AVE), and composite reliability (CR) were assessed. The loading values should be ≥ 0.5 , while the AVE should be ≥ 0.5 and the CR should be ≥ 0.7 . As shown in Table 3, all AVEs and CRs are higher than 0.5 and 0.7, respectively. The loadings were also acceptable since the values are more than 0.7 (Hair et al., 2019), which indicates that convergent validity has been established.

Subsequently, discriminant validity was assessed using the heterotrait-monotrait (HTMT) criterion as suggested by Henseler et al. (2016) and updated by Franke and Sarstedt (2019). HTMT values should be ≤ 0.85 for the stricter criterion and the more lenient criterion should be ≤ 0.90 . As can be seen in Table 4, HTMT values are all lower than the stricter criterion of ≤ 0.85 ; therefore, it can be concluded that the respondents understood the distinctness of the eight constructs. Taken together, the validity tests have shown that the measurement items were both valid and reliable.

The structural model in Table 5 depicts the connections (paths) between the constructs in the suggested research model and Table 6 depicts the quality of the model. In general, the model's quality is measured by the strength of each structural path, which should be equal to or greater than 0.1 (Falk & Miller, 1992). Based on the results in Table 6, the R^2 value is more than 0.1. Hence, predictive capability has been established. Additionally, Q^2 confirms the predictive relevance of the endogenous construct. Accordingly, the Q^2 value of 0.334, which is greater than zero, indicates that the model has predictive relevance.

Table 3. Measurement model

Code	MTE dimension	Mean	SD	Loading	α	CR	AVE
HE01	I am thrilled to have a new sustainable experience/activity	6.305	0.710	0.872	0.797	0.881	0.715
HE02	I took part in sustainable experience/activity	6.399	0.747				
HE03	I really enjoyed my sustainable experience/activity	6.395	0.763				
IN01	I actively participated in sustainable experience/activity	6.043	0.939	0.895	0.863	0.916	0.785
IN02	I was interested in interacting with the natural and cultural surroundings	6.120	0.909				
IN03	I enjoyed the sustainable experience/activity offered to me	5.948	1.014				
KN01	I gained a lot of information from participating in sustainable experience/activity	5.884	0.980	0.934	0.926	0.944	0.772
KN02	I learned a new culture from participating in sustainable experience/activity	5.412	1.097				
KN03	I gained a new skill from participating in sustainable experience/activity	5.627	1.132				
KN04	The sustainable experience/activity was exploratory	5.867	1.000				
KN05	The sustainable experience/activity made me more knowledgeable	5.807	1.053				
LC01	I had a good impression of the local culture thanks to my sustainable experience/activity	5.674	1.026	0.881	0.865	0.908	0.713
LC02	I had the chance to experience the local culture in a sustainable way	5.562	1.071				
LC03	The local people were friendly to me	5.983	0.963				
LC04	I participated in local cultural customs and festivals	5.142	1.264				
ME01	I felt like I did something meaningful when engaging in a sustainable experience/activity	6.009	0.989	0.914	0.906	0.930	0.727
ME02	I felt like I did something important by engaging in a sustainable experience/activity	5.768	1.047				
ME03	I learned something about myself from this sustainable experience/activity	5.794	1.089				
ME04	I felt like I gained valuable experience from the Langkawi Island trip	5.403	1.089				
ME05	I felt inspired to continue participating in a sustainable experience/activity	6.112	0.853				
NO01	I had a once-in-a-lifetime experience	5.975	1.139	0.925	0.922	0.941	0.763
NO02	I had a unique experience	5.773	1.102				
NO03	Compared to my previous travel experiences elsewhere, this one was unique	5.451	1.145				
NO04	I experienced something new	5.674	1.072				
NO05	I felt like I was in a different world when participating in a sustainable experience/activity	5.391	1.134				

RE01	I relieved stress when participating in sustainable experience/ activity	6.180	0.855	0.910	0.910	0.932	0.732
RE02	I had a refreshing experience	6.232	0.853				
RE03	I had a peaceful soul from participating in sustainable experience/activity	6.300	0.853				
RE04	I felt revitalised from participating in sustainable experience/ activity	6.039	0.886				
RE05	I felt better after participating in a sustainable experience/ activity	6.197	0.946				
LG01	I experienced a knowledgeable local guide	6.236	0.741	0.820	0.774	0.866	0.683
LG02	I experienced a helpful local guide	6.554	0.654				
LG03	I experienced a friendly local guide	6.176	0.775				
RP01	I experienced a sustainable approach in how the tour was managed	5.931	0.861	0.776	0.775	0.869	0.690
RP02	I had the opportunity to participate in local communities experience in a meaningful way that facilitated socioeconomic advantages	5.639	0.828				
RP03	I experienced efforts to integrate environmental conservation into the sustainable experience	6.163	0.874				
RI01	I'm looking forward to revisit Langkawi Island	6.322	0.910	0.897	0.895	0.934	0.826
RI02	I will make a plan to revisit Langkawi Island	5.970	1.109				
RI03	I will make an effort to revisit Langkawi Island	5.940	1.181				

Note: MTE – memorable tourism experience, *SD* – standard deviation, *CR* – composite reliability, α – Cronbach's alpha, *AVE* – average variance extracted; *HE* – hedonism, *IN* – involvement, *KN* – knowledge, *LC* – local culture, *ME* – meaningfulness, *NO* – novelty, *RE* – refreshment, *LG* – local guide, *RP* – responsible practices, *RI* – revisit intention.

Source: authors.

Table 4. Heterotrait-monotrait ratio (HTMT)

MTE dimension	HE	IN	KN	LC	LG	ME	NO	RE	RP
HE	–	–	–	–	–	–	–	–	–
IN	0.898	–	–	–	–	–	–	–	–
KN	0.714	0.657	–	–	–	–	–	–	–
LC	0.648	0.693	0.841	–	–	–	–	–	–
LG	0.371	0.251	0.237	0.214	–	–	–	–	–
ME	0.796	0.765	0.859	0.719	0.187	–	–	–	–
NO	0.646	0.601	0.836	0.767	0.281	0.808	–	–	–
RE	0.844	0.814	0.748	0.65	0.268	0.768	0.608	–	–
RP	0.356	0.236	0.315	0.225	0.622	0.275	0.238	0.254	–

Note: MTE – memorable tourism experience, *HE* – hedonism, *IN* – involvement, *KN* – knowledge, *LC* – local culture, *ME* – meaningfulness, *NO* – novelty, *RE* – refreshment, *LG* – local guide, *RP* – responsible practices, *RI* – revisit intention.

Source: authors.

Table 5. Structural model

Hypothesis	β values	t -statistics	p -values	Results
Hedonism $\rightarrow$ revisit	0.268	3.149	0.002	Supported
Involvement $\rightarrow$ revisit	-0.063	0.698	0.485	Not supported
Knowledge $\rightarrow$ revisit	0.135	1.059	0.290	Not supported
Local culture $\rightarrow$ revisit	0.233	2.351	0.019	Supported
Local guide $\rightarrow$ revisit	-0.118	2.102	0.036	Supported
Meaningfulness $\rightarrow$ revisit	-0.112	1.062	0.289	Not supported
Novelty $\rightarrow$ revisit	0.071	0.816	0.415	Not supported
Refreshment $\rightarrow$ revisit	0.276	2.703	0.007	Supported
Responsible $\rightarrow$ revisit	0.149	2.593	0.010	Supported

Source: authors.

