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# Academica Turistica

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# Using Landscape Drawings to Explore Destination Images

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This article is an exploratory study employing a drawing-based qualitative research method called landscape image sketching technique (LIST) to explore people's destination images. This method involves participants sketching symbolic scenes to express their perceptions of specific objects. In contrast to previous drawing-based studies, the LIST employs a four-aspect landscape perceptual model to interpret people's images and discern their values and interests. Using rural tourism in the Guangxi Zhuang Autonomous Region, China, as a case study, we collected image sketches from 166 local college juniors, shedding light on their perceptions of rural destinations. The LIST proved instrumental in understanding the functional characteristics of Guangxi's rural destinations and uncovering the psychological experiences anticipated by the respondents. The paper discusses the prospects and limitations of applying the LIST in destination image studies.

**Keywords:** drawing, destination image, rural tourism, landscape image sketching technique



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## Introduction

Destination image generally refers to people's comprehensive beliefs, impressions, and knowledge regarding a particular travel destination. Its development is influenced by factors such as tourist resources, facilities, products, service quality, and other destination-related elements (Crompton, 1979; Baloglu & McCleary, 1999; Martin & Rodriguez, 2008; Lopes, 2011). The exploration of destination image has consistently been a focal point in tourism academia, with many studies suggesting a close correlation between destination image and tourists' satisfaction and behaviour (Chiu & Ananzeh, 2012; Janchai et al., 2020; Kumar et al., 2023). However, as an image is intangible, abstract, and vague, researchers often struggle to precisely comprehend people's complex perceptions of travel destinations (Mazanec, 2009; Kock et al., 2016; Virdee, 2019).

Tourism scholars have constantly been trying to develop different methods to help understand destination images (Echtner & Ritchie, 1991; 1993; Ryan & Cave, 2005; Yusof, 2014; Arabadzhyan et al., 2021), and visual research has emerged as a promising approach for this purpose (Fairweather & Swaffield, 2001; Hunter & Suh, 2007; Garrod, 2009; Rose, 2014; Kuhzady & Ghasemi, 2019; Seraphin & Green, 2019; Lobinger & Mele, 2021). Matteucci and Önder (2018) highlight drawing, a form of graphic representation using lines to depict an object, as a potential research method. While current visual studies primarily focus on analysing photographic materials, they conducted a questionnaire survey using drawings to explore images of Vienna. Although they captured tangible and affective symbolic dimensions of Vienna's image, the study fell short of scrutinizing the specific ideas and interests expressed by the respondents. Interpreting

the values conveyed in these image drawings is crucial, as they may provide insights into people's interests regarding the given place, including motivations and preferences.

Based on the above background, this study introduces a qualitative research method called the Landscape Image Sketching Technique (LIST) to explore the interests and values reflected in people's image drawings. As a pilot study, the research focuses on rural tourism, inviting 166 potential visitors from the Guangxi Zhuang Autonomous Region, China, to express their perceptions of local rural destinations through landscape drawings. To assess the utility of the LIST, this paper examines three key questions in the context of Guangxi's case study: How effective is the LIST in capturing destination images? What unique insights can the LIST provide compared to previous drawing-based methods? What potential does the LIST hold for future tourism studies? Before presenting the findings, the paper reviews the literature on destination image measurement methods and illustrates the function and applicability of the LIST for examining destination images.

## Literature Review

### *Components of Destination Image*

Scholars generally consider destination image a multidimensional construct comprising two major components: cognitive and affective. The cognitive component involves perception and concerns beliefs or knowledge about a place. It relates to the tourist destination's attributes, including tangible resources (e.g. climate and infrastructures) and psychological attraction (e.g. safety and friendliness). The affective part refers to visitors' feelings and emotions (e.g. relaxing and safe) toward the destination (Gartner, 1993; Baloglu & McCleary, 1999; Martin & Rodriguez, 2008). Echtner and Ritchie (1991; 1993) propose a classical three-continuum conceptual framework (attribute-holistic, functional-psychological, and common-unique) to summarize all components of the destination image. First, they envision the destination image as having two main components: attribute-based and holistic. On the attribute side, there are various perceptions of the individual character-

istics of the destination, ranging from functional (e.g. climate and infrastructures) to psychological (e.g. safety and friendliness). On the holistic side, the functional part consists of the mental picture of the destination's physical features (e.g. wooded and mountainous), while the psychological impression could be described as the atmosphere or mood of the place (e.g. relaxing and safe). Then, they point out another dimension of the destination image: the 'common-unique' continuum. They suggest that destination images can range from those perceptions based on 'common' functional and psychological traits to those based on more 'unique' features, events, or feelings. Examples of 'unique' features (tangible traits) are as follows: India may evoke an image of the Taj Mahal and Brazil of the Amazon Jungle. As for the 'unique' feelings (psychological traits), Paris may be perceived as romantic, and Mexico as slow-paced. This model provides scholars with a reference when exploring destination images (Currie, 2020; Alarcón-Urbistondo et al., 2021; Wang et al., 2021).

### *Approaches to Measuring Destination Image*

Since the destination image construct is multidimensional, scholars seek to operationalize each dimension to comprehensively understand people's perceptions of travel destinations. Currently, there are two basic approaches to exploring destination images: structured and unstructured techniques (Echtner & Ritchie, 1991; 1993). Structured approaches allow people to measure attribute-based dimensions. The researcher first designs the specific items and scoring methods for image evaluation, such as the Likert-type scale and then asks respondents to complete the questionnaire as required (Jenkins, 1999). Tourism scholars (Echtner & Ritchie, 1993; Hui & Wan, 2003; Lin et al., 2006) usually determine their image evaluation items based on the characteristics of different travel destinations and combine them with prior papers' attribute lists. For example, Echtner and Ritchie (1991) sorted out a 35-attribute list in their previous study. Since structured approaches can hardly allow people to describe their feelings or unique impressions of a destination, researchers devise an unstructured approach in which the image attributes are not specified

(Yusof, 2014). Unstructured methods focus on exploring tourists' unique aspects of a destination through the three open-ended questions developed by Echtner and Ritchie (1993). The technique asks respondents to: (1) introduce their overall impressions of a destination, (2) describe the atmosphere or mood that they would like to experience when visiting a place, and (3) determine the distinctive or unique attributes of the travel spot. Researchers often combine structured and unstructured techniques to comprehensively interpret the destination image (Echtner & Ritchie, 1993; Grosspietch, 2006; Martin & Rodriguez, 2008).

Regarding data collection, scholars usually analyse the textual description to interpret people's destination images (Jenkins, 1999; Matteucci & Önder, 2018; Yusof, 2014). However, since image is abstract and intangible, verbal-based narratives are sometimes vague and incomplete. Virdee (2019) notes that word descriptions often fail to be fully understood by destination marketers because of the ambiguity of language expression (e.g. 'comfort' or 'relaxing' are vague when communicated visually). Pavesi et al. (2016) suggest that since people's images always result from both their conscious and unconscious reactions to stimuli, researchers need more tools to explore the unconscious processes of human cognition. Visual research has proven to be a potential approach to breaking through the limitations of word-based studies, and an increasing number of scholars have tried to combine visual materials (e.g. photos and videos) to comprehensively understand people's destination images (Fairweather & Swaffield, 2001; Hunter, 2011; Prebensen, 2007; Garrod, 2009; Kuhzady & Ghasemi, 2019; Xiao et al., 2022).

#### *Drawing as a Potential Approach*

Although visual research has become a popular topic in tourism academia, few scholars have focused on drawing-based methods. Rose (2012; 2014) indicates that photographic materials have dominated visual research methods, with photographs being the primary means of visually capturing and analysing destination images. Tversky (1999) points out that the key difference between paintings and other realistic materials (e.g. videos and photos) is that drawings allow

for a deeper understanding of how people conceive places, conveying symbolic meaning rather than simply reproducing realism. In drawings, elements of reality can be distorted, added, or ignored, reflecting the subjective nature of perception. Using drawing-based methods presents numerous unique advantages. It has the potential to reveal a more comprehensive image of destinations (MacKay & Couldwell, 2004) and can uncover people's inner thoughts and unconscious thinking (Zaltman & Zaltman, 2008). Additionally, drawing allows time for reflection, facilitating a fuller depiction of events and places (Literat, 2013). Furthermore, this method has the capacity to provide a cross-cultural understanding of a tourist's experiences (Bagnoli, 2009). However, few relevant research cases are found within tourism literature (Matteucci & Önder, 2018; Virdee, 2019).

Son (2005) employed sketch maps to identify people's images of Sydney and Melbourne, indicating that mapping was valuable in understanding people's spatial orientation within a tourist destination. Sketch maps, however, differ significantly from drawings. While sketch maps focus on interpreting people's spatial knowledge and representations of a place—exploring how individuals geographically and topographically experience destinations (Young, 1999)—drawings aim to capture a broader, more subjective perception of a place, reflecting the metaphorical and emotional meanings attached to the destination. Hunter and Suh (2007) combined drawings to explore the destination images of Jeju Island. In their study, the image drawings were closer to portraits, with the drawing object being the island's standing stones. Their findings indicated that applying visual methods not only helped build confidence in their research hypotheses but also provided valuable insights into the distinct perceptions of urban and provincial visitors. The use of drawings allowed them to uncover deeper symbolic and emotional aspects of destination images that may have been missed through more conventional research methods.

Matteucci and Önder (2018) used more detailed drawings to explore destination images by asking respondents to create representative images of Vienna. Similarly, Köstinger and Matteucci (2022) conducted

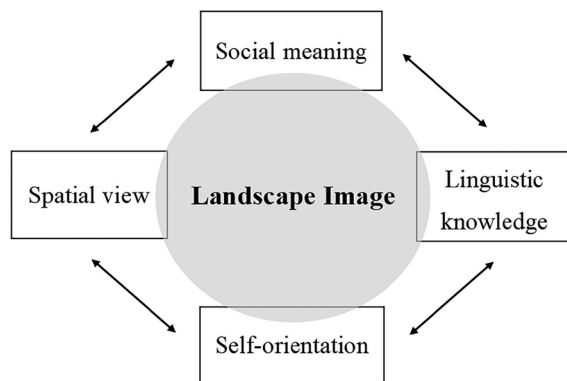


Figure 1 Diagram of Landscape Image Formation

another drawing study to investigate people's perceptions of Singapore. These studies highlighted the differences in destination image representations between visitors and non-visitors. However, as Matteucci and Önder (2018, p. 17) noted, 'By relying on content analysis and compositional interpretation, our study focused primarily on depictions of Vienna and the emotive impacts of these images.' Their research was less concerned with interpreting the ideas and values expressed in the image drawings. The values conveyed by respondents in their drawings, however, are significant, as they offer insights into preferences regarding travel destinations. To complement this analysis, we introduce another drawing-based qualitative approach, Landscape Image Sketching Technique (LIST), which aims to delve deeper into tourists' values and interests.

#### *Landscape Image Sketching Technique*

The LIST originated in the field of landscape research. Ueda et al. (2012) suggested that people typically associate a given place with various keywords, recalling their experiences and knowledge, and landscape drawings can incorporate many unrelated keywords in a symbolic picture via visualization. They developed a qualitative approach, the LIST, to help externalize people's abstract cognition of local forests. Later, the method was expanded to investigate square images (Kohori & Furuya, 2017) and home garden images (Mao et al., 2020). During an image survey, the LIST

typically prompts individuals to respond to questions such as, 'What landscape comes to mind when you hear "xxx"?'. Respondents are then required to convey their imaginations through symbolic scene sketches. The method is similar to Echtner and Ritchie's (1993) open-ended technique, aiming to capture people's overall perceptions of a given place.

The LIST interprets people's image drawings using a four-aspect landscape image formation model called *Fukei* theory: linguistic knowledge, spatial view, self-orientation, and social meaning (Ueda et al., 2012). This model builds on the perspectives of Lynch (1960) and Nakamura (1982) regarding environmental image perception. Lynch (1960) identifies three components of an environmental image: identity (the object's uniqueness), structure (the spatial relationships between the observer and surrounding objects), and meaning (the object's practical or emotional significance to the observer). Nakamura (1982, pp. 55–56) expands on this, suggesting that the landscape image is a subset of Lynch's (1960) environmental image, perceived from a specific viewpoint that provides self-orientation within the surroundings. Nakamura (1982) outlines five elements of landscape image components: view (the visible spatial landscape), knowledge (representation through linguistic elements), orientation (the viewer's position in the environment), place-network ('public image' shared within a social group), and generation (temporal changes or evolution of the landscape). Ueda et al. (2012) synthesized these perspectives into their *Fukei* theory model.

Referring to Figure 1, assuming that an observer is now generating a landscape image of a place, we may state the following: first, the image will consist of semiotic (linguistic knowledge—corresponds to Lynch's 'identity' and Nakamura's 'knowledge') and spatial aspects (spatial view—corresponds to Lynch's 'structure' and Nakamura's 'view'). Moreover, the image cannot be separated from the observer's viewpoint. The observer's standpoint shows the person-environment relationship between the landscape elements and the viewer (self-orientation—corresponds to Nakamura's 'orientation'). Then, the landscape image bridges communication between the individual and collective; in the group, individuals share their images of the given desti-



nation and form a collective consciousness (social meaning—corresponds to Nakamura's 'place-network'). In turn, group cognition will affect the individual's image of the place through various media (e.g. video, books, and chats). The generation of the individual landscape image and its communicative changing process in the group reflect the 'generation' characteristic proposed by Nakamura. The landscape image is central to the square model and comprises all elements. Through image sketching and the above four-aspect visual analysis, researchers can understand people's shared values for a given object/place and observe how social recognition affects individual perceptions.