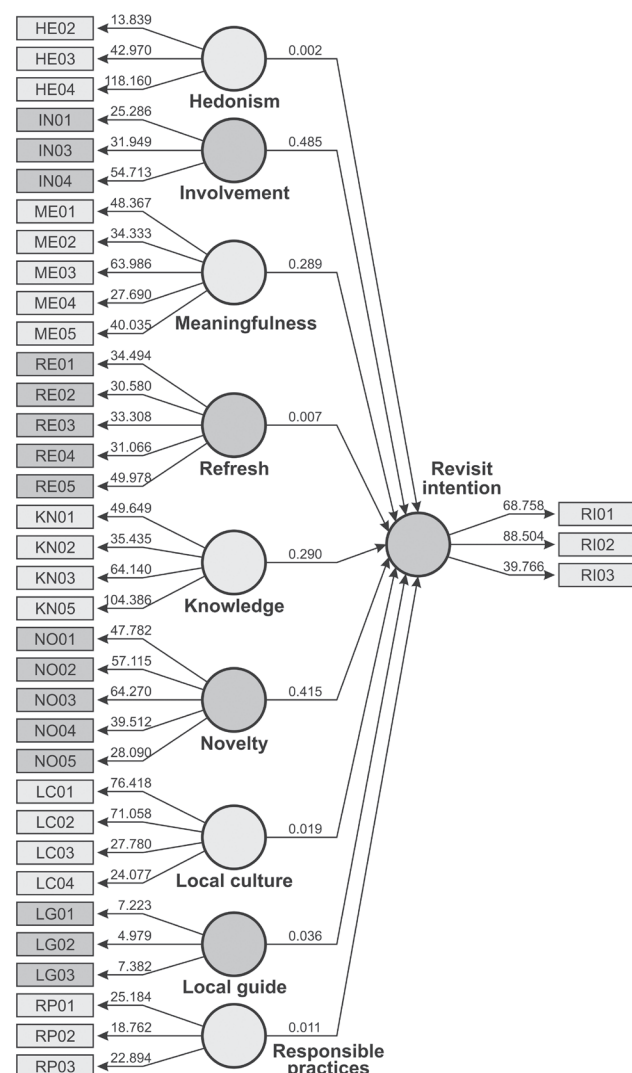


Figure 2. The model

Note: MTE – memorable tourism experience, HE – hedonism, IN – involvement, KN – knowledge, LC – local culture, ME – meaningfulness, NO – novelty, RE – refreshment, LG – local guide, RP – responsible practices, RI – revisit intention

Source: authors

Table 6. Quality of the model

Variables	Coefficient of determination (R^2)	Predictive relevance (Q^2)
Memorable sustainable tourism experience (MSTE)	0.517	0.334

Source: authors.

Hypotheses were also verified to determine the significance of relationships between variables, as depicted in Table 5. Out of the nine hypotheses tested, five were supported. Hedonism ($\beta = 0.268$; $p < 0.01$), local culture ($\beta = 0.233$; $p < 0.05$), refreshment ($\beta = 0.276$; $p < 0.01$) and responsible practices ($\beta = 0.149$; $p < 0.05$) had significant and positive effects on revisit intention. However, local guide had a significant but negative effect ($\beta = -0.118$; $p < 0.05$). The remaining variables: knowledge ($\beta = 0.135$; $t = 1.059$; p -value = 0.290), meaningfulness ($\beta = -0.112$; $t = 1.062$; p -value = 0.289), involvement ($\beta = -0.063$; $t = 0.698$; p -value = 0.485) and novelty ($\beta = 0.071$; $t = 0.816$; p -value = 0.415) did not show significant relationships with revisit intention. The negative effect of local guide on revisit intention may be attributed to over-dependence on guides, which can reduce tourists' sense of autonomy and personal discovery (Kuo et al., 2016). This finding suggests that while guides are essential for providing information, excessive reliance on them may detract from the tourists' ability to create their own memorable experiences. Figure 2 depicts the measurement model assessment.

5. DISCUSSION

This study offers a novel contribution by validating the memorable sustainable tourism experience (MSTE) concept through a comprehensive mixed-methods

approach, incorporating the viewpoints of both tourism operators and tourists, a perspective seldom integrated in prior research (Hosany et al., 2022). This study notably incorporates responsible practices and the role of local guides as expanded aspects of MSTE, thereby enhancing the theoretical understanding of sustainable tourist experiences beyond the conventional frameworks suggested by Kim (2017) or Breiby et al. (2020). This dual-perspective methodology facilitates the reconciliation of theoretical structures with practical applications in sustainable tourism experiences.

From the qualitative thematic analysis, nine essential elements that enhance MSTE were identified, namely hedonism, local culture, refreshment, knowledge, meaningfulness, novelty, involvement, responsible practices and local guide. These interconnected themes collectively shape tourists' intentions for future visits, reinforcing earlier findings that emotionally engaging, novel and personally involving experiences significantly contribute to destination loyalty and repeat visitation (Kim et al., 2012; Tung & Ritchie, 2011). The findings are also consistent with the view that tourism experiences are stored as vivid memories associated with strong emotions, which can influence future behaviour and life perspectives (Duerden et al., 2018; Kim et al., 2012). Notably, "responsible practices" and "local guide" emerged strongly from operators' perspectives, reflecting a clear emphasis on local empowerment and responsible practices within Langkawi's sustainability discourse that are often overlooked. The study conceptualises sustainable tourism as the co-creation of emotionally rich, culturally immersive and environmentally responsible experiences that foster meaningful bonds between tourists, hosts and nature consistent with recent definitions highlighting sustainability as a holistic commitment to social, economic and ecological well-being (Breiby et al., 2020; Lu et al., 2017). Ultimately, the results affirm that authentic sustainable practices, such as engaging local communities and protecting natural resources, can significantly enhance both the memorability of tourism experiences and tourists' intentions to revisit (Mercadé Melé et al., 2020).

On the other hand, the quantitative analysis in this study validated the beneficial correlations between hedonism, local culture, refreshment and responsible practices with revisit intention. These results suggest that tourists are more likely to return when they experience enjoyment, local culture immersion, excellent local guiding, relaxation and sustainable engagement (Baruca & Civre, 2022; Solís-Radilla et al., 2019). This suggests that tourists are inclined to return to a destination if they have pleasant and memorable sustainable experiences that involve hedonism, cultural immersion, excellent local guiding, refreshment and responsible actions (Solís-Radilla et al., 2019). According

to Park and Muk Kim (2021), cultural immersion, which involves forming strong links with local traditions, is also an important factor in encouraging people to visit a place again. The presence of opportunities for rest and refreshment enhances the overall good experience, hence increasing the likelihood of repeat visits (Yu et al., 2020). In addition, when tourists engage in responsible and sustainable acts, it helps create a favourable image of the place, which in turn promotes the likelihood of their returning for future visits (Mercadé Melé et al., 2020). The presence of exceptional local guides significantly improves satisfaction levels and increases the likelihood of repeat visits (Nandika et al., 2023). However, the negative significant correlation with "local guide" indicates that excessive dependence on guides may diminish tourists' sense of autonomy, along with Lin and Kuo (2016), who warn that excessive mediation might inhibit self-directed exploration, an essential element of memorability. Collectively, these components form a thorough and gratifying tourist encounter, hence enhancing the probability of tourists revisiting the destination.

While the above aspects were proven influential to revisit intention, interestingly, knowledge, meaningfulness, involvement and novelty, despite being esteemed by tourists and tourism operators in qualitative interviews, did not exhibit significant quantitative correlations with revisit intention. A plausible explanation is that these elements, while enriching the current experience, also encourage tourists to explore new places rather than return to the same destination, especially for novelty seekers (Da Cruz Andrade & Ricci-Cagnacci, 2023; Jang & Feng, 2007). Another possible explanation is that their impact varies depending on the context and tourist motivations (Hosany et al., 2022). For example, knowledge and meaningfulness may be prized for personal progress but not be strong enough motivators for returning. This is proven as some researchers have also discovered that knowledge-based experiences, have little direct effect on revisit behaviour (Amir et al., 2022). These findings suggest that while these aspects enrich the overall experience, their influence on revisit intention may be indirect or shaped by factors like satisfaction or emotional connection, reflecting the complex nature of sustainable tourism where not all memorable elements directly drive return visits (Da Cruz Andrade & Ricci-Cagnacci, 2023).

In conclusion, this study enhances the MSTE model by empirically establishing that pleasure (hedonism), local cultural immersion, psychological refreshment and responsible practices are the most significant determinants of return visitation. It underscores the importance of incorporating sustainability via significant local guide involvement and responsible sustainable

activities (Rahim et al., 2023). These findings correspond with the sustainable tourism literature that emphasises authentic and memorable experiences as pivotal to enduring destination competitiveness and resilience (Breiby et al., 2020; Islamiyati & Chairy, 2021; Sofronov, 2017).

6. CONCLUSION

This study advances the understanding of sustainable tourism and MTE by developing and validating the MSTE model through a mixed-methods approach combining tourism operator insights and tourist perceptions. The qualitative finding revealed that there are nine essential elements that enhance MSTE namely hedonism, local culture, refreshment, knowledge, meaningfulness, novelty, involvement, responsible practices and local guide. While quantitative findings reveal that five key components, hedonism, local culture, refreshment, responsible practices and local guide engagement, significantly influence revisit intention, affirming the importance of emotionally engaging and ethically grounded experiences in promoting destination loyalty. However, elements such as knowledge, meaningfulness, involvement and novelty, while highlighted in qualitative interviews, did not show significant effects in the quantitative phase, indicating that their influence may be indirect or context-specific.

The present study's result makes significant contributions to the theoretical and practical aspects of sustainable tourism and experiential studies through a thorough framework, the MSTE model. The research enhances the academic comprehension of MSTE by utilising exploratory sequential mixed-method design to uncover and validate crucial elements such as hedonism, local culture, refreshment, responsible practices and their favourable relationship with revisit intention. Moreover, these findings enhance the scholarly discussion on sustainable tourism by explaining how these factors contribute to memorable and repeatable tourism experiences. Essentially, the study provides practical insights for destination managers and tourism producers, emphasising the significance of incorporating these essential elements into a tourism strategy to improve tourist satisfaction and promote revisiting. This twofold contribution not only enhances theoretical knowledge but also offers specific recommendations for enhancing sustainable tourism practices on Langkawi Island and, potentially, other destinations.

Nonetheless, several limitations should be acknowledged. First, the study was conducted in a single location, Langkawi Island in Malaysia, which may limit the findings' applicability to other contexts. Future research should try duplicating this study in a variety

of geographical and cultural tourist settings to test the MSTE model's relevance and robustness across several destinations. Second, while the qualitative phase involved local tour operators, it excluded a broader variety of stakeholders such as the community, tourism authorities, policymakers and academics. These groups play important roles in shaping sustainable tourism experience, and their viewpoints may provide more insight into the co-creation of sustainable and enjoyable experiences. Thus, extending the stakeholder sample in future study would improve both theoretical and practical understanding. Third, the study focuses entirely on travellers' self-reported opinions of responsible behaviour. While such data can provide useful insights on tourist experience, they may not accurately reflect the success or implementation of sustainable policies at the destination level. Relying on perceived sustainability can lead to overlooking important contextual factors such as the environmental imprint, community engagement and economic rewards. Future studies should provide a more comprehensive and accurate assessment of sustainability within the MSTE model (Akhshik et al., 2022; Moliner-Tena et al., 2021). Fourth, more than one-third of the 233 respondents in the quantitative phase were first-time participants, thereby limiting the ability to identify complex trends in revisit behaviour. First-time visitors may rate their experiences differently than regular visitors, who are more likely to have built loyalty or deeper links to the location. Future research could investigate these disparities using segmented analysis or comparing first-time and repeat visitors to further understand how experience components influence different revisit intentions. Lastly, the quantitative model did not account for critical mediators such as visitor happiness, destination image or emotional attachment, which have been proven to influence revisit intention (Kim, 2017; Prayag & Ryan, 2012). Future study could use serial mediation or moderated mediation models to investigate how memorable sustaining experiences promote revisit behaviour via psychological or emotional mediators. Incorporating these constructs would most likely increase the explanatory depth of the MSTE model.

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THE ROLE OF EMOTIONAL INTELLIGENCE IN SHAPING ENTREPRENEURIAL INTENTIONS AMONG TUNISIAN WOMEN IN SUSTAINABLE TOURISM

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ABSTRACT

Entrepreneurship is an essential component of economic progress, and women entrepreneurs are key actors. However, various factors, including entrepreneurial motivation, emotional intelligence, and their perception of governance and anti-corruption efforts, have influenced their engagement in specific sectors like sustainable tourism. The study used a quantitative research methodology, gathering information from 220 Tunisian women entrepreneurs using a structured questionnaire. To evaluate the proposed associations, the investigation used partial least squares structural equation modeling (PLS-SEM), correlation analysis and descriptive statistics. The findings indicate that their inclination to start firms in this industry is significantly influenced by entrepreneurial motivation and emotional intelligence. Moreover, perception of anti-corruption efforts plays a moderating role, reinforcing their positive effects.

KEYWORDS

sustainable tourism, entrepreneurial motivation, emotional intelligence, governance and anti-corruption, women entrepreneurs

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1. INTRODUCTION

A significant shift in a company's attitude to development was brought about by the United Nations' 2015 adoption of the Sustainable Development Goals (United Nations General Assembly, 2015). Since then, there has been an increasing awakening to the importance of sustainability, not only on the environmental level, but also from economic and sociocultural points of view. Efforts aiming at reaching a triple environmental, economic and sociocultural result have become a central objective in many fields, including tourism (Amin, 2024, p. 256).

Certain recent research has considered other kinds of destination tourism like coastal/insular (Grilli et al., 2021), educational (Alipour et al., 2020), community (Olya et al., 2018), spiritual (Saxena et al., 2020) and patrimonial (Zhang & McDowell, 2020). Since tourism was shown to facilitate the propagation of coronavirus (Sharma et al., 2021), research has started to concentrate on the aspect of the sustainability of tourist activities since the spread of the COVID-19 pandemic.

Tourism is a required development strategy because of its many advantages for well-being. According to Moscardo et al. (2017), it contributes directly or indirectly



to an increase in the well-being of populations. The United Nations World Tourism Organization (2013) underlines its potential to stimulate the economy, to promote environmental sustainability and to support inclusive progress. Several tourist initiatives have been adopted as development alternatives, mainly in rural areas (Park et al., 2015). However, more work on sustainable tourism has been conducted because of concerns about tourism's negative consequences (Dredge & Jamal, 2015).

Sustainable tourism, as defined by Streimikiene et al. (2021), has a favourable ecological effect while boosting economic as well as social sustainability. It incorporates social, cultural, economic and environmental protection. This idea has come forward in response to issues related to tourism's growth, namely environmental destruction and the extinction of traditional culture. According to Hashemkhani Zolfani et al. (2015), sustainable tourism is seen as a good idea that offers substantial advantages while protecting the environment for coming generations.

Entrepreneurship is an important factor in economic development and in society, offering appropriate innovation, job creation and economic growth. Women entrepreneurs play a crucial role in this process by bringing a single perspective as well as innovative solutions to sustainable development challenges. However, their engagement in specific sectors, like sustainable tourism, can be influenced by various factors, particularly their entrepreneurial motivation, emotional intelligence and perception of governance and anti-corruption efforts.

Women's entrepreneurial motivation in sustainable tourism can be a key factor in determining their intention to become entrepreneurs. In the same way, their emotional intelligence can play a big role in their capacity to manage the challenges and the pressures associated with the creation and management of a company in a sustainable context. Moreover, their perception of governance and anti-corruption efforts can influence their confidence in the sector and their willingness to start up a business.

Thus, in this context, we are interested in answering the following problems: to what point do entrepreneurial motivation and emotional intelligence influence women entrepreneurs' intention to engage in sustainable tourism? How does their perception of governance and anti-corruption efforts influence these relations?

2. REVIEW OF LITERATURE

According to Passafaro (2020), the definitions of sustainable tourism have led to a comprehensive view which defines it as tourism which takes care of and respects the environment, meets needs for human leisure,

protects and preserves reception areas, while ensuring the economic and social objectives of all its actors. Its development aims at preserving the sustainability of natural resources (water, air, ground, biological diversity, etc). The objective is to prevent impacts, which could call into question the bases of development, such as the destruction of ecosystems, attacks on cultural heritage, modifications to traditions and lifestyles, as well as competition for access to utility services and infrastructure. Several works, such as Tendeng and Diombera (2022), have presented divergent prospects for sustainable tourism. According to them, it is defined as tourism which ensures, in the long run, economic, social and environmental equilibrium to satisfy all tourist requirements while offering opportunities for sustainable development for the future.

Sgroi (2020) defines sustainable tourism as encouraging efficient management of natural resources for both current and future generations while the research conducted by Grilli et al. (2021) aims at examining the significance of tourist development for the economic advancement of developing nations. The ecosystemic interchange of natural, social and cultural services is implied by its implementation while the practical features of natural settings and local resources in developing nations draw many tourists. This is tourism that meets the expectations of present tourists while providing opportunities for local communities to act as hosts (da Costa Cristiano et al., 2020).