#### *The LIST as a Complement to Existing Drawing Research*

Although the LIST was not specifically developed for tourism research, its theoretical framework, as outlined by Ueda et al. (2012), conceptualizes landscapes as experiences that combine visible elements (objective scene components) with invisible structures (subjective emotions or personal memories triggered by the scenes). This aligns with Gunn's (1972) perspective on tourism landscapes in *Vacationscape*, where he argues that tourism landscapes are not merely physical spaces but also reflections of tourists' psychological needs and emotional attachments. In this sense, Ueda et al.'s (2012) definition and understanding of 'landscape' in developing the LIST are equally applicable to the concept of 'tourism landscape' within the field of tourism studies. Terkenli et al. (2021) suggest that all types of tourism landscapes—whether grand or modest—have the potential to attract different visitors. These landscapes offer varied experiences, such as tranquillity, excitement, awe, inspiration, and a sense of belonging. Their perspective highlights the symbolic role of landscapes in expressing tourists' emotional connections and psychological needs. Thus, while landscape imagery may not encompass the entirety of a destination image, landscape image surveys can provide valuable insights into tourists' expectations and emotional needs—what elements appear in their sketches (cognitive aspect) and what emotional or psychological meanings these elements convey (affective connections).

Based on the above discussion, the LIST is expected to complement aspects of visual research that previous image drawing studies (Matteucci & Önder, 2018; Köstinger & Matteucci, 2022) have not addressed. While their drawing analysis focuses on identifying elements within objective images and the emotions they convey, the LIST offers a fresh perspective by interpreting image drawings as landscape experiences and emphasizing the dynamic process of image creation. By examining how participants organize their fictional worlds—what visual elements they choose, how they arrange them, and the symbolic meanings they embody—the LIST delves deeper into the psychological and emotional dimensions of destination imagery, opening new possibilities for analysing the interests and values reflected in people's image drawings.

### **Methodology**

#### *Case Study and Research Design*

Our research focuses on rural tourism in the Guangxi Zhuang Autonomous Region, China, as the subject of study. The primary aim is to assess the effectiveness of the LIST in exploring destination images in this context. Rural tourism generally refers to the activities of tourists staying, learning, and experiencing in and around the countryside (Gilbert & Tung, 1990; Reichel et al., 2000). China's rural tourism has become larger scale since the 1990s (e.g. the number of visitors received by the rural tourism industry in 2019 reached 3 billion) (Zhu & Cao, 2021). Although it is flourishing rapidly, there are also many failed business cases (Peng, 2016). The situation in Guangxi is such an example. As more than 80% of Guangxi's tourist resources are in suburban villages and mountainous areas, the region enjoys great potential for developing rural tourism (e.g. characteristic landscapes and diverse minority cultures). However, due to the lack of a complete understanding of people's travel needs, tourist operators often fail to make wise marketing decisions, even destroying the original rural environment (Lan, 2011; Liang, 2011). Tourism marketing researchers point out that operators must determine people's travel preferences and build strong brand images to maintain a competitive edge (Mansfeld, 1992;

Bigne et al., 2001). Pearce (1988, p. 163) notes that while the individual's mental picture of a destination may be somewhat unique, there will be a common mental picture (a 'stereotype' image) of that place in the group. Therefore, conducting an image survey can help understanding of tourists' collective ideas about rural destinations, providing marketing-oriented implications for Guangxi's tourism operators. The case study can also provide a methodological reference for tourist marketing analysis in similar regions.

Referring to Ueda et al.'s (2012) research, we designed our LIST survey as follows: Suppose that today is a holiday and you plan to visit some rural destination in Guangxi. What kind of scenery do you expect to see there? Make imagination within three minutes and complete the questions below:

Q1: *What are the scenic elements in your landscape for Guangxi's rural destination?*

Q2: *Draw a landscape sketch in black and white to show your imagination.*

Q3: *Briefly introduce your drawing: Why did you choose such a picture?*

#### *Data Sampling*

We administered questionnaires to juniors from Guangxi Science and Technology Normal University. The university is located in Laibin, Guangxi, a city whose suburban areas have many emerging rural resorts. Since the juniors have lived in the city for several years and most of them are Guangxi's permanent residents, we assumed that they would be familiar with the issue of interest in this research (Guangxi's rural tourism). Tourism scholars often use student samples to conduct destination image studies, seeing them as future tourists (Crompton, 1979; Matteucci & Önder, 2018; Tasci et al., 2006). Although students' images cannot represent those held by other groups, as an exploratory methodological study, our main concern was whether the LIST could help explore images of a given destination rather than a comprehensive market investigation. Moreover, filling out the LIST questionnaire involves imagining, drawing, and writing, which requires respondents to have corresponding knowledge and expressive abilities. Taking student

samples can help guarantee the completion rate of the questionnaire survey and simultaneously minimize the difference in answers due to different demographic attributes (e.g. age, occupation, and educational level). Some of the students may never have visited rural destinations, but they can still construct an image of a place without physically travelling to it given that such an image is formed through multiple sources of information (e.g. photos, books, videos) (Echtner & Ritchie, 1993).

A total of 240 college juniors from five random classes at Guangxi Science and Technology Normal University were issued drawing questionnaires. We provided students with pencils and erasers for image sketching. Students in each class had 15 minutes to complete the questionnaire. Many students encountered difficulties in the process of filling out the image-drawing section. Some complained that they lacked artistic talent, and some said they had no idea what to sketch. Referring to prior research (Ueda et al., 2012), we explained that the image sketch does not require the respondent to create works of art. The author can also refer to complex landscape elements with simple letters or graphics. The drawing is valid as long as the author can show the elements' positional relationships in their images. Then, we informed the students that everyone would form different associated representations (including natural things and artificial objects) in their minds when it comes to 'rural tourism in Guangxi'—these fictional pictures are what you should draw on the questionnaire paper.

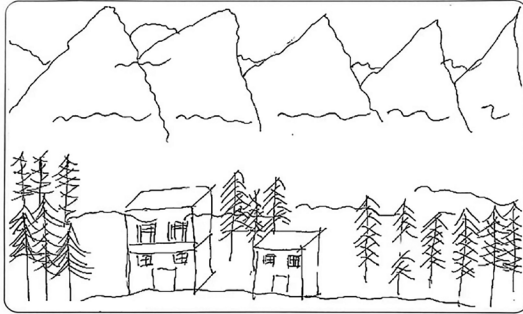
We collected 166 valid questionnaires, of which 106 were from male students, and 60 were from females. As previously stated, most of the students (81%) are Guangxi residents. Of the remaining respondents, 20 (12%) are from Yunnan, Guizhou, Hunan, and Guangzhou—neighbouring provinces that border Guangxi—and 12 (7%) are from distant provinces, such as Sichuan, Henan, Shanghai, and Shandong. The students' different backgrounds may have potentially affected the survey results, but because the primary purpose of this exploratory experiment was to observe whether the LIST could help pinpoint the respondents' ideas and values from their drawings of destination images, we concentrated primarily on

**The LIST questionnaire**

What are the scenic elements in your landscape for Guangxi's rural destination?

None

Draw a landscape sketch in black and white to show your imagination.



Briefly introduce your drawing: why did you choose such a picture?

None

Figure 2 An Example of an Invalid Answer

analysing the characteristics of the images from the entire sample without conducting group comparisons in terms of demographics.

An accepted answer should have graphical elements and corresponding textual descriptions, allowing researchers to read the author's intent. Invalid samples, as shown in Figure 2, were rejected because the respondents lacked the necessary textual explanations of their image sketches. Although we can observe some image elements (e.g. trees, mountains, and houses) through that drawing, without the corresponding textual introductions, it is difficult for researchers to judge why the picture represents the rural landscape. For example, is the combination of trees, mountains, and houses aimed at expressing beautiful nature or a quiet rural atmosphere? Are the houses depicted in the picture restaurants, entertainment facilities, or villager's residences? Since it is hard to grasp the author's ideas, such an answer will not be counted during data analysis. Likewise, questionnaires that only have textual descriptions but have not completed the drawing section will be regarded as invalid. Questionnaires with significant inconsistencies

between the textual description and the image sketch were also considered invalid.

**Data Processing**

The visual data were not analysed psychologically or pathologically but in terms of the landscape elements that the respondents imagined and the scene's composition via their interconnection and self-oriented field of view. According to Ueda et al.'s (2012) *Fukei* theory, people's landscape images consist of linguistic knowledge, spatial views, self-orientations, and social meanings. These four constructs were analysed to identify and summarize the landscape images drawn by the current research's respondents to depict Guangxi's rural tourism:

1. In the linguistic knowledge analysis, we counted what scene elements appeared and what rural tourism attributes they corresponded to.
2. The spatial view is an interpretation of the angle the respondents depict their destinations.
3. As for the self-orientation statistic, we analysed the respondents' standing points and saw what person-environment relationship their image drawings reflected.
4. In the social meaning analysis procedure, we read group values/interests expressed by the respondents' image drawings and their textual introductions.

**Findings****Linguistic Knowledge**

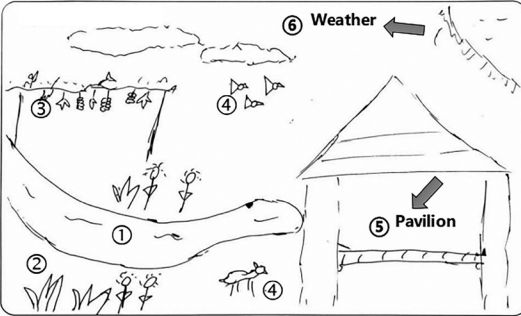
First, we compiled statistics on the landscape element descriptions in the questionnaire. As seen in Figure 3, the respondent first suggested four elements (river, flowers, fruit picking, and wild animals) through textual answers. Then, in the flowing drawing section, the author supplemented two more elements (weather and pavilion). All these textual and graphical descriptions were counted and classified. We counted 1,193 image descriptions and combined elements of the same attribute, such as 'flowers, grass, trees' as 'plants', 'barbecue, picnic, meals' as 'cuisines', and 'KTV, cards, sports' as 'entertainment'. These descriptions can be summarized as 21 rural landscape ele-

**The LIST questionnaire**

What are the scenic elements in your landscape for Guangxi's rural destination?

① River ② Flowers ③ Fruit picking ④ Wild animals

Draw a landscape sketch in black and white to show your imagination.



⑥ Weather

⑤ Pavilion

Briefly introduce your drawing: why did you choose such a picture?

Surrounded by flowers, streams, and animals, I am enjoying the fruits and nature happily. This moment is the best for me.

Figure 3 An Example of a Valid Questionnaire

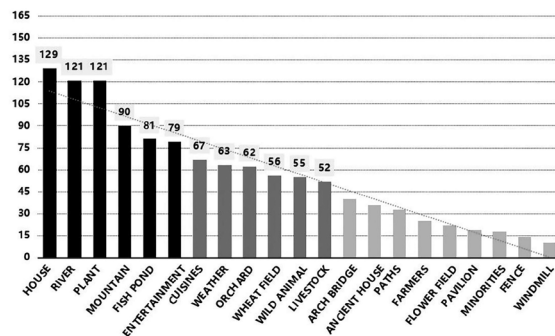


Figure 4 Frequency Ranking of the 21 Rural Landscape Elements

ments. As seen in Figure 4, 'House 129' means that out of 166 respondents, 129 have mentioned 'House' (e.g. guest rooms, restaurants, and lounges) in their image sketches. Darker columns represent elements with a large proportion of people. We can see that the respondents' rural landscape generally contains 'house', 'river', 'plant', 'mountain', 'fish pond', and 'entertainment'. The following six elements were also popular: 'cuisines', 'weather', 'orchard', 'wheat field', 'wild animal', and 'livestock'.

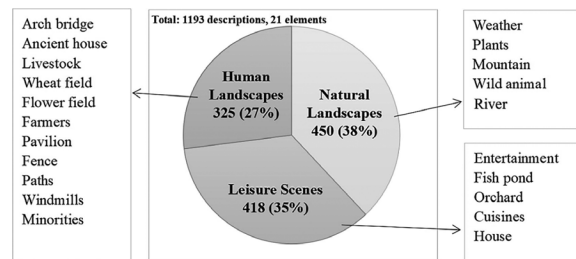


Figure 5 Proportional of Three Rural Landscape Element Groups

We then classified the above 21 elements according to three non-overlapping groups: natural landscapes, human landscapes, and leisure scenes (Figure 5). Each group consists of different exclusive attributes. The classification results were based on prior studies (e.g. Fan & Wang, 2010; Xu et al., 2013) and researchers' preliminary considerations. To increase the rationality of the grouping, the two researchers first coded and categorized the image descriptions, respectively, and then combined the results. We observed that the respondents showed great interest in leisure activities, being close to nature, and enjoying the rural atmosphere in Guangxi's rural destination.

### Spatial View

Ueda et al. (2012, p. 25) state, "The represented visual appearance of each landscape element can be understood in terms of viewing angle and distance that indicate which part of the landscape is captured from which viewpoint." Referring to Ueda et al.'s (2012) research case, we classified the respondents' image sketches into four types:

1. Close-up view (Figure 6): Respondents describe the object from a very close perspective. Due to the viewing angle limitation, the described objects are only partially shown.
2. Medium-range view (Figure 7): A moderate distance between the sketchers and the object they describe. From this distance, the object's overall outline and detailed features are reflected in the sketches.
3. Distant view (Figure 8): The authors describe things far away from them, sometimes using the object's blurred outline as the sketch's background.