Sustainable tourism is not only defined as (a) various economic activities but also (b) as an integral part of sustainable growth. Together with the concept of sustainable tourism, it involves the safeguarding of the environment and ecosystems, the participation of communities, along with equality and prosperity.

It offers vast possibilities for development in the future to satisfy local communities and tourists. Various opinions suggest that the application of the sustainability principle is extremely complex, and that also applies to tourism, because it must consider the balance between resource exploitation and the safeguarding of the environment and socio-culture (Nguyen et al., 2019). The sustainable tourism concept is encouraged by problems involved in tourism, such as ecological harm, and harm to traditional culture as well as the economy. The concept's basic principles include understanding planning and policies coming from economic, environmental and social fields. These objectives preserve productivity, the natural environment and cultural heritage as well as balance and justice. At the beginning, priority was given to safeguarding the environment but, in addition, economic and social conditions play a quite crucial part in its realization. Thus, the notion of sustainability is understood as a design made up of three essential components, the social, the environmental and the

economic, each of which plays a pivotal role in a total system. The latter includes all the aspects of life in terms of sustainable development. It is essential to regard this development as an environmental system which preserves living resources, a social system which aims at promoting equity and an economic system which aims at improving the effectiveness of the use of resources (An & Alarcón, 2020). While being based on theoretical projections, sustainable tourism is viewed as a solution to support positive change. According to Hashemkhani Zolfani et al. (2015), sustainable tourism can play a crucial role in the search for new ways of profiting from and optimizing the positive effects of tourism. According to Radwan et al. (2019), the description of sustainable tourism can be analysed by considering elements such as resource safeguarding, economic planning, community resources, cultural sensitizing, environmental education and local inclusion.

According to Bird (2015), intentions help entrepreneurs direct a new company's development and guide them in the definition of objectives, effective communication, organization of work and engagement towards various types of related areas like a model for action. Indeed, he believes that entrepreneurial intention in sustainable tourism is "a frame of mind directing the person's attention (experiment and action) towards a specific objective (goal) or a way to carry out something" (Bird, 2015, p. 142). According to Gatewood et al. (2002), even though it is a troubling concept, the emphasis placed on a leader's traits in the literature on leadership may be a good reason to link the decision-making process (deciding whether to launch a business) with psychological aspects in entrepreneurship. This intention works by individual attitudes and perceptions, such as environmental and cultural factors.

Entrepreneurial intention is essential to initiate and maintain entrepreneurial projects and is influenced by personal, environmental and sociocultural variables guiding an individual's action towards the creation of a company. Early studies, Shukla and Kumar (2024), based on this intention examined factors of personality (self-confidence, risk-taking capacity, need for success and control), cognition and perception. Liao et al. (2022) consider that personal attitudes are essential to entrepreneurial intention in sustainable tourism. In the literature, entrepreneurial knowledge significantly boosts effectiveness, which is crucial for building self-confidence in the early stages of a company. Factors like family entrepreneurial background, personality traits such as risk-taking propensity, optimism, innovation, self-confidence and competitiveness, as well as prior entrepreneurial activity, freelance work and past achievements, all have a substantial impact. Additionally, gender differences play a notable role. Entrepreneurial motivation transcends the simple

will to start a company with political support playing a crucial role by offering financial support, training, the reinforcement of commercial competences, assistance with the realization of market research and the preparation of business plans. Moreover, the use of data from information centres in the decision-making process is essential. These forms of support are key elements that help entrepreneurs make enlightened decisions and succeed in their companies.

Entrepreneurship or company spirit can be defined or studied in a more thorough way, because there exists a strong tendency to delimit the entrepreneurial spirit with a very definite and independent organisational personality which creates, proposes, discovers and exploits frequent opportunities to make strategic decisions in the company (Matricano, 2024).

For these reasons, Amofah and Saladrighes (2022) propose to carry out activities such as training, conferences, workshops and courses to promote and reinforce the entrepreneurial spirit among men and women, by defining the creation of an organization based on search and exploitation for opportunity and thus generate social and economic transformations, taking into account the positive relation between the entrepreneurial spirit and the future creation of companies. In addition to undertaking work on their role, as largely documented in the literature, it is obligatory to recognize differences between the entrepreneurial intention in sustainable tourism of men and women (Amofah & Saladrighes, 2022).

This scenario has led to the analysis of a series of factors which can act like either engines or limiters of entrepreneurial spirit, among which certain psychological qualities are distinguished such as risk-taking, creativity, internal control, self-sufficiency, the motivation for progress, sensitizing and the identification of opportunities in the immediate environment, and confidence.

Entrepreneurial motivation can be classified into three generic subcategories: motivations of the push type, motivations of the pull type and mixed motivations. The push motivation, or entrepreneurship of need, corresponds to the creation of a company by constraint, where the only choice is to become an entrepreneur resulting from a conflict in the current position of an individual (Gauthier, 2020). It is often the result of situations such as bankruptcies, dismissals, or long-term unemployment.

According to Gauthier (2020), the pull motivation, or entrepreneurship of opportunity, regards the creation of a company as the result of an entrepreneurial culture. It is justified by research into independence, autonomy and by the identification of business appropriateness. The entrepreneurship of opportunity is generally perceived in a positive way because it results from a true will.

Moreover, entrepreneurial motivations can be of a mixed type, combining at the same time push and pull factors, and can be considered as economic and/or noneconomic.

Entrepreneurial motivations can also be analysed through the prism of economic and noneconomic factors. The latter can be considered in four categories: the need for a means of subsistence or creation of one's own job, the desire to improve income or the possibility of exploiting a highly profitable business, the search for a satisfactory work allowing the expression of all one's capacities and the realization of professional dreams, and the desire for independence and autonomy (Gauthier, 2020). Autonomy refers to perceiving that entrepreneurs are responsible for their actions. For Al Maalouf et al. (2023), competence enables individuals to feel confident to undertake a task and to achieve it in a responsible way. Moreover, they are often motivated by problem solving. Schlepphorst et al. (2020, p. 1265) defined entrepreneurial motivation as an "objective influenced by factors of given motivation, which in their turn influence actions or behaviours". Several former studies have confirmed that entrepreneurial motivation is a critical factor (Liu, 2021).

The idea of emotional intelligence blends intelligence with emotions. Using Thorndike and Stein's (1937) social intelligence as a foundation, emotional intelligence is defined as the capacity to recognize, regulate and utilize one's own emotions as well as those of others. This intelligence has been associated with the evaluation, regulation and adaptive use of emotions, in parallel with personal intelligence. Concentration is on social and personal abilities, whereas Brett (2025) views it as a collection of emotional and social skills. Abdullah and Gull (2024) consider it to be a personality characteristic, linking behaviors and perceptions to emotional abilities. Although it is capable of recognizing, understanding, managing and using emotions, it is interpreted according to different models. The diversity of these models shows emotional intelligence as a simple mental skill with a combination of other such skills and personality characteristics.

Performance models and capacities for evaluation measuring the emotional intelligence quotient are conceptually similar; however, they differ in their mode of evaluation. Park and Kim (2021) have said that in the performance model, emotional intelligence quotient is evaluated through tests measuring correct and incorrect answers, such as the *Mayer-Salovey-Caruso Emotional Intelligence Test*. On the other hand, the capacity model rests on the subjective evaluation of the individual concerning the emotional intelligence quotient compared to these dimensions. Measurements of evaluation include scales such as the emotional rating scale developed by Schutte et al. (2009).

Conceptual disparities between the models in which emotional intelligence exists are defined and conceptualized. According to the capacity model, emotional intelligence is considered a separate aspect from intellect, which can be developed and adjusted in a variety of emotional settings (Longobardi et al., 2020). However, mixed models consider emotional intelligence as a set of emotional and relational competences integrated in the personality (Gómez-Leal et al., 2022).

This study adopts the model of capacity because of its more efficient and definite conceptualization of emotional intelligence, which is measurable in a less strict but more correct way (García-Rodríguez et al., 2015). Moreover, it rests on the principle according to which an individual consciously develops emotional intelligence, which corresponds better to the capacity model. In comparison, the mixed model is regarded as less precise in its conceptualization and cannot be adapted to empirical studies on its applicability in the entrepreneurship field.

Emotional intelligence's predictive potential on entrepreneurial behaviour draws the researchers' attention. Ingram et al. (2019) noted that emotional intelligence's interpersonal dimensions – their perception and management – directly influence the performance of the owners of small companies in the United States. In the same way, Ngah and Salleh (2015) observed a positive influence on Malaysian entrepreneurs' innovation spirit, thus contributing to their companies' success. According to Senathiraja et al. (2019), female entrepreneurs possess a high degree of emotional intelligence; likewise for Kovid et al. (2025), emotional intelligence and women's success as entrepreneurs are positively and significantly correlated. They also note that while entrepreneurial experience increases the connection, the spirit of invention somewhat modifies it. However, age does not seem to be a moderating influence.

These findings fit into a larger framework that suggests emotional intelligence may have a significant role in women's success as entrepreneurs, as suggested by Jaziri and Miralam (2024). Similarly, women are more likely to operate successful enterprises because they are more resilient, have better emotional intelligence, and can balance work and life, according to Ramya et al. (2024), while Amin (2024) suggests that women entrepreneurs who possess emotional intelligence can transform hurdles into opportunities and conquer the challenges of the entrepreneurial environment because they are able to comprehend and control both their own and other people's emotions. According to Nassif and Garçon (2024), emotional intelligence is crucial to women entrepreneurs' resilience because it helps them overcome obstacles, modify their leadership style, and fortify their business ties. Owing to this skill, they

can transform obstacles into opportunities and hence, promote their business's long-term future and success.

Decision-making in entrepreneurship is a complex process requiring the transformation of emotional stimuli into usable information. Competences in emotional intelligence are thus essential to make effective and logical decisions. Moreover, entrepreneurial success requires not only well-conceived plans but also interpersonal competences to concretize sophisticated projects. Lastly, to handle the inherent physical, mental and emotional stressors in an entrepreneur's everyday work, emotional management skills are essential (Bibi et al., 2020).

Emotional intelligence is an essential lever for women entrepreneurs, enabling them to overcome financial and social obstacles by boosting their self-confidence and resilience in the face of the business world's challenges. As Peris-Delcampo et al. (2023) point out, self-efficacy and emotional intelligence are key determinants of female entrepreneurial success. Moreover, according to Chen and Cheng (2023), this skill is crucial for women's leadership, providing them with enhanced decision-making abilities and strong interpersonal skills. For example, careful management of emotions promotes effective decision-making and greater resistance to stress (Liyanagamage et al., 2024).

In former studies concerning the relationship between governance and entrepreneurship, the relationship was not clear. In their research, Nistotskaya and Cingolani (2016) confirmed that because of the higher quality of regulations, bureaucratic structure indirectly affects entrepreneurship rates. According to Jalilian et al. (2006), improving regulation quality improves business performance and the overall state of the economy.

The effectiveness of the government and the rule of law are other agents that are considered determinants of a country's entrepreneurial activities. Those which have an effective government and a strong rule of law recorded a high number of new company entries and economic growth. Şaşmaz and Sağdıç (2020) discovered that the single factor influencing the degree of company start-ups in transitional nations is governmental efficacy. Zhou et al. (2020) found that by speeding up economic growth, efficiency and legal regulations significantly impact business growth.

Historically, the first research on female entrepreneurship goes back to the 1970s, mainly in the United States and the UK, but this field remains largely understudied (Carrier et al., 2006). In the African context, particular research has examined this question, highlighting the fact that Malian women entrepreneurs generally begin their business at a young age, with financing mainly coming from personal or family sources (Kante, 2020). Moreover, these studies show a positive relationship between women's level of

education and the profitability of their companies, the stability of funding sources and an increase in turnover.

A nation's institutional structure is essential for encouraging entrepreneurship, as it fuels economic expansion. In uncertain situations, when taking risks is common, it gives a minimum significant level of assurance. Given its significance, the impact of institutional determinants on entrepreneurship growth was examined, carefully examining the simplicity of creating a new business, government efficacy, the quality of regulations, the strong rule of law, political stability and the convenience of obtaining loans (Sendra-Pons et al., 2022). The necessity of strong government policies for "institutions" to encourage and support entrepreneurship has been well illustrated in earlier research. The aim of this work is to investigate how political stability, exemplified by one such institution, contributes to entrepreneurial endeavors.

Politically stable countries will have more transparent, predictable and accountable governments, as well as lower risk and transaction costs. Accordingly, the research anticipates that more entrepreneurial activity should be enabled as political stability increases. Additionally, this study aims to analyze the impact of governance variables on entrepreneurship. Linear regression models and multiple Pearson correlations were used in the explanatory approach; 126 nations with varying degrees of economic growth were utilized using a five-year World Bank series (2014–2018). Accountability, political stability, government efficacy, regulatory quality, law enforcement and corruption control are the global governance indicators that are taken into consideration (Abegaz et al., 2023).

Dau and Cuervo-Cazurra (2014) claimed that unambiguous property rights, an efficient regulatory framework, an open and easy-to-understand recording process, and the creation of new businesses could all encourage entrepreneurial activity. They also took political stability into account. The current disparities in economic development can operate as a mediator between the respective effects of indirect governance variables on entrepreneurship.

The governance framework of countries which have a high level of economic development stimulates entry into entrepreneurship that is more formal than abstract (Thai & Turkina, 2014). That implies that many entrepreneurs who enter low-income countries belong to abstract categories. Dau and Cuervo-Cazurra (2014) shared this idea, adding that they noted that good institutional arrangements influence entrepreneurship positively. As far as the economic development level is concerned, owing to better governance, interference in entrepreneurship development is not always present. Nyarku and Oduro (2017) affirmed that bureaucracy, an incoherent political climate, unfavourable customs and regulations, monetary and restrictive credit policies,

tax corruption and practices, excessive regulation on labour and work were noted to have a negative impact on new companies.

It is widely considered that female entrepreneurship plays an increasingly important part in economic and social development, particularly among developing countries where women entrepreneurs tend to support companies adapted to regional characteristics (Dolo et al., 2022). International research, like Döngül et al. (2025), states that women in Africa highlight this, and female entrepreneurship has a crucial role in employment, an increase in productivity, and the struggle against poverty.

Regarding political stability in Tunisia, up to 2010, it was regarded as a model to follow by other developing countries by the World Bank and the International Monetary Fund (IMF). However, following the revolution, the Tunisian model was shown to have serious failures, and research exists which analyses the impact of the instability of political institutions on economic growth. Since the revolution (2011), twelve different governments have ruled Tunisia. Institutions have little legitimacy and little ability to implement policies amid such chronic political instability. Several factors contribute to the weakness of environmental policymaking. After 2011, the political system depended on ever-shifting arrays of coalitions, power-sharing pacts, and different consensus-building activities between parties and political factions. The ruling system was constantly tottering as no governments could rule for a longer period.

For female entrepreneurship in Tunisia, a report from the United Nations Industrial Development Organization Tunis (UNIDO Tunis, 2022) concentrates on it in relation to women's autonomy within the framework of the Mashrou3i project, taking into account the impacts of the COVID-19 crisis (UNIDO Tunis, n.d.). The results show that during recent years, it is undeniable that there has been a transformation in the entrepreneurial fabric in Tunisia. Despite economic difficulties and the political instability of the last ten years, young people increasingly regard entrepreneurship as an alternative to improve their living conditions or to avoid unemployment. Women do not make an exception to this rule. It is obvious that the new generation feels a need for emancipation and financial independence. While calling into question the patriarchal system and certain prejudices which remain, many women have decided to launch out or want to launch out in an entrepreneurial adventure, even if the sociocultural or economic context can be less favourable in certain areas. It is also noted that, according to national estimates, 23.6% of the companies in Tunisia are directed by women. These studies provide an invaluable outline of the challenges and opportunities associated with political

stability and female entrepreneurship. Thus, they offer a base for thorough discussions and future research in these fields.

3. METHODOLOGY

3.1. CONCEPTUAL MODEL

Emotional intelligence actively contributes to the development of entrepreneurial intention in the sustainable tourism sector. It fosters entrepreneurs' ability to manage their emotions, cope with stress, and strengthen their motivation to launch and manage projects, particularly in a context marked by political uncertainty. As illustrated in Figure 1, the interplay between emotional intelligence, entrepreneurial motivation in sustainable tourism, and the perception of governance and anti-corruption efforts helps explain why some entrepreneurs are more resolutely committed to sustainable tourism. This model highlights the importance of emotional support and adaptability in stimulating entrepreneurial ambition and success in this sector.