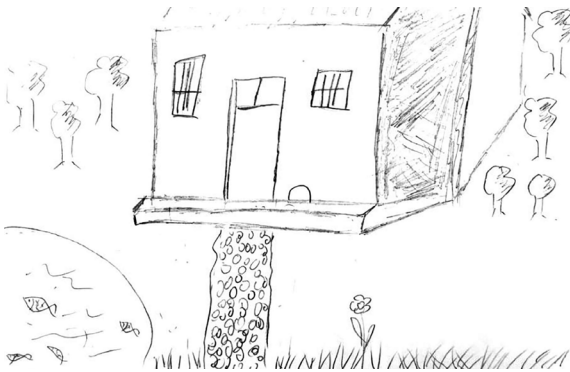


Figure 6 An Example of a Close-Up View Sketch

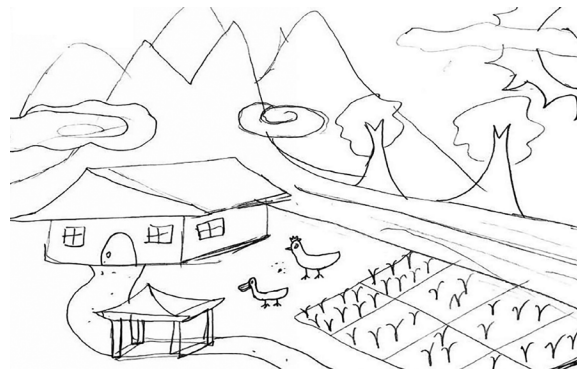


Figure 8 An Example of a Distant View Sketch

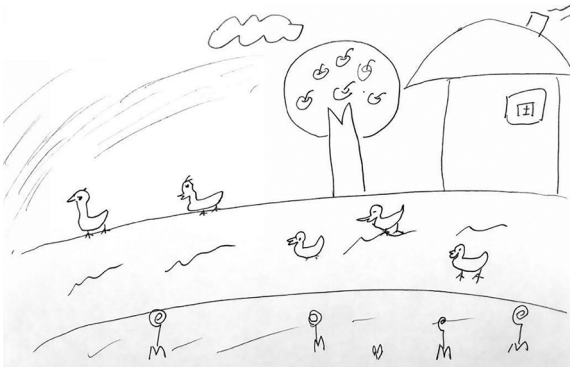


Figure 7 An Example of a Medium-Range View Sketch



Figure 9 An Example of a Bird's-Eye View Sketch

The farthest point of the respondent's view is the basis for distinguishing distant and medium-range views.

4. Bird's-eye view (Figure 9): Any sketch of the observation angle from the sky to the ground is counted as this type. In this research, the classification results can be understood regarding the respondents' concerns about the spatial diversity of the destination.

We see that the ratio of close-up views is rare (Figure 10). Respondents generally expressed a broad vision in their image sketches, with most depicting rural landscapes that feature rich background layers, reflecting openness and expansiveness. These preferences likely reflect the natural characteristics of Guangxi's rural areas, which are renowned for their vast mountainous landscapes and diverse rural environments. The expansive scenic beauty of Guangxi's natural landscapes—including towering mountains,

open fields, and diverse ecosystems—seems to strongly resonate in the respondents' mental images of rural destinations. Respondents predominantly used distant or bird's-eye perspectives, emphasizing spatial layering and offering wide views of the landscape. This suggests that their perceptions of rural tourism in Guangxi are not confined to isolated scenic spots or

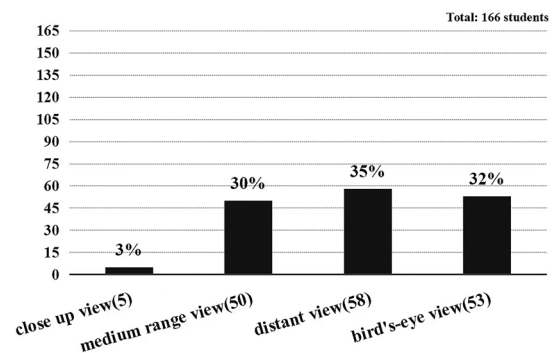


Figure 10 Statistics of the Spatial View Classification.

individual elements, but rather focus on constructing a composite image that integrates various landscape features. Their preference for panoramic views highlights a deeper appreciation for the vastness and multi-dimensional nature of the region, signalling a strong desire to experience the broad environmental context and spatial diversity that Guangxi has to offer.

#### *Self-orientation*

Ueda et al. (2012) suggest that the linguistic description usually describes the destination objectively, but the visual image sketches further reveal how the respondents related the surrounding objects to themselves. Referring to Ueda et al.'s (2012) research, we classified the respondents' image sketches into four types :

1. Single object (Figure 11): The respondent describes only a single element or a single element group in the sketch.
2. Objective scene (Figure 12): An objective landscape composed of multiple elements. There is no hint of the respondent's presence in the picture.
3. Surrounding place (Figure 13): We can see various interactions between the respondents and their surroundings.
4. Overlooking place (Figure 14): The respondents mainly focus on distant landscape surroundings. The self-orientation classification results illustrate the most distinctive characteristics of the person-environment relationship.

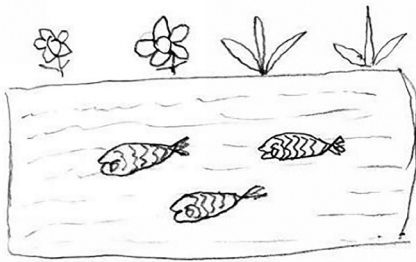


Figure 11 An Example of a Single Object Sketch

The self-orientation test results (Figure 15) indicate that most respondents envision themselves actively engaging in leisure activities at the destination, highlighting a strong personal connection to the space (the surrounding place). This suggests that rural tourism in Guangxi is not merely seen as passive observation of nature but as an immersive experience, where visitors mentally position themselves as part of the landscape. Interestingly, about a quarter of respondents focused more on the distant landscape rather than immediate, tangible features like facilities or infrastructure (the overlooking place). This preference reveals a desire for a broader, more expansive perspective, signalling a deeper yearning for tranquillity and escape into a panoramic environment. Such imagery points to a wish to experience the vastness of the natural surroundings, emphasizing the emotional and reflective aspects of rural tourism over functional or material elements.

#### *Social Meaning*

Through landscape drawing, respondents attach various meanings to the given object. Based on the three visual interpretations above—linguistic knowledge, spatial view, self-orientation—and respondents' linguistic descriptions of their image drawings (only the part of the texts that was consistent with the visual image sketch was used to interpret the social meaning), we summarized the respondents' collective interests of Guangxi's rural destinations. To improve the validity of the classification, we added two more researchers who were familiar with the Chinese context to participate in our data processing (inter-

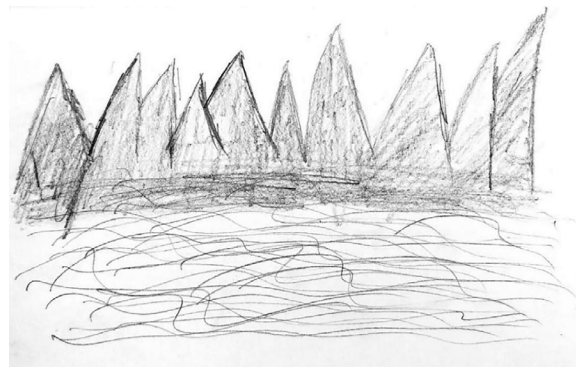


Figure 12 An Example of an Objective Scene Sketch.



Figure 13 An Example of a Surrounding Place Sketch

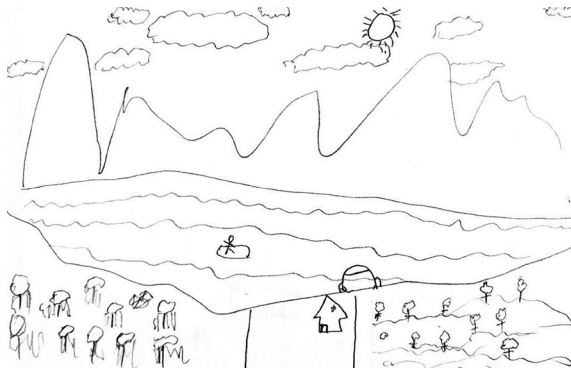


Figure 14 An Example of an Overlooking Place Sketch

preting the drawings' meaning requires the classifiers and respondents to have similar cultural backgrounds). Each classifier interpreted the respondents' image sketches separately and divided them into different themes. The grouping results were based on previous Chinese rural tourism papers (e.g. Cong & Dong, 2013; Fan & Wang, 2010; Zhou, 2014) and the classifiers' preliminary considerations.

Some image drawings reflected multiple meanings (e.g. country cuisine and recreation in the same image), so we classified these sketches redundantly, allowing them to belong to multiple social meaning categories. We aggregated the classification results from all classifiers and identified eight key rural tourism interests: recreational places, country cuisine, aesthetic experiences, village life, Guilin scenery, poetic culture, peaceful retreats, and minority interactions. As the focus of the social meaning analysis was to explore the range of interests reflected by the respondents (the

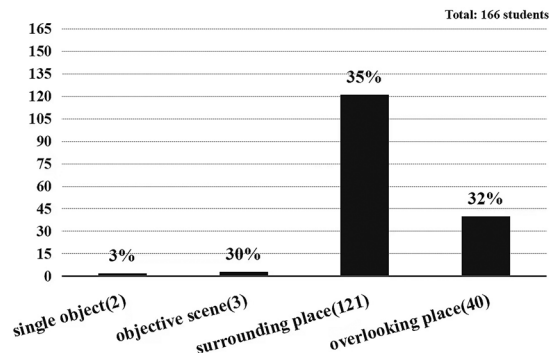


Figure 15 Statistics of the Self-Orientation Classification



Figure 16 An Example of a Recreational Place Sketch

diversity of meanings), rather than comparing their proportions, we did not analyse the statistical differences between categories.

(1) Recreational place (Figure 16): The rural destination is a place to experience leisure activities. The image sketch comprises various leisure elements, such as fishing, boating, fruit picking, sports, barbecue, and karaoke. Respondents generally described the richness of leisure enjoyment and imagined themselves having fun with friends.

(2) Country cuisine (Figure 17): Enjoying local delicacies is the primary purpose of visiting a rural destination. The picture mainly consists of food tasting and a beautiful natural environment, such as mountains, rivers, plants, and wild animals. Respondents usually described the sketches from a medium and distant view, with the dining table in close range and a beautiful scenery background. They appear in their drawings as gourmands.

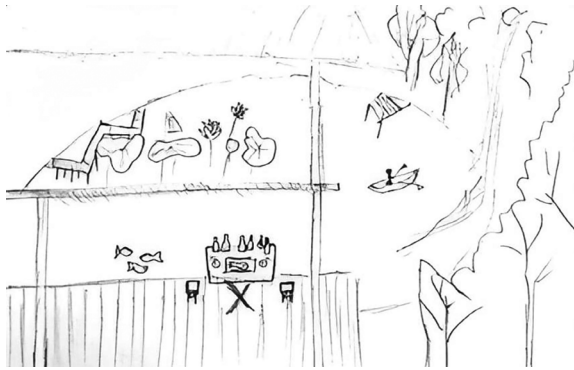


Figure 17 An Example of a Country Cuisine Sketch

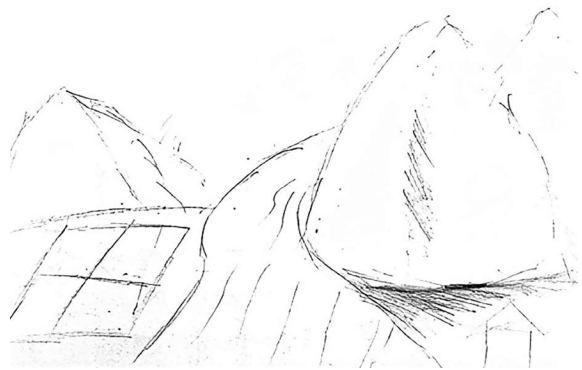


Figure 20 An Example of a Guilin Scenery Sketch.

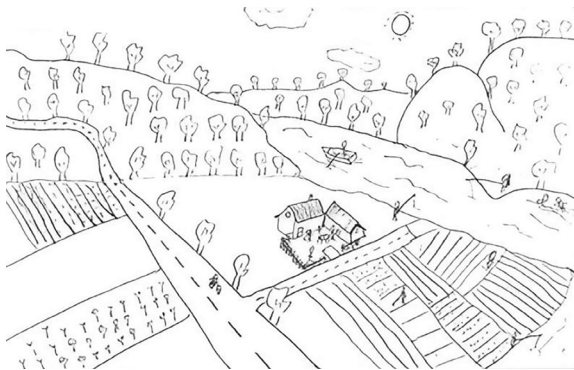


Figure 18 An Example of an Aesthetic Experience Sketch



Figure 21 An Example of a Poetic Culture Sketch.

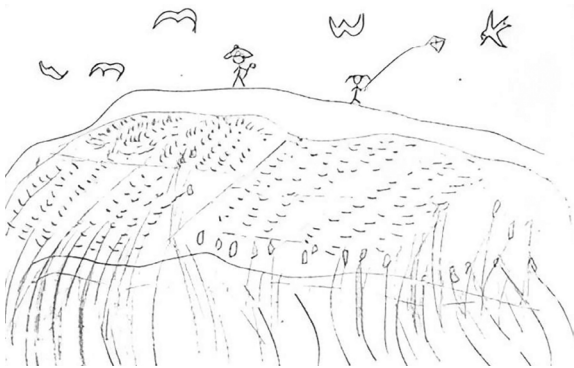


Figure 19 An Example of a Village Life Sketch



Figure 22 An Example of a Peaceful World Sketch

(3) Aesthetic experience (Figure 18): The rural landscape shows the aesthetic experience; precisely, the harmony between humans and nature. The picture predominantly includes various natural elements such as weather, mountains, rivers, plants, and wild animals, along with rural elements like fields, houses, and working farmers. Respondents usually described the

sketches from a distance to show the combination of nature and the village. Respondents imagined themselves being intoxicated by such a harmonious world.

(4) Village life (Figure 19): The rural scenery shows an intimate experience of rural life, which differs from urban areas. The picture contains various rural landscape elements, such as houses, fields, farmers, fences,



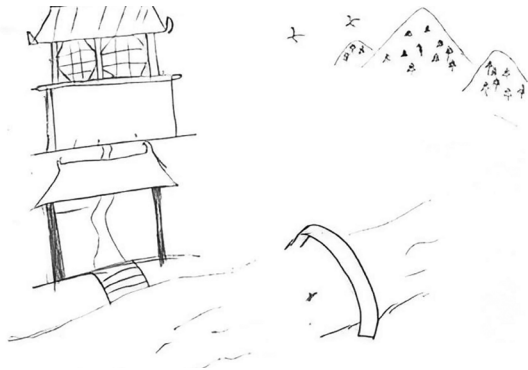


Figure 23 An Example of a Minority Contact Sketch

and livestock. The respondents usually described the sketches in a medium-range view to show the rural life scene. They imagined themselves watching the lives of rural residents and feeling the laidback rural atmosphere.