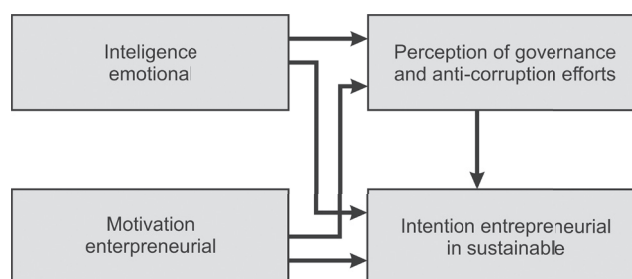


Figure 1. Conceptual model
Source: author

As shown in Table 1, the factors which influence women entrepreneurs' entrepreneurial intentions in sustainable tourism are examined. To understand these influences, several key variables which constitute the conceptual model are studied. By combining these variables, we hope to better understand their relations and effects on women's entrepreneurial intentions in this specific sector. The principal variables are entrepreneurial motivation measures, the reasons and the motivations which push women to undertake in sustainable tourism.

Emotional intelligence represents women entrepreneurs' capacity to involve and manage their emotions. Perceptions of governance and anti-corruption efforts evaluate the way in which women entrepreneurs perceive the effectiveness of these efforts in their professional environment. The relations between these variables are examined within this work's framework to include how they interact with the

Table 1. Variables of the conceptual model

Variables	Entitled	Author and dates
Intentions in sustainable tourism	Entrepreneurial intentions in sustainable tourism	Fayolle (2004)
Emotional intelligence	Perception of oneself Expression of oneself Interpersonal interactions	Bru-Luna et al. (2021)
Entrepreneurial motivation	Tourism training for an entrepreneur	Tounés (2006), Boissin et al. (2008)
	Structures of accompaniment in place	Salhi and Boujelbene (2013)
	Public policies of entrepreneurship and lawful infrastructure in place	Covin and Slevin (1990)
Perception of governance and anti-corruption efforts	Effectiveness of the government in corruption control	World Bank Group (2021a, 2021b)

Source: author.

women entrepreneurs' entrepreneurial intention in sustainable tourism and the mediation effect of the perceptions of governance and anti-corruption efforts.

3.2. THE RESEARCH HYPOTHESES

As indicated in Figure 1, the hypotheses are as follows:

H₁: There exists a positive relationship between women entrepreneurs' entrepreneurial motivation in sustainable tourism and their entrepreneurial intention.

H₂: Women entrepreneurs' emotional intelligence is positively related to their entrepreneurial intention in sustainable tourism.

H₃: The relationship between women entrepreneurs' emotional intelligence and their entrepreneurial intention in sustainable tourism is mediated by perception of governance and anti-corruption efforts.

H₄: Perception of governance and anti-corruption efforts is mediated by the relationship between women entrepreneurs' entrepreneurial motivation in sustainable tourism and their willingness to succeed in this field.

3.3. TECHNIQUES OF DATA ANALYSIS

The data analysis of this research was carried out using the technique of partial least squares structural equation modeling (PLS-SEM). Thus, the SmartPLS 3 software was used. It is a flexible tool making it possible to examine the causal relations between multiple items (Kline, 2023).

Partial least squares structural equation modelling is an analytical multivariate method, which has the advantage of treating data, which is not in a normal distribution, to analyse samples of relatively low size and is exclusive in being able to test the effect of latent variables not allowed in other techniques. Partial least squares (PLS) makes it possible to study relations and to examine the predictive capacity of the target.

Consequently, PLS-SEM proves to be adequate to achieve our study's goals.

3.4. VARIABLE OPERATIONALISATION

To do this, an adaptation of the existing and validated measurement elements, identified in the literature, on theoretical behaviour to plan tourism bases and sustainable development, emotional intelligence and political stability.

The measurement elements were formulated in the form of a five-point Likert scale, going from 1 (*completely in agreement*) to 5 (*no agreement at all*). To elaborate this, a questionnaire was tested by distributing it to 220 women entrepreneurs whose educational level varied. We noted that many women who answered our questionnaires were aged between 20 and 40. A questionnaire was distributed to a sample of 250 Tunisian women in 2024, with an 88% response rate. Data collection utilized social networks, including WhatsApp, Facebook and email.

Table 2. Respondents' demographic information

Characteristics	Items	Frequency	Percentage
Gender	Women	220	100.00
Age	18–30	80	36.37
	31–50	100	45.45
	51 and more	40	18.18
Level of education	Secondary level	100	45.45
	Higher	120	54.55
Distribution according to area	Sfax	90	45.00
	Gabes and south	60	30.00
	The large Sahel	70	35.00

Source: author.

To ensure a representative sample and considering that the study is based on an analysis using PLS-SEM, the minimum sample size was decided based on a recommendation advanced by Hair et al. (2017). According to the latter, the use of modelling by structural equations requires a sample size ranging between 200 and 400 to obtain precise results. Moreover, Kline (2023) suggested that the sample size for structural equation modelling (SEM) should be higher than 200. However, 250 answers were collected, thus exceeding the necessary minimum size shown in Table 2 (see p. 177).

Q₁: Have you had any previous experience in the field of tourism (academic course, professional training, work in the sector, or with one of your family members...)?

The results in Table 3 show that the questioned women have various experiences in the field of tourism, but the greatest proportion of them (31.82%) do not have preliminary experience. That could indicate an interest in tourism despite a lack of direct experience, or an opening to new professional opportunities.

Table 3. Distribution of respondents by training, work experience and family involvement

Profile of respondents	Answers	Percentage
Academic training	50	22.72
Professional training	30	13.64
Work in the sector	40	18.18
With one of your family	30	13.64
None	70	31.82

Source: author.

Q₂: Have you taken part in training on governance and the struggle against corruption?

Table 4 indicates that more than two-thirds of the questioned women did not take part in training on governance and the struggle against corruption. However, it is important to note that the fact that nearly a third of the women took this training can be related to the seriousness of the subject in Tunisia and the increasing importance attached to it in civil society.

Table 4. Respondents' participation in training on governance and anti-corruption

Response	No. of answers	Percentage
Yes	70	31.82
No	150	68.18

Source: author.

The results suggest that, although a notable proportion of women were sensitized with these questions, many did not have access to this type of

training. That could indicate an appropriateness for additional initiatives aiming at offering more training and sensitizing to governance and the struggle against corruption, especially considering the importance of this subject in Tunisia.

4. RESULTS

4.1. EVALUATION OF THE MEASUREMENT MODEL

The measurement model's evaluation consists of checking its internal reliability, and convergent and discriminating validity.

4.1.1. INTERNAL RELIABILITY

In this article, we used the alpha coefficient of Cronbach and composite reliability to examine internal reliability. According to Hair et al. (2017), the values of Cronbach's alpha as well as composite reliability must be higher than 0.70 to guarantee reliability.

Table 5 presents Cronbach's alpha coefficient and composite reliability calculated to evaluate internal reliability. We note that all calculations for Cronbach's alpha were between 0.822 and 0.914, which is higher than the recommended value of 0.7.

Table 5. Internal reliability

Variables	Items	Valeus	Cronbach's alpha	Rho-A
Entrepreneurial intention in sustainable tourism	EIST1	0.884	0.868	0.877
	EIST2	0.780		
	EIST3	0.826		
	EIST4	0.892		
Entrepreneurial motivation in sustainable tourism	EMST1	0.794	0.822	0.825
	EMST2	0.775		
	EMST3	0.825		
	EMST4	0.836		
Emotional intelligence	EI1	0.903	0.914	0.918
	EI2	0.912		
	EI3	0.867		
	EI4	0.882		
Perception of governance and anti-corruption efforts	PGACE1	0.838	0.841	0.862
	PGACE2	0.843		
	PGACE3	0.751		
	PGACE4	0.854		

Source: elaborated by the author using PLS results.

4.1.2. RELIABILITY AND VALIDITY OF CONSTRUCTS

For Hair et al. (2017), convergent validity refers to the degree to which a measurement element has a strong positive correlation with other elements. Firstly, to measure the convergent validity, the significance of each item's factorial contribution to the measurement of constructs was examined. Then, it was evaluated through the average variance extracted (AVE). Fornell and Larcker (1981) suggested that each item's factor loading and the acceptable AVE values should be at least 0.50 to ensure convergent validity.