(5) Guilin scenery (Figure 20): The pictures have the same natural elements (weather, mountains, and rivers) and similar spatial characteristics: under a clear blue sky, green hills surrounded by winding rivers. Such a landscape (桂林山水 in Chinese) is a symbol of Guangxi scenery and can also be seen in the background pattern of RMB banknotes. Respondents usually described the scene through a distant view to show the picture's momentum.

(6) Poetic culture (Figure 21): The pictures generally reflect the romantic descriptions of the countryside in ancient Chinese poetry: 'Xiaoqiao Liushui Renjia' (小桥流水人家) — 'The river is rustling under the small bridge'. On the opposite side stands an old tree under which there is the villager's house. Respondents sketched the scene through a medium-range view, hoping to enjoy this combination of scenery in rural destinations.

(7) Peaceful world: The rural destination should be where visitors can escape the city's hustle and bustle and forget their life pressures. The picture comprises weather, mountains, plants, rivers, fish ponds, and houses. Respondents used a distant or medium-range view to describe such an environment: the surroundings are quiet, and the remote scenery is pleasant.

They usually drew their fishing posture in image sketches (Figure 22).

(8) Minority contact: Guangxi's rural destinations are similar to ethnic minority villages. The picture includes giant plants, ancient houses, rivers, mountains, and various minority elements, such as clothes, dances, and murals. Respondents described ethnic minority villages in mountainous areas from a bird's-eye view and hoped to experience ethnic cultures in such places (Figure 23).

## Conclusion and Discussion

### *Practical Implications for Rural Tourism Industries*

This research employed the LIST to analyse people's landscape images of rural tourism destinations in Guangxi, China, uncovering key elements and spatial characteristics of an ideal rural travel destination. Using Ueda et al.'s (2012) four-aspect landscape image analysis model, the study identified 21 significant landscape elements, highlighting respondents' strong interest in leisure activities, nature, and rustic lifestyles. Most participants envisioned rural destinations as expansive spaces with layered landscapes, where they could interact with leisure facilities while enjoying a serene natural environment. The landscape image sketches revealed eight key interests in Guangxi's rural tourism: recreational places, country cuisine, aesthetic experiences, village life, Guilin scenery, poetic culture, peaceful retreats, and interactions with minorities. These findings offer valuable insights for tourism operators to tailor experiences and marketing strategies.

First, in destination management, operators should prioritize experiences that address both physical and psychological needs. Based on the spatial analysis results from the LIST, rural destinations in Guangxi should offer an immersive experience rather than just passive nature observation. To achieve this, operators can create environments that allow visitors to feel integrated into the landscape, such as panoramic viewing platforms and tranquil spaces that foster serenity. Culturally resonant settings, such as *Xiaoqiao Liushui Renjia*, can enhance spiritual satisfaction by evoking a poetic atmosphere. Furthermore, offering both active engagement and quiet reflection spaces will cater to

different ways of experiencing the landscape. For instance, recreational areas for hands-on activities and elevated viewing points for peaceful vistas will fulfil the need for physical interaction and mental relaxation. This combination of dynamic and tranquil environments aligns with the preferences identified in the self-orientation test, allowing visitors to connect with the destination in both active and reflective ways.

Second, for marketing efforts, promotional materials like posters and short films should incorporate the visual elements highlighted in this study, particularly the expansive views and distant landscapes, which were emphasized by respondents. Showcasing iconic features such as Guilin's stunning scenery and minority cultural symbols will not only emphasize Guangxi's unique regional identity but also appeal to the desire for broad, panoramic experiences. By highlighting the harmony between humans and nature, tourism operators can strengthen the destination's brand image, attract more visitors, and foster meaningful emotional connections with potential tourists.

Although this study focuses on Guangxi's context, the shared patterns of visitor expectations—such as the longing for pastoral lifestyles, the pursuit of poetic aesthetics, and the appreciation of harmony between humans and nature—offer valuable inspiration for the design of rural destinations in other regions of China. By tailoring experiences that resonate with these preferences, tourism operators can better meet the emotional and experiential needs of rural tourists across the country.

#### *The LIST's Contributions to Past*

##### *Drawing-Based Methods*

Reviewing this research, it becomes clear that LIST and previous drawing techniques (Matteucci & Önder, 2018; Köstinger & Matteucci, 2022) share certain similarities—both require respondents to express holistic impressions of a given destination through a symbolic picture (Echtner & Ritchie, 1993), capturing both tangible and psychological attributes of the destination. However, their analytical approaches are quite different. For instance, in the case of Vienna, the study does not impose specific requirements regarding the type of drawing and method does not im-

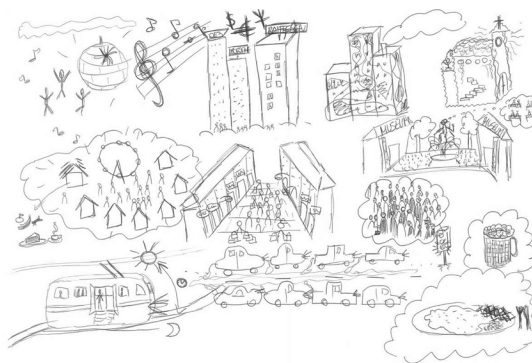


Figure 24 An Example of Vienna's Free Image Drawing

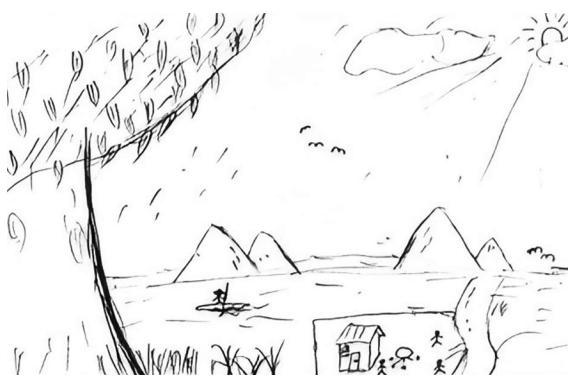


Figure 25 An Example of the LIST's Sketch

se any specific requirements on the type of drawing and focuses on observing the static characteristics of completed pictures, analysing the objective features conveyed by the destination's image. Although some respondents submitted pictures featuring unrelated or disconnected objects, with unclear relationships between elements and no unified scene (see Figure 24), researchers were still able to identify the content (e.g. tramways, museums, parks) and emotions (e.g. modern, vibrant, and fun) expressed in the images. In comparison, the LIST asks respondents to create landscape sketches, treating the image generation process as a dynamic experience. This method explores how respondents construct their drawings from scratch, selecting and organizing elements that reflect their personal interests and values, such as a desire to experience rural life or pursue poetic culture (see Figure 25). By requiring participants to logically organize destination elements into cohesive landscapes,

the LIST offers a more nuanced understanding of how respondents engage with and represent their destination experiences.

In conclusion, by treating landscape drawings as expressions of subjective experiences, the LIST uncovers the layered cognition and emotions within individuals' consciousness. It provides a novel analytical approach that goes beyond traditional studies, which typically focus on objective destination image representations (Hunter & Suh, 2007; Matteucci & Önder, 2018; Köstinger & Matteucci, 2022). Additionally, since the term 'landscape' often carries positive connotations, the drawings collected by the LIST tend to convey positive feedback. In contrast, in Vienna's image drawings, some respondents also expressed negative emotions, such as boredom and alienation.

#### *Evaluating the LIST: Benefits and Limitations*

During this LIST survey, we found that drawing allows researchers to more intuitively understand people's mental images and uncover hidden subconscious information. In particular, some respondents initially provided limited information during the social meaning analysis in Q1 and Q3. For instance, scenes of (6) poetic culture were initially classified under (4) village life, as respondents typically used terms such as 'plant' and 'houses' to express rural landscape images. However, we noticed recurring combinations of 'an arch bridge, a flowing river, an old tree, and a farmer's house' in these rural life drawings, suggesting a specific tacit understanding. This evokes the imagery in the classic Chinese pastoral verse: 'Xiaoqiao Liushui Renjia' (小桥流水人家). A similar pattern emerged in (5) Guilin scenery. Some drawings, described with words like 'mountain' and 'river', were initially categorized as (3) aesthetic experiences. However, many respondents depicted 'green hills surrounded by winding rivers' (桂林山水), indicating that the unique geographical symbols of Guangxi influenced their destination image formation. As a result, we classified these drawings into a new group: Guilin scenery. This highlights how image drawings can unearth deeper, subliminal meanings, which are often overlooked in textual descriptions. As other drawing-based studies have noted, visual methods have distinct advantages

in revealing cognitive information (Hunter & Suh, 2007; Matteucci & Önder, 2018; Virdee, 2019).

We also see some limitations of the LIST. First, the drawing questionnaire still faces challenges in terms of its popularity. Despite providing guidance on how to complete the image drawings, a third of the respondents were unable to fill out the questionnaire. This issue mirrors the situation encountered by Hunter and Suh (2007), where many tourists struggled with drawing-based methods, indicating that drawing is not universally accepted as a means of conveying meaning. Given the rapid development of artificial intelligence, future studies could explore the potential of integrating AI technologies to assist respondents in creating image drawings. Second, during the analysis of social meaning, we found that some sketches were difficult to interpret. While respondents provided both textual and graphic descriptions, the vagueness or inconsistency in some content made it challenging to fully grasp the respondents' intentions. Matteucci and Önder (2018, p. 17) encountered a similar issue in their drawing research. They noted, 'While we could confidently identify the pictorial content of each drawing, our interpretation might not reflect the intent of the research participants.' Frochot et al. (2009) argue that qualitative conclusions are often criticized for being overly reliant on the researchers' subjective interpretation. Future studies could explore quantitative methods to increase the objectivity and accuracy of drawing analysis or use drawings as a supplementary tool to better understand people's destination images. As noted by Hunter and Suh (2007), the visual approach is practical and can contribute to the development of methodologies in tourism studies due to its ability to integrate various research methods.

#### *Future Considerations*

The process of landscape image generation reflects not only the physical attributes of destinations but also the diverse emotional and psychological connections that visitors form during their tourism experiences. While drawing-based approaches may require more effort, they offer a distinct advantage in uncovering latent needs and emotional meanings—such as subconscious ideas—that are difficult to capture through textual

descriptions. As an interdisciplinary methodological attempt, this paper primarily utilizes the LIST to assess rural tourism market demand in Guangxi, China, testing its applicability in destination image measurement research. Since the survey focused solely on the destination images of undergraduate students, it overlooked the needs and perspectives of other potential tourist groups (e.g. children, middle-aged individuals, and older adults). Future studies should include a broader range of respondents to gain a more comprehensive understanding of travel interests across different demographic segments.

Although this paper primarily validates the application value of landscape image drawing in tourism market analysis, the potential of the LIST extends well beyond this context. Gunn (1972) argues that tourism destinations are dynamic systems shaped by the perceptions, expectations, and interactions of multiple stakeholders. He emphasizes that the design of tourism landscapes should not only address the needs of tourists but also integrate the perspectives of local residents and other stakeholders to achieve social, cultural, and environmental sustainability. Similarly, Bramwell and Lane (2000) highlight the importance of 'collaboration and partnerships', asserting that the sustainable management of tourism destinations depends on the balanced participation of stakeholders. Moreover, Hall (2021) underscores the necessity of effective dialogue and collaborative mechanisms among stakeholders to resolve conflicts, build consensus, and implement sustainable development practices. Building on these insights, landscape image drawing offers significant potential as a platform for fostering stakeholder collaboration in future tourism studies. By visualizing the diverse expectations of different stakeholders regarding specific destinations, the LIST can help facilitate communication, promote consensus-building, and provide a shared understanding that supports the sustainable development of these destinations. For instance, in the case of the Guangxi's rural image study, the LIST revealed the varied expectations of respondents about their ideal rural destinations (eight distinct types of rural tourism expectations). These insights offer valuable guidance for managers seeking to create tourism destinations

that align with public expectations. Future research that includes the perspectives of other groups, such as local residents and government officials, would yield even deeper insights—beyond marketing considerations—by helping to develop destination images that reflect the expectations of all relevant stakeholders. We hope that this paper will inspire scholars to explore the broader potential of the LIST in future tourism studies, recognizing its applicability not only in market analysis but also in enhancing stakeholder collaboration and promoting sustainable development.

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## Drivers of Tipping Behaviour in Restaurants: The Case of Croatia

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Tipping in the hospitality industry is a widespread but under-researched phenomenon, particularly in regions where cultural, economic, and social dynamics diverge from established norms. This study explores the critical role of consumer-perceived value in shaping tipping behaviour in the restaurant industry, specifically focusing on Croatia – a context where unique cultural, economic, and social dynamics influence tipping practices. Analysing data from 438 Croatian residents, the study reveals how service dimensions – such as food quality, ambiance, service convenience, and server quality – intersect with demographic characteristics and payment methods to influence tipping practices and WoM recommendations. The research situates Croatia's tipping practices within the broader framework of tourism innovation, emphasizing the interplay of legislative reforms (such as the introduction of card-based tipping), operational advancements (such as the integration of digital payment systems), and evolving cultural norms. These innovations enhance the dining experience for both locals and international tourists, aligning local hospitality practices with global standards. The findings underscore how transitional economies can leverage these combined innovations to strengthen their competitiveness in the global tourism market while fostering positive tourist perceptions.

**Keywords:** tipping, restaurants, perceived value, tourism innovation, Croatia



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### Introduction

Tipping practices have been extensively explored in North America, where gratuities often constitute a significant part of service workers' income (Lynn, 2018; Mansfield, 2016). By contrast, European countries present a more varied and complex picture (Gössling et al., 2021). In service-inclusive pricing contexts typical of Europe, tipping patterns differ significantly across countries, shaped by localized cultural and economic factors. Despite substantial research on tipping behaviours in North America and, to a les-

ser extent, Western and Northern Europe, studies examining the evolution of these practices in transitional economies like Croatia remain limited. These contexts often feature unique cultural and economic dynamics that interact with global influences to produce distinct consumer behaviours. While Lynn (2018) provides valuable insights into the motivations and patterns of tipping in North America, comparable research on transitional economies, particularly those adopting legislative and operational innovations, is sparse.