Table 6 shows that the factor loading values of each item of all constructs range from 0.751 to 0.912, and that the AVE values vary from 0.653 to 0.795. This is higher than the thresholds recommended. Consequently, the convergent validity condition of our research model is satisfied.

Table 6. Results of reliability and convergent validity

Variables	Composite reliability (CR)	Average variance extracted (AVE)
Entrepreneurial intention in sustainable tourism (EIST)	0.910	0.717
Entrepreneurial motivation in sustainable tourism (EMST)	0.883	0.653
Emotional intelligence (EI)	0.939	0.795
Perception of governance and anti-corruption efforts (PGACE)	0.893	0.676

Source: elaborated by the author using PLS results.

4.1.3. DISCRIMINATING VALIDITY

We assessed discriminating validity by taking the square root of the AVE for each latent variable and comparing it to the square of the correlations between the latent variables. This means that each latent variable's AVE must exceed the correlation's square between this variable and the model's latent variables. In the matrix of latent variable correlations, the values on the diagonal represent the AVE square roots. All these values exceed those located in the diagonal's lower part, which indicates that the relations between the latent variables are less strong than those between constructs and their manifest variables.

Thus, the discriminating validity of our constructs is confirmed. This suggests that the measurement's indicators explain only the latent variables allotted. The analysis results are presented in Table 7.

Table 7 reveals that the AVE's square root for each variable is higher than the correlation's square between this variable and the model's latent variables. Then, the criterion results of Fornell-Larcker show that each

variable is distinct from the others, thus they have discriminating validity. Average variance extracted square roots for each variable are larger than the other variables' correlations. Hence, it was concluded that the requirements to ensure the discriminating validity of all the constructs of the model are fulfilled.

Table 7. Discriminating validity measured by the average variance extracted (AVE) squared: criterion of Fornell-Larcker

Variables	EIST	EI	EMST	PGACE
Entrepreneurial intention in sustainable tourism (EIST)	0.847	–	–	–
Emotional intelligence (EI)	0.563	0.891	–	–
Entrepreneurial motivation in sustainable tourism (EMST)	0.636	0.507	0.808	–
Perception of governance and anti-corruption efforts (PGACE)	0.777	0.390	0.566	0.846

Source: elaborated by the author using PLS results.

4.2. VALIDATION OF THE STRUCTURAL MODEL

The results (Table 8) show that it is the same for the variable's mediation. Consequently, the suggested hypotheses were accepted.

Table 8. Results of hypothesis checking

Hypothesis	Initial sample (O)	Standard deviation (SD)	t-value	p-values	Results
H ₁	0.324	0.099	3.273	0.001	Accepted
H ₂	0.474	0.088	5.356	0.000	Accepted
H ₃	0.154	0.067	2.297	0.022	Accepted
H ₄	0.390	0.077	5.034	0.000	Accepted

Source: elaborated by the author using PLS results.

H₁: The relationship between women entrepreneurs' motivation in sustainable tourism and their intention to enter this sector is significant. The estimated coefficient (0.324) is positive, with a *t*-value of 3.273 and a *p*-value of 0.001, which means that the relationship is statistically significant at a degree of confidence of 95% ($p < 0.05$). That confirms that the entrepreneurial motivation in sustainable tourism of women has a positive influence on their entrepreneurial intention.

H₂: The emotional intelligence of women entrepreneurs is positively related to their entrepreneurial intention in sustainable tourism. The estimated

coefficient (0.474) is positive, with a t -value of 5.356 and a p -value of 0.000. This hypothesis is thus strongly accepted and indicates a strong statistically significant relationship between emotional intelligence and the entrepreneurial intention in sustainable tourism.

H₃: The relationship between the entrepreneurial motivation of women entrepreneurs for sustainable tourism and their intention to enter this sector is mediated by their perception of governance and anti-corruption efforts. The estimated coefficient (0.154) is positive, with a t -value of 2.297 and a p -value of 0.022. This hypothesis is also accepted. It indicates that perception of governance and anti-corruption efforts play a mediating role in this relation.

H₄: Women entrepreneurs' perception of governance and anti-corruption efforts acts as a mediator in the relationship between their emotional intelligence and their decision to enter sustainable tourism. With a p -value of 0.000 and a t -value of 5.034, the predicted coefficient (0.390) is positive. This presumption, which is acknowledged, implies that the relationship between emotional intelligence and the desire to start in sustainable tourism is influenced by a sense of perception of governance and anti-corruption efforts.

According to Table 9:

1. Perception of governance and anti-corruption efforts among women entrepreneurs: R -squared = 0.808 indicates that 80.8% of the variance in the perception of governance and anti-corruption efforts among women entrepreneurs is explained by the model's independent variables.
2. Entrepreneurial intention for sustainable tourism: R -squared = 0.423 means that 42.3% of the entrepreneurial intention variance in sustainable tourism is explained by the model's independent variables.

Table 9. Coefficient of determination (R -squared)

Variable	R -squared	Adjusted R -squared
Perception of governance and anti-corruption efforts (PGACE)	0.808	0.805
Entrepreneurial intention in sustainable tourism (EIST)	0.423	0.418

Source: elaborated by the author using PLS results.

In short, these coefficients of determination show that the models have a reasonable explanatory capacity for the examined dependent variables. Thus, for entrepreneurial intention in sustainable tourism, more than half of the variance is explained. This suggests that the variables considered in the models are relevant to explain the perception of governance and anti-corruption efforts and entrepreneurial intention in sustainable tourism among women entrepreneurs.

According to Table 10, the f^2 effect size makes it possible to evaluate the impact of each exogenous variable on the variables in connection with the change in R^2 .

Table 10. Scale of the f^2 effect

Relation variable	Effect scale	Interpretation
EI → EIST	0.105	Medium effect (close to 0.15)
EMST → EIST	0.020	Small effect
PGACE → EI	1.680	Very large effect
PGACE → EMST	0.349	Large effect

Note: EI – emotional intelligence, EIST – entrepreneurial intention in sustainable tourism, EMST – entrepreneurial motivation in sustainable tourism, PSP – perception of governance and anti-corruption efforts.

Source: elaborated by the author using PLS results.

According to Cohen (2013), values of 0.02, 0.15, and 0.35 mean successive scales of effects: small, medium and large, while a value lower than 0.02 means the absence of an effect.

To improve entrepreneurial intentions in sustainable tourism, it can be more effective to concentrate on mediators such as perception of governance and anti-corruption efforts, which strongly influences the independent variables (emotional intelligence and entrepreneurial motivation). This approach would make it possible to obtain a more significant impact on entrepreneurial intentions.

As indicated in Table 11, according to Hair et al. (2017), the coefficient of Stone-Geisser (Q^2), also known as the index of redundancy in crossed validation, is the test of the validation crossed between the manifest variations of a variable, the endogenous test, and all of the manifest variations of the latent variables explaining the aforementioned endogenous latent variable using the estimated structural model. Calculated by the blindfolding procedure, if this last is positive, then the model has a predictive validity, on the other hand if it is negative, the studied model presents an absence of predictive validity and is thus unacceptable.

Table 11. Stone-Geisser (Q^2) coefficient

Constructs	Q^2
Entrepreneurial intention in sustainable tourism (EIST)	0.549
Perception of governance and anti-corruption efforts (PGACE)	0.257

Source: elaborated by the author using PLS results.

In Table 11, all the Q^2 indices are positive, which indicates that our model has predictive relevance. For example, the Q^2 of entrepreneurial intention in

sustainable tourism is 0.549, suggesting good predictive validity for this construct. Similarly, the Q^2 of perception of governance and anti-corruption efforts is 0.257, which also reflects an acceptable predictive validity for this construct. Overall, the positive Q^2 values for both entrepreneurial intention in sustainable tourism and perception of governance and anti-corruption efforts confirm that the model demonstrates satisfactory predictive validity, in line with the cross-validation criteria mentioned by Hair et al. (2017).

The results of Table 12 present the overall quality of the model: the goodness of fit (GoF) index for the constructs. In the PLS approach, no total index of validation of the model exists, which is why Tenenhaus et al. (2005) developed an index of GoF adjustment as an operational solution to this problem. This last considers the model of measurement and the structural model. The formula for the computation of the geometric mean of the average of the communities (AVE, R^2) and the average of the coefficients of determination (calculated for each endogenous variable).