This study addresses this gap by investigating how localized factors – such as service dimensions, demographic characteristics, and payment methods – shape tipping behaviour in Croatia. Furthermore, this research situates tipping practices within the broader framework of tourism innovation, exploring how legislative and operational changes, such as the introduction of card-based tipping, represent adaptations of external innovations to local contexts. Recent studies underscore the importance of localized analysis in understanding consumer behaviour within service industries (Bader et al., 2023; Sangpikul, 2023), emphasizing the need to consider the interplay of cultural and economic dynamics. Moving beyond prior research that predominantly views tipping as a social norm or economic transaction, this work examines how Croatian consumers' perceptions and behaviours are shaped by the interaction of service dimensions – food quality, ambiance, service convenience, and server quality – with perceived restaurant value. It also investigates how demographic characteristics and payment methods influence tipping decisions and their impact on word-of-mouth (WoM) recommendations, a critical factor in today's tourism-driven economy (Hidayat et al., 2020; Konuk, 2019).

This study offers novel insights into how regional and cultural nuances influence tipping behaviours, with a specific focus on Croatia's domestic practices and rapidly expanding tourism industry. It highlights the implications of operational innovations, such as card-based tipping, for service management and consumer engagement in transitional economies. By providing practical guidance for restaurant managers and policymakers, this research aims to enhance service quality and align strategies with evolving consumer expectations. Ultimately, it contributes to a broader understanding of consumer behaviour in service industries, particularly in transitional economies like Croatia (Rajh & Koledić, 2021).

### Literature Review and Hypothesis Development

Service quality is a key determinant of consumer behaviour in the hospitality industry, significantly influencing customer satisfaction, perceived value, and

behavioural intentions (Ryu et al., 2012). Traditional frameworks, such as the SERVQUAL model developed by Parasuraman et al. (1988), provide a foundation for evaluating service quality through five dimensions: tangibles, reliability, responsiveness, assurance, and empathy. This model has been widely applied in service industries, including restaurants, as a tool to understand how service quality shapes customer perceptions. Building on SERVQUAL, Stevens et al. (1995) introduced DINESERV, a model specifically designed for restaurant settings. DINESERV adapts SERVQUAL's dimensions to focus on tangible elements such as facility cleanliness and ambiance, as well as intangible aspects like server attentiveness and responsiveness. Both models remain foundational, providing insights into how service quality impacts customer satisfaction and post-consumption behaviours, such as tipping and WoM recommendations.

In contrast to gap-based models like SERVQUAL and DINESERV, Grönroos' technical/functional quality framework (the Nordic European model) emphasizes both the outcome of service (technical quality) and the process of service delivery (functional quality). Technical quality encompasses tangible results, such as food presentation and taste, while functional quality refers to interpersonal interactions, such as the attentiveness and professionalism of the service staff. This model's holistic nature and simplicity make it particularly relevant for industries like hospitality and tourism, where customer experience is multifaceted (Grönroos, 1990).

Contemporary frameworks further expand the scope of service quality measurement. For instance, e-SERVQUAL adapts traditional SERVQUAL dimensions for online and digital service contexts, such as restaurant reservation systems or app-based food delivery platforms (Parasuraman et al., 2005). Meanwhile, Customer Experience (CX) metrics, including Net Promoter Score (NPS), Customer Effort Score (CES), and Customer Satisfaction (CSAT), provide actionable insights into customer loyalty and emotional engagement across the service journey (Homburg et al., 2017; Lemon & Verhoef, 2016). These approaches reflect the growing importance of omnichannel interactions in shaping modern consumer behaviour and are parti-



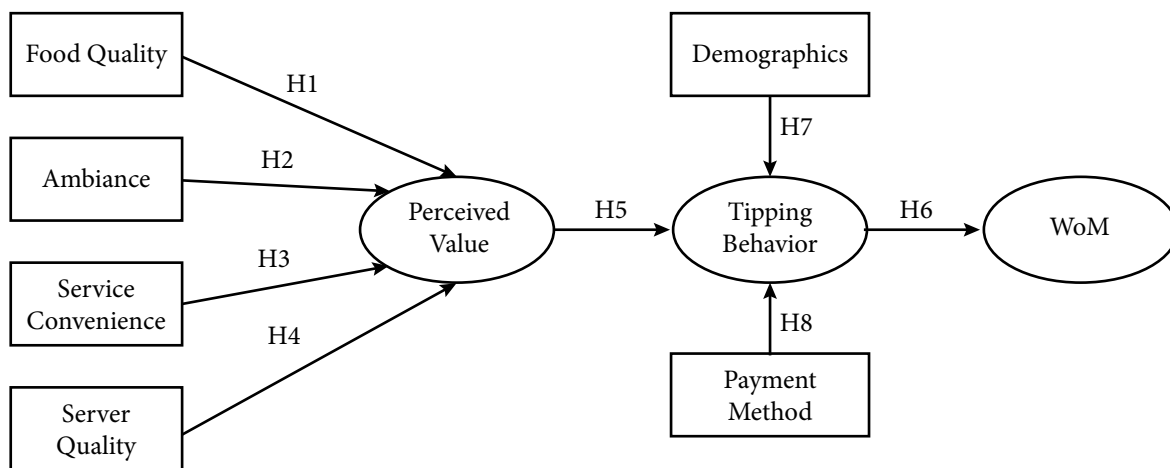


Figure 1 Hypothesized Relationships Between Service Quality Dimensions, Perceived Value, and Tipping Behaviour in Croatian Restaurants

cularly relevant for restaurants leveraging digital tools to enhance customer engagement.

In the restaurant context, quality measurement frameworks emphasize both tangible and intangible elements. Tangibles, such as facility design and cleanliness, shape the dining environment, while functional elements like empathy and responsiveness enhance satisfaction through personalized service. Studies such as those by Ryu et al. (2012) illustrate how these dimensions contribute to perceived service quality and behavioural intentions, including tipping. Building on this foundation, the present study examines how similar dimensions – specifically food quality, ambiance, service convenience, and server quality (Whaley et al., 2019) – shape perceived value in Croatian restaurants and how this perceived value impacts tipping behaviour (Figure 1).

#### *Tipping as a Social Norm in Consumer Behaviour*

Tipping is driven by individual consumers' voluntary will and intent, influenced by various motivations. Examining these motives, Lynn (2015a) argues that tipping decisions are primarily driven by the desire to assist service providers, acknowledge good service, obtain future benefits, and gain social approval. However, Lynn (2015a) also identifies two key restraining factors that counteract these positive motivations: the desire to retain tip money for other purposes

and an aversion to the status disparities suggested and maintained by tipping. Parrett (2006) claims that, while dining in a group at a restaurant, individuals tend to leave larger tips to stand out and secure status within the group. According to Parrett, tipping decisions are influenced by factors such as the consumer's gender, the method of payment, and the number of people at the table. Regarding payment methods, Lynn (2015a) argues that restaurant guests who pay with credit cards typically leave larger tips. He attributes this to the reduced psychological cost associated with delayed payment, which may influence tipping decisions when using a credit card.

In a study of tipping practices in South African restaurants, Saayman and Saayman (2015) discovered that tipping decisions are shaped by various factors, including customer characteristics, server attributes, and external variables such as hospitality and service quality, payment and billing processes, consistency, restaurant ambiance, specific features and occupancy levels, as well as the frequency of dining out. Azar (2010b) conducted a study to determine whether people tip for psychological reasons, such as social prestige, or strategic motives, such as ensuring future privileged service. The results suggest that tipping decisions are not sensitive to the quality of service. This finding implies that people tip primarily due to social and psychological motives rather than strategic

reasons aimed at improving future service. Hidayat et al. (2020) investigated the impact of food and service quality on consumer satisfaction and repurchase intentions in Indonesian restaurants serving hot meals. Their data analysis concluded that both food and service quality significantly and positively affect customer satisfaction and repurchase intentions.

#### *Difference in Tipping Culture in Croatia and Worldwide*

In Croatia, tipping was historically uncommon but has become customary over time. While tipping is not mandatory or included in prices, the decision to tip and the amount given are influenced by perceived service quality and the type of service provided. Tipping practices in Croatia vary across different service sectors. For example, it is customary to tip between 5% and 15% of the total bill in restaurants or transportation services. In hotels, tips for services such as room cleaning or luggage assistance typically range from 2 to 3 euros. At cafes and bars, rounding the bill to the nearest whole number is common (Bluesun Hotels and Resorts, n.d.). In 2024, the Croatian government introduced a tax on tips to formalize the practice. This measure aims to reduce the shadow economy and make employment in tourism more attractive. Tips above 3,360 euros annually per person are now taxed, applying to both cash and card payments. This move is expected to strengthen Croatia's tipping culture, aligning it with practices in many other countries.

Tipping customs vary significantly worldwide, with each country following its own set of unwritten rules that may confuse tourists (Lynn & Starbuck, 2015). For instance, in the U.S., tipping is well-established, with customary rates ranging from 15% to 20% of the bill in restaurants for satisfactory service (Lynn, 2015b). Tips below 10% are often recommended for unsatisfactory service, and similar guidelines apply to transportation services. In contrast, tipping norms in many Asian countries differ significantly from those in Western cultures and can sometimes lead to uncomfortable situations. Across several European countries, tipping between 2% and 15% of the total bill is customary in restaurants (Gössling et al., 2021; Hoffower, 2018). However, France has a distinct policy, where tipping amounts typically range from €1

to €20. In cafes, tips often depend on the drink ordered, typically ranging from €1 to €4, depending on the bar's level of luxury and service quality. Hotel tipping practices vary, with tips ranging from €1 to €4 in most European countries. Exceptions include the Netherlands and Belgium, where tipping is not expected as service costs are usually included in the price of the stay (Hoffower, 2018).

#### *Drivers of Tipping in Restaurants*

In the context of restaurants, discussions often focus on the perceived value of food quality and service. Previous studies highlight the importance of food quality in attracting and retaining customers. High-quality food entices customers and fosters satisfaction and loyalty by making them feel valued (Ryu et al., 2012). Conversely, lower-quality food leads to negative evaluations of the restaurant experience (Peri, 2006). Namkung and Jang (2007) argue that food quality can be assessed through crispness, healthiness, taste, and presentation indicators.

Peri (2006) provides an analytical model defining food quality as a composite of consumer demands, which includes safety, product specifications, nutrition, and sensory attributes. Quan and Wang (2004) found that food plays a significant role in enhancing tourists' positive experiences and creating memorable journeys. Although food may not be the primary purpose of travel, it still contributes substantially to the overall experience (Lee, Lee et al., 2008; Meng et al., 2008). Furthermore, studies suggest that food quality is a critical factor directly linked to customers' perceived service value in various travel-related businesses, including restaurants and airlines (Sulek & Hensley, 2004). As a result, restaurant food quality is often regarded as a key driver of perceived service value. Building on these findings, the first hypothesis proposes a positive relationship between food quality and perceived service value.

*H1 Food quality has a positive impact on perceived service value.*

Previous studies demonstrate that ambiance significantly shapes customers' perceptions of value for money, influencing factors such as exterior and inte-

rior design, music, scent, and temperature. Pecotić et al. (2014) emphasize that a restaurant's interior layout significantly impacts guest satisfaction, which in turn affects tipping decisions. Liu and Jang (2009a; 2009b) identify four key attributes contributing to guest satisfaction: product, service, atmosphere, and price. Biswas et al. (2017) explored the role of lighting in restaurant ambiance and found that changes in ambient light influence customers' alertness levels, which guests associate with their satisfaction. Caldwell and Hibbert (2002) investigated the effects of music tempo and musical preferences on restaurant customers' behaviour and tipping decisions. Their findings revealed that music preference, rather than tempo, significantly impacts guest behaviour.

This underscores the importance of selecting music that aligns with customer preferences, as appropriate music can encourage guests to stay longer, increase food and beverage expenditures, and influence tipping behaviour. Lee, Noble et al. (2018) examined how the colour of service props, such as tablecloths and receipt holders, affects consumer behaviour related to tipping. The study found that guests seated at tables with gold-coloured props or given gold receipt holders, often associated with luxury, prestige, and exclusivity, left higher tips than those with basic white or black props. These findings suggest that the visual elements of restaurant ambiance can affect customers' perceptions of their status and their tipping behaviour. Based on these insights, the second hypothesis posits a positive correlation between restaurant ambiance and perceived service value.

*H2 Ambiance has a positive impact on perceived service value.*

Seiders et al. (2005) propose that satisfied customers are more likely to make repeat purchases and examine how service convenience impacts consumer satisfaction and their intention to return to retail establishments. Service convenience, defined as the ease of purchase and navigation, plays a crucial role in encouraging or discouraging repeat visits. In the context of restaurants, practical service convenience encompasses factors such as the layout, ordering process, and transaction efficiency (Berry et al., 2002). These

aspects significantly influence the perceived service value. For instance, guests are more likely to feel valued when navigating the restaurant or ordering food is seamless and straightforward. Based on this understanding, the third hypothesis posits a positive relationship between service convenience and perceived service value.

*H3 Service convenience has a positive impact on perceived service value.*

The most commonly researched driver of tipping behaviour is the quality of the server and the service provided (Azar, 2004; Strohmets & Rind, 2001). According to Azar (2004), poor service leads to low tips, which in turn reduces the server's earnings. This supports the idea that the primary rationale for tipping is to encourage superior service, incentivizing workers to meet guests' needs effectively. Previous studies indicate that the attitudes and behaviours of restaurant service staff are critical determinants of overall client satisfaction (Gwinner et al., 2005; Ivkov et al., 2019) and significantly influence the amount of tips left by customers. Server quality can be divided into technical and emotional components (Whaley et al., 2014). The technical component includes actions such as greeting guests, efficiency in movement and task execution (Jewell, 2008), and menu knowledge (Azar, 2010a). The emotional component, on the other hand, involves interpersonal interactions, such as smiling (Shamir, 1984), offering friendly greetings (Garrity & Degelman, 1990), maintaining eye contact (Whaley et al., 2014), and other similar behaviours. By integrating both technical and emotional server attributes, the perceived value of the restaurant is enhanced for guests. Accordingly, the fourth hypothesis posits a positive relationship between server quality and perceived service value.