Table 12. Index of goodness of fit (GoF)

Construct	Values
Average of the AVEs	$(0.717 + 0.653 + 0.795 + 0.676) / 4 = 0.710$
Average of the R^2	$(0.808 + 0.423) / 2 = 0.616$
GoF	$\sqrt{(0.710 \times 0.616)} = \sqrt{0.437} = 0.661$

Source: elaborated by the author using PLS results.

Thus, the GoF of the model is 0.661. This the measurement model has good internal reliability, convergent validity and discriminant validity. The structural model is validated with significant relationships between variables, and the coefficients of determination indicate reasonable explanatory power. The GoF value suggests that the model fits well and can be considered robust in explaining relationships in the context of sustainable tourism entrepreneurship among women.

5. DISCUSSION OF THE RESULTS AND IMPLICATION

5.1. DISCUSSION OF THE RESULTS

The research results confirm all the hypotheses advanced. First, regarding hypothesis 1, on entrepreneurial motivation and the intention to engage in sustainable tourism, significant positive relation is seen. That indicates that when women have a strong entrepreneurial motivation, they are more likely to intend to engage in projects of sustainable tourism.

While supporting and encouraging this motivation, their involvement in sustainable tourism can be supported. The entrepreneurial intention is influenced by factors such as attitude towards behaviour, subjective standards and perceived behavioural control, in accordance with the model of planned behaviour of Ajzen (1991). This is validated by several former studies like Lang and Liu (2019), who confirmed that motivation is a critical factor for entrepreneurial intentions. Moreover, Al-Jubari et al. (2023) provided positive evidence between motivation and entrepreneurial intention, and that intrinsic and extrinsic motivation that both play a big role in the explanation of an individual's will to launch out on an entrepreneurial adventure. In addition, any person can set out on sustainable tourism on the condition of adapting the project to the city's tourist potential and to technical and financial means. Moreover, small entrepreneurs are more likely to succeed in social trade due to effective control of the chosen trade, the geographical proximity of sites, and strong relational networks with customers and suppliers (Gutberlet, 2016).

Secondly, regarding hypothesis 2 on emotional intelligence and the entrepreneurial intention in sustainable tourism, a significant positive relationship between women entrepreneurs' emotional intelligence and their intention to engage in it is noted. This stresses the importance of competences in emotional intelligence for this sector as to form and reinforce emotional intelligence among women entrepreneurs could increase their engagement in sustainable tourism. Emotional intelligence, which includes the capacity to identify, use, understand and manage the emotions, is recognized as a key factor in entrepreneurial success. This competence can improve decision making and interpersonal relationships, two essential components in entrepreneurship. The results are confirmed by Nwibe and Ogbuanya (2024) who suggest that emotional intelligence can help entrepreneurs with managing uncertainties better and the emotional challenges related to the creation and the management of a company. Furthermore, research on emotional intelligence showed that when assessed separately it greatly increased entrepreneurial intentions in sustainable tourism. The findings of earlier research (Ahmetoglu et al., 2011; Ingram et al., 2019) are consistent with this.

Lastly, for hypotheses 3 and 4, emotional intelligence and the desire to engage in sustainable tourism entrepreneurship are significantly positively mediated by the perception of the struggle against corruption. This is similar to women's entrepreneurial motivation and their intention to engage in sustainable tourism. These observations stress the crucial importance of a transparent and ethical environment to support the engagement of women entrepreneurs. The relationship between emotional intelligence and entrepreneurial motivation in

sustainable tourism is mediated by the perception of governance and anti-corruption efforts. This suggests that women, who perceive a less corrupted environment, feel safer to exploit their emotional competences in favour of entrepreneurial initiatives, especially in a sector that is influenced by ethical practices such as sustainable tourism. The more successfully a nation manages corruption, the more successful it is in drawing in new businesses and retaining its current ones. This has ramifications for the players in the corporate sector.

Our findings are consistent with research by Shumetie and Watabaji (2019), which found that in a business where controlling corruption is not critical, there is an increase in business profits and in the number of new entrants on the market. The countries that suffer from weak and unsatisfactory entrepreneurship are known for their weak scores as regards corruption control. According to a different study by Memeti Karemani and Memeti (2023), corruption has a regressive effect on growth in entrepreneurship since it gives the nation's system an advantage over certain more established and well-connected businesses while also creating unfavorable incentives for entrepreneurs. The suitability of entrepreneurial development is irrelevant in nations with flexible entrepreneurial governance systems. This inference was corroborated by Shumetie and Watabaji (2019), who affirmed that political instability in each country involves a reduction in the extent of companies' innovation and new companies' entry on the market.

5.2. IMPLICATIONS

This study's conclusions highlight important managerial consequences for actors in the promotion of female entrepreneurship in sustainable tourism, particularly in Tunisia. Special development programs to reinforce women's entrepreneurial motivation, to develop their competences in emotional intelligence, and to sensitize them to governance and the struggle against corruption are essential for organizations which support entrepreneurship. Regarding public institutions, their role can be crucial by supporting a favourable framework with female entrepreneurship in this field, while putting in place policies that support companies' creation, transparency and struggle against corruption, by facilitating access to financing and resources. Lastly, tourist sector companies have a responsibility to support women entrepreneurs by establishing partnerships and subcontracting their products and marketing services. While working with women entrepreneurs in a proactive way, these actors can support their autonomy and support the sustainable development of tourism in Tunisia.

6. CONCLUSION

The United Nations' Sustainable Development Goals (SDGs), adopted in 2015 as part of the 2030 Agenda, provide a comprehensive framework for addressing global challenges through interconnected targets, including those promoting sustainable tourism as a driver for economic inclusion and environmental protection. Through sustainable production and consumption (SDG 12), sustainable tourism may help accomplish development goals and create sustainable cities and communities (SDG 11). This is accomplished by emphasizing it to support regional culture and provide employment (SDG 12.b). It may also be satisfied by spiritual tourism, nature tourism, adventure tourism, rural tourism, etc., since these endeavors seek to reduce the harm done to an area and yield favorable results for local communities.

This research underscores the crucial role of emotional intelligence in fostering entrepreneurial intention among women in Tunisia's sustainable tourism sector. The findings confirm that emotional intelligence, alongside entrepreneurial motivation, significantly drives women's engagement in this field. In particular, the capacity to recognize, comprehend and control emotions enables female entrepreneurs to successfully negotiate sustainable tourism's challenges, adjust to changes in the market, and create robust enterprises.

Since emotional intelligence and entrepreneurial ambition are positively correlated, it is imperative that its growth be given top priority. As demonstrated by Alotaibi and Badawi (2023) and Bagheri et al. (2024), higher emotional intelligence enhances entrepreneurial success by enabling effective leadership, strong professional relationships, and the ability to transform challenges into opportunities. Similarly, Nassif and Garçon (2024) emphasize its role in building resilience, a vital trait for success in the dynamic tourism sector.

Moreover, the study reveals that a transparent and ethical business environment strengthens the emotional intelligence and entrepreneurial intention relationship. The perception of a robust struggle against corruption acts as a crucial mediator, allowing women to fully leverage their emotional intelligence and motivation. This highlights the importance of implementing policies that promote good governance and support a 'level playing field'.

The study's conclusions indicate that to fulfill female entrepreneurs' potential in the sustainable tourism industry, strategic interventions are necessary. First and foremost, it is critical that training programs, both current and future, incorporate the development of emotional intelligence. These programs should equip women with the necessary competencies to effectively manage emotions, cultivate robust professional relationships, and exercise effective leadership. Secondly,

the creation of supportive ecosystems is essential, which necessitates the fostering of ethical and transparent business environments that actively encourage and facilitate women's participation. Thirdly, the provision of targeted resources is crucial. This includes offering accessible financing options, mentorship programs and networking opportunities, all specifically designed to deal with sustainable tourism needs and unique challenges for women entrepreneurs.

Future studies ought to focus more on how public policies affect women entrepreneurs in sustainable tourism. Specifically, examining the effectiveness of existing policies and identifying persistent challenges will inform the development of more targeted and impactful support mechanisms. By adopting a multidimensional approach that prioritizes emotional intelligence, ethical governance and targeted support, the full potential of women entrepreneurs in driving sustainable tourism in Tunisia can be unlocked.

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