*H4 Server quality has a positive impact on perceived service value.*

Perception of value is a critical factor in consumer purchasing decisions (Wang, 2015). The term 'perceived value' refers to how consumers evaluate a product's usefulness based on the balance between perceived benefits and costs. Existing research highlights

the positive influence of perceived food quality on perceived service value and overall service experiences (Grewal et al., 1998; Hartline & Jones, 1996; Wang, 2013). In the hospitality sector, perceived service value is particularly significant due to its role in enhancing revenue by improving customers' evaluations of a company's services (Duman & Mattila, 2005; Parasuraman & Grewal, 2000; Petrick et al., 2001; Sweeney & Soutar, 2001). Lynn and McCall (2000) investigated the relationship between tip size and service quality, finding that tipping was positively associated with perceived service value. Their study also concluded that the overall service quality rating index was positively correlated with tipping decisions. Further research by Lynn and Sturman (2010) revealed that a server's tip increased by an average of 2% of the total bill for each additional point the server received for quality service. Based on these findings, the fifth hypothesis posits a positive correlation between perceived service quality and tipping decisions.

*H5 Perceived service value has a positive impact on tipping decisions.*

Often regarded as trustworthy informal personal conversations, WoM recommendations carry greater credibility than mass media commercial messages. This is because consumers tend to rely more on individual opinions and comments from fellow consumers when evaluating specific products or services (Konuk, 2019). In the hospitality sector, research has consistently demonstrated a positive correlation between customer satisfaction, the intention to return, and the likelihood of providing positive recommendations (Huang et al., 2014; Namin, 2017; Qin et al., 2010). WoM recommendations are typically generated by customers who are satisfied or have a positive perception of the overall value provided by the restaurant. Such customers are more likely to exhibit favourable behaviours post-consumption (Chun Wang et al., 2016). Based on these findings, when customers leave a generous tip for the server, their satisfaction and perceived value increase, which may enhance their willingness to share positive experiences with others. Conversely, leaving a poor or no tip could indicate a negative experience, potentially motivating guests to

share unfavourable recommendations. Building on this, the sixth hypothesis posits that tipping decisions are positively associated with WoM recommendations.

*H6 The decision to tip has a positive effect on WoM recommendation.*

The seventh hypothesis proposes that specific individual characteristics influence tipping decisions made by restaurant patrons. Demographic factors such as gender, age, income level, education, and cultural background significantly shape tipping behaviour. Research has shown that older individuals tend to tip more frequently than younger ones, men are more likely to tip regularly than women, and individuals with higher incomes tip more often than those with lower incomes (Lynn et al., 1993). Additionally, cultural background significantly affects tipping practices. In some cultures, tipping is not customary; in others, failing to leave a tip may be considered impolite (Lynn, 2015a).

*H7 Demographic characteristics influence tipping decisions.*

The payment method (cash or card) is also anticipated to influence tipping decisions. The chosen method of payment can affect how easily a customer perceives the tipping process, thereby influencing the gratuity amount. Credit cards may reduce consumers' concerns about immediate costs, allowing for payment deferral and providing increased purchasing power. Feinberg (1986) highlights that the mere presence of a credit card logo can create a sense of enhanced purchasing power in consumers, which often leads to increased spending. These insights suggest that using a credit card and the visibility of credit card logos positively influence tipping behaviour. Saayman (2014) similarly argues that the payment method plays a role in tipping decisions. Parrett (2006) examines the determinants of restaurant tipping and posits that consumers paying by credit card generally leave higher tips than those paying in cash. However, Parrett's findings indicate that consumers paying in cash actually left tips 1.9% higher than those paying by card. Based on these considerations, the eighth

hypothesis suggests that the payment method – cash or card – influences restaurant tips.

*H8 Payment method influences tipping decisions.*

### Methodology

Because Croatian residents over 18 were appropriate research subjects for this study, and obtaining a random sample of individuals across the country would have been very costly and time-consuming, a convenience sampling approach was utilized. A sequential two-step data collection process was adopted to ensure the research methodology's robustness and applicability. In the first step, conducted in May 2023, a pilot study was conducted to validate the survey instrument. A total of 12 students at Southern Croatia's largest public university completed the pilot questionnaire written in Croatian, followed by brief interviews with three participants to assess the questionnaire's readability, clarity, flow, and potential ambiguities. The pilot study adhered to best practices recommended in the literature, where a minimum of six participants is suggested for pilot tests (Leedy & Ormrod, 2023) and 10–20 participants are commonly used in tourism-related studies (Kim & Hall, 2022; Labanau-skaitė et al., 2020). This phase identified no significant issues, indicating that the questionnaire and protocols were well-suited for the study's main phase.

The questionnaire used in the main study consisted of items grouped into seven constructs: food quality, ambiance, service convenience, server quality, perceived value, WoM recommendations, and payment methods. These constructs were derived from validated instruments in prior studies (Rajh & Koledić, 2021; Whaley et al., 2019). All items were measured on a seven-point Likert-type scale ranging from 1 (strongly disagree or equivalent negative stance) to 7 (strongly agree or equivalent positive stance). Scale reliability was assessed using Cronbach's alpha, with values ranging from 0.72 to 0.93 across constructs, indicating that all coefficients exceeded the threshold of 0.70 for internal consistency reliability (Hair et al., 2019).

In the main phase, conducted in June 2023, the validated survey was distributed using snowball sampling to reach a broader population. Recruitment leveraged

social media platforms such as WhatsApp, Facebook, and Instagram and targeted Facebook groups, including university and job-related communities, to widen the reach. Participants were encouraged to share the survey with their contacts, especially those from diverse age groups, to enhance the diversity of the respondent pool. This approach ensured engagement by a wide range of participants, increasing the likelihood of obtaining high-quality responses. Although the sample was not randomized, efforts were made to capture varied demographic characteristics, including age, gender, and geographic representation.

Participants completed the survey anonymously and voluntarily, and the use of personal networks enhanced both response rates and data reliability. Respondents who did not dine in a restaurant within the past year were excluded from the analysis to ensure that the data aligns with the study's focus on recent restaurant experiences. The final sample size of 438 respondents exceeded the minimum requirements for robust statistical analysis, providing a solid basis for examining the study's hypotheses. However, it should be noted that due to the use of convenience sampling, the findings may only be fully generalizable to some of the population of Croatia, which remains a limitation of this study. To ensure the robustness of our statistical analyses, we evaluated the assumptions required for parametric methods, such as normality, homoscedasticity, independence, and linearity. Where these assumptions were not satisfied, we employed non-parametric alternatives. Thus, the data analysis was conducted using SPSS 23, employing Spearman's rank-order correlation, Mann-Whitney U test, logistic regression, chi-square test, and the Wilcoxon signed-rank test to examine relationships and comprehensively test the study's hypotheses.

### Results

Descriptive statistics were employed to analyse the demographic characteristics, dining and tipping habits, and employment experience in the hospitality sector, as presented in Table 1. Among the participants surveyed, 342 (78.1%) were female, and 96 (21.9%) were male. The largest demographic group consisted of individuals aged 18 to 25, totalling 119 (27.2%), followed



Table 1 Descriptive Statistics

Category	Item	f	%
Gender	Female	342	78.1
	Male	96	21.9
	Total	438	100.00
Age	18–25	119	27.2
	26–35	59	13.5
	36–45	101	23.1
	46–55	113	25.8
	56–65	37	8.4
	66+	9	2.1
	Total	438	100.00
Educational Qualification	Elementary/Primary School	2	0.5
	High/Secondary School	123	28.1
	Undergraduate degree or similar	90	20.5
	Master's degree or similar	202	46.1
	Doctoral degree or similar	21	4.8
	Total	438	100.00

closely by those aged 46 to 55, who accounted for 113 (25.8%). Other age ranges represented included 36 to 45 years (101 respondents or 23.1%), 26 to 35 years (59 respondents or 13.5%), and 56 to 65 years (37 respondents or 8.4%). In terms of education, respondents with a Master's degree made up the largest segment at 202 (46.1%), followed by those with secondary school education at 123 (28.1%). Smaller proportions held a bachelor's degree or equivalent (90 respondents or 20.5%), postgraduate qualifications (21 respondents or 4.8%), or primary education only (2 respondents or 0.5%). Regarding income, most participants, 110 (25.1%), reported a monthly net income between €861 and €1,060, indicating a level of financial stability. 405 respondents (92.5%) reported leaving a tip during their last restaurant visit, while 33 (7.5%) did not. Regarding employment experience, 178 participants (40.6%) had worked in the tourism and hospitality sector, whereas 260 (59.4%) had no such experience. These findings highlight the diversity of respondents and provide valuable insights into their dining behaviours, financial situations, and professional backgrounds.

Table 2 analyses respondents' dining experiences, revealing generally positive attitudes across several ca-

Category	Item	f	%
Monthly Income	0–460€	76	17.4
	461–660€	30	6.8
	661–860€	64	14.6
	861–1,060€	110	25.1
	1,061–1,460€	95	21.7
	Over 1,460€	63	14.4
	Total	438	100.00
In the past 12 months, have you dined in a restaurant, defined as an establishment providing seated dining service?	Yes	438	100.0
	No	0	0
	Total	438	100.00
Did you leave a tip on your most recent visit to a restaurant?	Yes	405	92.5
	No	33	7.5
	Total	438	100.00
Do you currently work in the tourism and hospitality sector or have you worked in this sector in the past?	Yes	178	40.6
	No	260	59.4
	Total	438	100.00

tegories while also identifying areas for potential improvement. Regarding food quality, respondents rated the taste of dishes highly, with a mean score of 6.15 ( $SD = 1.12$ ), indicating satisfaction with the culinary offerings. However, perceptions of ingredient quality received a slightly lower mean score of 5.52 ( $SD = 1.39$ ), suggesting room for improvement in this area. Regarding ambiance, the tidiness of the restaurant was rated favourably (mean 6.12,  $SD = 1.13$ ), but assessments of architectural charm were less enthusiastic, with a mean score of 5.12 ( $SD = 1.69$ ). This indicates opportunities to enhance the aesthetic appeal of the dining environment. Service convenience was generally well-received, particularly the efficiency of the ordering process, which scored a mean of 6.04 ( $SD = 1.22$ ). However, ratings for the simplicity of the restaurant layout were lower, suggesting that improvements in the layout could enhance customers' ease of movement.

Assessments of server quality were largely positive, though meal recommendations received a relatively low score of 5.28 ( $SD = 1.75$ ), pointing to a potential area for refinement in service delivery. The perceived value corresponded with overall pleasure, yielding a mean construct value of 5.46 ( $SD = 1.23$ ), highlighting

Table 2 Analysis of Respondents' Dining Experience

Items and Constructs	Arithmetic mean	Standard deviation
The food in the restaurant was tasty	6.15	1.12
The restaurant offered freshly prepared dishes	6.12	1.22
The aroma of the dishes was appealing	6.12	1.12
The portion size was appropriate	6.00	1.28
The presentation of the dishes was appealing	5.97	1.18
The colours of the dishes were appealing	5.93	1.29
The ingredients used in the preparation of the dishes were of high quality	5.52	1.39
Food Quality	5.97	0.98
All in all, the restaurant was kept tidy	6.12	1.13
The restaurant had a pleasant temperature	5.97	1.22
The restaurant had a pleasant smell	5.81	1.31
The restaurant had pleasant lighting	5.77	1.33
The restaurant was attractively decorated	5.73	1.29
Appropriate music was playing in the restaurant	5.33	1.69
The architecture of the restaurant added a special touch	5.12	1.69
Ambiance	5.69	1.06
The process of ordering food/drinks was brief	6.04	1.22
The layout of the restaurant was sufficiently simple for me to navigate with ease	5.88	1.32
The layout of the restaurant was sufficiently simple to facilitate my movement	5.71	1.41
Service Convenience	5.88	1.08
The waiter was neatly dressed	6.26	1.06
The waiter genuinely wanted to assist in meal selection	5.38	1.67
The waiter and I established positive eye contact	5.34	1.66
The waiter provided good recommendations for the meal	5.28	1.75
Server Quality	5.57	1.22
I am satisfied with the level of quality I received for my money	5.67	1.40
The price-to-quality ratio of the food was excellent	5.62	1.33
The atmosphere I experienced in the restaurant is worth every kuna/euro	5.41	1.46
What I received from the restaurant, considering the price paid, has great value	5.14	1.57
Perceived Value	5.46	1.23
I will speak positively about this restaurant to others	5.99	1.28
I will recommend this restaurant to close friends	5.93	1.28
I will recommend this restaurant to family members	5.91	1.35
WoM Recommendation	5.94	1.22
When paying with a card in the restaurant, I leave a larger tip than usual	2.35	1.81
When paying cash in the restaurant, I leave a smaller tip than usual	2.18	1.81
Tipping Behaviour Depending on Payment Method	2.26	1.60

a positive balance between price and quality. WoM recommendations showed a strong inclination among respondents to speak positively about the restaurant, indicating potential for organic promotion. Tipping behaviour revealed a preference for larger gratuities when paying by card (mean 2.35, SD 1.81) compared to

cash (mean 2.18, SD 1.81), underscoring the influence of payment methods on tipping practices. The standard deviations presented in Table 2 provide insights into the variability of responses or ratings across each construct, reflecting respondents' range of experiences and perceptions.

**Table 3** Summary of Spearman's Correlation Between Independent Variables and Perceived Value<sup>a</sup>

Independent Variable	Correlation Coefficient	Relationship	Significant Value	Direction of Relationship
Food Quality	0.787	Strong	0.000	Positive
Ambiance	0.714	Strong	0.000	Positive
Service Convenience	0.578	Moderate	0.000	Positive
Server Quality	0.621	Moderate	0.000	Positive

*Note* <sup>a</sup> Correlation is significant at the 0.01 level; N = 438

**Table 4** Mann-Whitney U Test Results for the Relationship Between Independent Variables and Perceived Value

Independent Variable	Mann-Whitney U	Z-value	p-value	Interpretation
Food Quality	5127.000	-14.266	< 0.001	Higher food quality is associated with higher perceived value.
Ambiance	7482.000	-12.413	< 0.001	Higher ambience ratings are associated with higher perceived value.
Service Convenience	10429.500	-10.222	< 0.001	Greater service convenience is associated with higher perceived value.
Server Quality	10043.000	-10.477	< 0.001	Better server quality is associated with higher perceived value.

**Table 5** Summary Table of Logistic Regression Analysis

Test/Analysis	Statistic	Value	Interpretation
Omnibus Test	Chi-square	8.799	p = 0.003: The predictor significantly improves the model
Model Fit	Nagelkerke R Square	0.048	Measure of variability explanation: 4.8%
Classification Accuracy	Correctly Classified Observations	92.5%	Representative model
Effect of Perceived Value	Exp(B)	1.492	For each unit increase in perceived value, the likelihood of tipping increases by 1.492 times (p = 0.002)

To test hypotheses H1, H2, H3, and H4, the relationships between perceived value and the independent variables – food quality, ambience, service convenience, and server quality – were examined using Spearman's rank-order correlation analysis. The results indicated that all variables were statistically significant ( $p < 0.001$ ) and positively correlated with perceived value. Among the variables, food quality demonstrated a strong positive correlation with perceived value ( $r_s = 0.787$ ), as did ambience ( $r_s = 0.714$ ). Service convenience ( $r_s = 0.578$ ), and server quality ( $r_s = 0.621$ ) showed moderate positive correlations. These findings suggest that each factor shapes customers' percep-

tions of value meaningfully. The detailed results are presented in Table 3.

Table 4 summarizes the results of the Mann-Whitney U tests, which reveal statistically significant differences in perceived value based on the median grouping of each independent variable. For these analyses, independent variables were divided into two categories: participants scoring below the median were categorized as experiencing lower service quality, whereas those scoring above the median were designated as experiencing higher service quality. Across all variables (food quality, ambience, service convenience, and server quality), participants in the

*Table 6* Mann-Whitney U Test Results for the Impact of Tipping Decision on WoM Recommendation

Test Statistics	Value
Mann-Whitney U	4605.000
Wilcoxon W	5166.000
Z-valueZ-value	-3.040
p-value	0.002

higher-quality group consistently demonstrated significantly higher perceived value than those in the lower-quality group. These findings underscore the substantial impact of these factors on perceived value within the restaurant context. Consequently, H<sub>1</sub>, H<sub>2</sub>, H<sub>3</sub>, and H<sub>4</sub>, which propose a positive effect of food quality, ambiance, service convenience, and server quality on perceived value, are supported by the findings.

H<sub>5</sub> was tested using logistic regression. The logistic regression analysis revealed a significant positive effect of perceived value on tipping decisions in restaurants. The model significantly improved the fit compared to the null model (Chi-square = 8.799,  $p < 0.05$ ), with 92.5% of observations correctly classified. The Nagelkerke  $R^2$  value of 0.048 indicates a modest explanatory power, suggesting that the predictors account for a small portion of the variance in tipping decisions. The odds ratio for perceived value ( $\text{Exp}(B) = 1.492$ ) indicates that for each unit increase in perceived value, the likelihood of tipping increases by 49.2%, supporting the hypothesis that higher perceived value leads to a greater probability of tipping. These results are presented in Table 5. Additionally, assumptions of logistic regression were tested. The linearity of the logit assumption was evaluated through partial residual plots, which showed a positive linear relationship between perceived value and the partial residuals, confirming the assumption of linearity. Furthermore, the Varian-

*Table 7* Frequency of Tipping by Demographic Characteristics

Demographic Characteristic	Category	No Tip Count	Tip Count	Total Count	Tip Frequency (%)
Gender	Female	22	320	342	93.6%
	Male	11	85	96	88.5%
Age	18–25	13	106	119	89.1%
	26–35	6	53	59	89.8%
	36–45	5	96	101	95.0%
	46–55	6	107	113	94.7%
	56–65	3	34	37	91.9%
	66 and above	0	9	9	100.0%
Education	Primary School	0	2	2	100.0%
	Secondary School	10	113	123	91.9%
	BA	8	82	90	91.1%
	MA	15	187	202	92.6%
	PhD	0	21	21	100.00%
Income	0–460€	13	63	76	82.9%
	461–660€	2	28	30	93.3%
	661–860€	4	60	64	93.8%
	861–1,060€	5	105	110	95.5%
	1,061–1,460€	3	92	95	96.8%
	1,461€ and above	6	57	63	90.5%



Table 8 Summary of Chi-Square Tests for Demographic Characteristics and Tipping Behaviour

Demographic Characteristic	Chi-Square Value	df	P- value
Gender	2.718 <sup>a</sup>	1	0.099
Age	5.073 <sup>b</sup>	5	0.407
Education level	2.177 <sup>c</sup>	4	0.703
Income	14.557 <sup>d</sup>	5	0.012

Notes <sup>a</sup> 0 cells (0.0%) have expected count less than 5.

The minimum expected count is 7.23. <sup>b</sup> 3 cells (25.0%) have expected count less than 5. The minimum expected count is 0.68. <sup>c</sup> 3 cells (30.0%) have expected count less than 5.

The minimum expected count is 0.15. <sup>d</sup> 3 cells (25.0%) have expected count less than 5. The minimum expected count is 2.26.

ce Inflation Factor (VIF) was calculated and found to be 1.000, indicating no multicollinearity in the model.

The results of the Mann-Whitney U test, presented in Table 6, indicate a significant difference in WoM recommendation based on whether participants left a tip on their most recent visit to a restaurant. The Mann-Whitney U value is 4605.000, with a Z value of -3.040 and a p-value of 0.002. This result suggests that the decision to leave a tip is associated with differences in the likelihood of recommending the restaurant through WoM, with those who tipped reporting higher levels of recommendation. Based on this analysis, H6 is accepted.

H7 was empirically tested to explore the relationship between gender, age, education, income, and tipping behaviour in restaurant settings. Table 7 shows that a higher proportion of female respondents (93.6%;  $n=320$ ) reported tipping than male respondents (88.5%;  $n=85$ ). When examining age groups, a clear trend emerged, with older participants displaying higher tipping rates. Specifically, tipping frequencies increased from 89.1% among those aged 18–25 to 100% among those aged 66 and above. The analysis of educational attainment indicated variability in tipping frequencies across different academic backgrounds, ranging from 91.1% to 100%. However, this variability suggests that educational levels do not have a distinct or consistent impact on tipping behavi-

our. Significantly, the analysis identified a strong association between income levels and tipping behaviour. As outlined in Table 7, tipping frequencies demonstrated an upward trend across increasing income brackets, ranging from 82.9% in the lowest income bracket (€0–460) to 96.8% in the €1,061–1,460 bracket.

As shown in Table 8, the chi-square tests indicated a statistically significant association between income level and tipping behaviour ( $\chi^2=14.557$ ,  $df=5$ ,  $p<0.05$ ). However, no significant relationships were identified between gender ( $\chi^2=2.718$ ,  $df=1$ ,  $p=0.099$ ), age ( $\chi^2=5.073$ ,  $df=5$ ,  $p=0.407$ ), or education level ( $\chi^2=2.177$ ,  $df=4$ ,  $p=0.703$ ) and tipping behaviour.

H8 was tested to evaluate the influence of payment methods on restaurant tipping decisions. A one-sample Wilcoxon signed-rank test was conducted to determine whether levels of agreement for two statements significantly differed from the neutral value of four, which indicates indifference. Table 9 summarizes the hypothesis testing results for each statement using the Wilcoxon signed-rank test. At the 5% significance level, the null hypothesis for both statements was rejected. Participants' responses showed disagreement with the statement, 'When paying cash at a restaurant, I leave a smaller tip than usual', with a mean score of 2.18. This score reflects a low level of agreement, indicating that respondents strongly disagreed with the idea that they leave smaller tips when paying with cash. The Wilcoxon test confirmed a statistically significant difference from the neutral value ( $p<0.001$ ), supporting the conclusion that respondents generally do not perceive their tipping behaviour to decrease when paying with cash. Similarly, there was low agreement with the statement, 'When paying by card at a restaurant, I leave a larger tip than usual', with a mean score of 2.35. This score, well below the neutral point of four on the Likert-type scale, also indicates a low level of agreement. The Wilcoxon test further confirmed a significant difference from the neutral value ( $p<0.001$ ). These results suggest that respondents generally disagree with the idea that they leave larger tips when paying by card.

## Discussion and Conclusion

Tipping in restaurants continues to be a significant component of the global economy, allowing hospitali-

Table 9 Summary of Hypothesis Tests Using One-Sample Wilcoxon Signed Rank Test<sup>a</sup>

Null Hypothesis	Test	Sig.
The median of 'When paying cash in a restaurant, I leave a smaller tip than usual equals 4.00'	One-Sample Wilcoxon Signed Rank Test	0.000
The median of 'When paying by card in a restaurant, I leave a larger tip than usual equals 4.00'	One-Sample Wilcoxon Signed Rank Test	0.000

Note <sup>a</sup> The significance level is 0.05

ty workers to earn beyond minimum wages (Whaley et al., 2014). This study's findings highlight the importance of localized analysis within global discussions on tipping practices. While service gratuities are often lower in European service-inclusive pricing contexts than in North America, the nuances of tipping behaviour – such as its variability in frequency and size – underscore the need for context-specific strategies (Gössling et al., 2021). Croatia's unique context – characterized by its slow and ongoing transition from a communist to a market economy, a rapidly growing tourism industry, and diverse regional traditions – provides a rich setting to examine tipping behaviour (Pranić, 2023; Pranić & Pivac, 2014). Croatia's integration of card-based tipping represents a significant innovation in addressing the long-standing issue of lost gratuities associated with digital payments. This advancement benefits restaurant staff by ensuring consistent income and enhances the dining experience for tourists by providing convenient and transparent payment options. While this study focuses on Croatia, its findings offer insights contributing to broader discussions on global tipping practices, particularly within European countries' service-inclusive pricing systems (Gössling et al., 2021). Additionally, it extends existing research by integrating theoretical perspectives on perceived value and consumer behaviour to understand how various aspects of restaurant service influence tipping decisions.

#### *Theoretical Implications*

Using the SERVQUAL model, its restaurant-specific adaptation DINESERV, and theories of consumer-perceived value, we highlight the pivotal roles of food quality, ambiance, service convenience, and server quality in shaping perceived restaurant value and its sub-

sequent impact on tipping decisions (Hidayat et al., 2020; Sangpikul, 2023). Consistent with the SERVQUAL and DINESERV frameworks, the findings underscore the multidimensional nature of service quality (Parasuraman et al., 1988; Pecotić et al., 2014; Stevens et al., 1995). Specifically, food quality emerged as the strongest predictor of perceived value, aligning with previous research on its critical role in customer satisfaction and behavioural intentions (Namkung & Jang, 2007; Ryu et al., 2012). Ambiance, service convenience, and server quality contributed significantly, reflecting consumers' holistic evaluation of dining experiences.

The findings of this study align with those of international literature. For example, studies in the U.S. have shown that perceived value is a key determinant of tipping behaviour, with positive dining experiences leading to higher gratuities (Lynn & McCall, 2000). Similarly, research in South Africa (Saayman, 2014) and Indonesia (Hidayat et al., 2020) highlights how service quality drives consumer satisfaction and tipping intentions. However, this study's focus on Croatia underscores the localized dynamics of tipping behaviour, where cultural norms and economic factors create a unique interplay between perceived value and tipping decisions.

Income level significantly influenced tipping behaviour, aligning with research on socio-economic factors and gratuity practices (Lynn, 2015a). One notable finding is the lack of significant associations between age, gender, or education and tipping behaviour in this study, contrasting with prior research. For instance, Conlin et al. (2003) reported that younger customers tended to tip less than older ones and that cross-gender interactions influenced tip amounts. Additionally, Saayman and Saayman (2015) suggested that females tend to tip more frequently, while youn-

ger individuals are more likely to exceed the customary 10% tip in South Africa, highlighting the interplay between gender, age, and cultural tipping norms. The absence of such associations in the Croatian context may reflect the influence of cultural norms that differ from those in other countries. It is possible that the relatively modest tipping expectations in Croatia, combined with the economic realities of local consumers, dilute the impact of demographic factors on tipping behaviour. Further research could explore these cultural mediators in greater detail.

The findings regarding payment methods also provide intriguing insights. While several studies suggest that paying by card often leads to larger tips (Lynn, 2015b), a recent study in Hong Kong indicates that restaurant patrons are more likely to tip when paying by cash rather than by credit card (Kakkar & Li, 2022). However, this study found no significant difference between cash and card tipping in Croatia, suggesting that local cultural factors may mediate the influence of payment methods on tipping behaviour. This discrepancy may stem from the nascent introduction of card-based tipping in Croatia, where cash tipping remains a deeply ingrained practice. Over time, as card tipping becomes more common, the influence of payment methods on tipping behaviour in Croatia may pan out differently.

#### *Practical Implications*

The results offer actionable insights for restaurateurs and policymakers aiming to enhance customer satisfaction and tipping behaviours. Food quality is prioritized, as it strongly correlates with perceived value. Investments in improving ambiance – through thoughtful design, appropriate lighting, and curated music – can further elevate the dining experience and encourage positive consumer behaviours, including tipping and WoM advocacy. Server training should emphasize both technical and emotional aspects of service. Proactive engagement, tailored meal recommendations, and attentive service can significantly enhance guest satisfaction and tipping likelihood. Managers should also consider the interconnected nature of service dimensions, ensuring consistency between front-of-house and kitchen staff to deliver a seamless experience.

Understanding the localized dynamics of payment methods is critical as Croatia transitions to more formalized tipping practices. Promoting card-based tipping as a convenient option may gradually influence consumer habits, aligning with global trends. Furthermore, aligning tax policies with these practices could help normalize and encourage tipping behaviours. Despite the nascent introduction of card-based tipping in Croatia, anecdotal evidence suggests that owners and managers of food and beverage establishments have been slow to fully adopt and integrate this practice into their operations, potentially due to logistical challenges or reliance on traditional cash-based tipping norms. Finally, the strong association between tipping and WoM recommendations suggests that efforts to enhance customer experiences can yield long-term benefits in customer loyalty and restaurant advocacy.

#### *Study Limitations and Future Research*

This study's findings, while insightful, are subject to several limitations. The use of convenience and snowball sampling may constrain the generalizability of results, as the sample needs to fully represent the Croatian population's diversity. In particular, the overrepresentation of female respondents and limited representation of older demographics might introduce biases. Future studies should utilize stratified random sampling to better capture the nuanced behaviours of diverse demographic groups. An additional limitation lies in the study's cross-sectional nature, which captures tipping behaviour at a single point in time. Longitudinal research could provide valuable insights into how tipping behaviours evolve, particularly in response to changing cultural norms, economic conditions, and the increasing adoption of card-based payment methods. The absence of significant correlations between demographic factors such as age, gender, education, and tipping behaviour warrants further exploration. Qualitative research could delve deeper into cultural mediators and contextual factors that may obscure these associations in specific settings, offering richer insights into consumer behaviour.

Ethical considerations surrounding tipping represent an important area for future research. Tipping

is often framed as a voluntary act that acknowledges service quality, but it also raises questions about fairness, economic inequality, and power dynamics between customers and servers (Estreicher & Nash, 2004). For example, tipping can create financial uncertainty for service workers, who may rely on gratuities to supplement low wages (Azar, 2010a). Additionally, it can perpetuate inequities in how both servers and customers of different genders or ethnic backgrounds are treated and compensated, as biases in customer perceptions may affect tipping behaviour and service delivery (Brewster, 2013; 2015; Lynn, 2009; Parrett, 2015). However, Brewster et al. (2022) challenge the generalizability of previously observed effects of server race on customers' tipping practices and underscore the need for further research to understand better the conditions under which perceived race influences tipping behaviour. Croatia's rapidly changing labour market, with 160,000 residence and work permits issued in 2023 – a 30% increase from the previous year – presents a compelling setting for such research (Simmonds, 2023). Foreign workers now comprise about 9% of the 1.7 million-strong workforce, including approximately 43,951 employed in tourism and hospitality. Many of these workers come from countries such as the Philippines and Indonesia, highlighting Croatia as an ideal context for exploring how tipping practices intersect with cultural diversity and economic migration in an emerging labour market.

On the positive side, tipping has been shown to incentivize better customer service, as servers may strive to meet or exceed customer expectations in anticipation of higher gratuities (Lynn & Sturman, 2010). Furthermore, tipping can boost employee morale by providing direct recognition for their efforts, fostering a sense of appreciation and motivation (Bodvarsson & Gibson, 1997). Future studies could explore these multifaceted ethical dimensions, examining how tipping practices intersect with labour rights, customer biases, service quality, and societal values. Additionally, it would be interesting to investigate whether tipping behaviours differ across various types of restaurants, such as fast-food, casual, and fine-dining establishments, both in Croatia and internationally (Gusckowski, 2023). Finally, exploring tipping beha-

viour across different service sectors, such as tourism and personal services, could provide a more comprehensive understanding of gratuity practices. Future research could expand on these insights by examining tipping practices across countries, including those in Asia and Africa, where cultural norms differ significantly. In contrast, comparative studies across diverse cultural contexts would help illuminate global and localized ethical considerations of tipping.

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# Revolutionizing Hotel Operations with AI: A Case Study on the Power of ChatGPT and Gemini Integration

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This study investigates the implementation and impact of ChatGPT and Gemini in a four-star hotel in Ao Nang, Krabi, Thailand, during January–February 2024. Through a mixed-methods approach combining quantitative analysis and qualitative insights, the research assessed operational metrics across multiple service areas and gathered detailed feedback from the hotel owner. The study revealed significant improvements in operational efficiency, with check-in processing times decreasing from 3.3 to 2.7 minutes and AI system adoption increasing from 82% to 93%. Guest satisfaction scores showed notable enhancement, with overall satisfaction rising from 4.6 to 4.8 out of 5. The AI systems demonstrated impressive multilingual capabilities, handling 28 languages with 98.7% accuracy, while document processing achieved 99.2% accuracy across various types. Internal communications benefited from 32% time savings, with efficiency rates exceeding 96% across all categories. Staff adaptation, though initially challenging, was successfully managed through comprehensive training and gradual implementation, resulting in improved job satisfaction and team collaboration. The findings provide empirical evidence that strategic AI integration can enhance both operational efficiency and guest satisfaction while complementing human service elements. This research contributes valuable insights for hospitality managers considering AI implementation and offers a practical blueprint for successful technology integration in the hospitality sector, while also highlighting areas for future research in different hotel categories and geographical contexts.

**Keywords:** AI integration, ChatGPT, Gemini, hospitality, operational efficiency



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## Introduction

The past few years have seen remarkable growth in artificial intelligence (AI) systems, which have had an unprecedented impact on human creativity and productivity. These advancements have reshaped

industries and revolutionized workflows, enhancing efficiency, enabling new forms of innovation, and unlocking creative possibilities that were once considered out of reach (Imran & Almusharraf, 2024; Rashid & Kausik, 2024). The hospitality industry, encom-



passing accommodations, food and beverage services, travel, and entertainment, serves as a cornerstone of the global economy, thriving on its ability to meet and exceed customer expectations. This dynamic, service-oriented sector continually adapts to evolving consumer behaviours, shifting market trends, and rapid technological advancements. Among these innovations, the integration of AI has emerged as a transformative force, redefining operational efficiency, elevating customer experiences, and driving industry competitiveness to new heights (Fatema et al., 2024; Hernández et al., 2023; Nayak & Bhinder, 2024; Sampaio et al., 2024). In late 2022, the Chat Generative Pre-Trained Transformer (ChatGPT) was introduced, representing a notable leap forward in AI. This advanced chatbot leverages deep learning to execute a wide range of language-related tasks with remarkable fluency, resembling human communication. Unlike earlier AI systems, ChatGPT's neural networks are trained on vast datasets, including simulated dialogues, allowing it to generate nuanced and conceptually detailed responses that closely mimic human interaction. This innovation has the potential to transform education and information sharing, showcasing its impressive technological capabilities (Dwivedi et al., 2023; Polyportis & Pahos, 2024). Gemini, a multimodal AI tool launched on December 6, 2023, is developed by Google DeepMind and utilizes Visual Language Model (VLM) technology. Positioned as a direct competitor to OpenAI's ChatGPT, GPT-4, and the vision-enabled GPT-4, Gemini integrates multiple large language models (LLMs) along with advanced natural language processing (NLP) technologies. Gemini has proven to be a valuable tool for addressing challenges in reinforcement learning, deep learning, and tasks related to digital education. Its interdisciplinary applications pave the way for integrating AI technologies across various sectors, fostering future advancements in technology, collaboration, and innovation. Particularly beneficial for researchers, educators, and digital content creators, Gemini facilitates diverse responses and aids in generating solutions for innovations in learning. Its potential extends across fields such as education, healthcare, management, and climate change, driving progress through

the integration of generative AI (Imran & Almusharraf, 2024).

AI is transforming the hospitality industry by driving innovation, improving operational efficiency, and enhancing customer experiences. AI-powered tools and systems are increasingly being utilized to personalize guest services, automate routine tasks, and optimize decision-making processes. From chatbots and virtual assistants providing round-the-clock customer support to predictive analytics tools that help forecast demand and tailor marketing strategies, AI is redefining the way hospitality businesses operate (Bulchand-Gidumal et al., 2023; Gajić et al., 2024; Kumar et al., 2024; Zahidi et al., 2024). Moreover, AI's integration into revenue management, housekeeping operations, and guest feedback analysis allows for more precise and timely interventions, boosting overall productivity and customer satisfaction. As the industry adapts to the challenges of the digital age, the adoption of AI technologies underscores a commitment to innovation and a focus on creating seamless and memorable experiences for travellers and guests (Anwar et al., 2024; Correia et al., 2024; Gatera, 2024). Given its transformative potential, AI in the hospitality industry is a critical area of research. While numerous studies have explored AI's theoretical applications and potential benefits in the hospitality sector, there remains a lack of empirical research examining the real-world implementation, operational impact, and staff adaptation to these technologies in actual hotel environments. Existing literature primarily discusses AI's potential for improving guest experiences and automating routine tasks. However, most studies fail to provide quantitative evidence of AI's tangible impact on key performance metrics such as check-in processing times, guest satisfaction, and internal communications. Additionally, research often overlooks the challenges associated with AI adoption, including employee adaptation, multilingual capabilities, and integration with existing hotel management systems. For instance, Limna and Kraiwanit (2023) qualitatively explored the impact of ChatGPT on customer service in the hospitality industry by examining the experiences and perceptions of hospitality employees who utilized ChatGPT in their customer interactions. Their

study found that integrating ChatGPT into hospitality services had a significant positive impact by enhancing employee skills and knowledge, bridging language barriers, providing valuable recommendations, and improving productivity and workflow management. Ultimately, they concluded that ChatGPT is a valuable tool for improving customer service, leading to a better overall guest experience. While their research highlights the benefits of AI in hospitality, it does not offer quantitative metrics or examine AI's broader impact on operational efficiency, guest satisfaction, and internal communication. Hence, this study addresses these gaps by conducting a case study on a four-star hotel in Ao Nang, Krabi in Thailand, examining the practical effects of ChatGPT and Gemini on various operational aspects. Ao Nang in Krabi was selected due to its status as one of Thailand's top international tourist destinations, attracting a diverse clientele from various linguistic and cultural backgrounds. Given its high tourist influx and competitive hospitality sector, hotels in Krabi face constant pressure to enhance service efficiency, improve guest satisfaction, and optimize operations, making it an ideal location to assess the real-world impact of AI integration. Through a mixed-methods approach, the research provides empirical data on AI's role in improving service efficiency, guest satisfaction, and internal workflows while also exploring staff perceptions and adaptation challenges. By offering context-specific insights, this study contributes to a more nuanced understanding of AI's potential and limitations in the hospitality industry, ultimately informing hotel managers, policymakers, and technology developers on best practices for AI implementation.

## Literature Review

### *Artificial Intelligence (AI) in the Hospitality Industry*

The Fourth Industrial Revolution marks a transformative era defined by the seamless integration of digital technologies, including AI, chatbots, and robotics, into everyday life. This revolution is reshaping the processes of innovation and distribution, influencing not only economic structures but also the social interactions and daily experiences of individuals. Like many other sectors, the hospitality industry is

embracing AI technologies at an accelerating pace, reflecting their growing significance and transformative potential (Abdelfattah et al., 2023; Fakfare et al., 2025). The integration of AI in the hospitality industry has been extensively explored in recent literature, highlighting its transformative potential across various operational and customer-facing domains. AI technologies, such as machine learning (ML) and NLP, are reshaping traditional workflows by automating repetitive tasks, enhancing service delivery, and providing data-driven insights for strategic decision-making. For instance, AI-powered chatbots and virtual assistants have revolutionized customer interactions by offering 24/7 personalized support, improving response times, and increasing customer satisfaction. Predictive analytics, driven by AI algorithms, enables precise demand forecasting, dynamic pricing, and resource optimization, allowing businesses to remain competitive in fluctuating markets. Additionally, AI applications in robotics, such as automated check-ins, cleaning systems, and food preparation, address labour shortages and ensure consistency in service quality (Ivanov & Webster, 2019; Thaichon et al., 2024; Venkateswaran et al., 2024; Zahidi et al., 2024). Furthermore, the literature also emphasizes the role of AI in hyper-personalization, which has become a critical differentiator in guest experiences. Advanced data analytics allow businesses to analyse customer preferences and behavioural patterns, enabling tailored recommendations, bespoke travel packages, and individualized services. However, scholars also underscore challenges associated with AI adoption, including high implementation costs, workforce displacement, data privacy concerns, and the need for upskilling employees to manage and interact with AI systems effectively. As the hospitality industry continues to embrace AI, ongoing research explores the balance between technological innovation and the preservation of the human touch, a hallmark of hospitality services. This dual approach ensures that AI not only enhances operational efficiency but also enriches the overall customer experience, positioning the industry for sustained growth in the digital age (Busulwa, 2020; Nam et al., 2021; Said, 2023; Zirar et al., 2023).

### *ChatGPT*

Recent studies, including those by Abdullah (2023), Gursoy et al. (2023), Rather (2024), and Wang (2024), have explored the transformative role of ChatGPT, a generative AI tool developed by OpenAI, in the hospitality industry, emphasizing its potential to enhance customer interactions, streamline operations, support staff productivity, and other benefits. As an advanced conversational AI tool, ChatGPT excels in delivering personalized, real-time customer service across various touchpoints, from pre-booking inquiries to post-stay feedback. It is particularly effective in managing high volumes of queries, providing detailed responses to frequently asked questions, and offering multilingual support, which is critical in the globalized nature of the hospitality sector. Moreover, beyond customer interaction, ChatGPT has been integrated into marketing and content creation, aiding businesses in crafting engaging promotional materials, designing tailored travel itineraries, and generating compelling descriptions for accommodations and services (Almeida & Ivanov, 2024; Bansal et al., 2024; Patil et al., 2024; Singh & Singh, 2024). Furthermore, its ability to analyse sentiment and feedback from customer reviews enables hoteliers to identify service gaps, track customer satisfaction trends, and make data-informed decisions for continuous improvement. In addition, studies also highlight ChatGPT's utility in staff training, where it can simulate realistic customer scenarios, enabling employees to practice and enhance their communication and problem-solving skills. Despite its advantages, the literature notes challenges, including potential inaccuracies in complex queries, the risk of over-reliance on automation, and the need to address ethical concerns such as data privacy and bias in AI-generated content. Researchers advocate for a hybrid approach, combining ChatGPT's efficiency with human oversight to ensure a balance between technological innovation and the personalized, empathetic service that defines the hospitality industry. As the adoption of ChatGPT grows, its impact on reshaping operational models and enhancing customer experiences continues to be a pivotal area of inquiry in hospitality research (Elmohandes & Marghany, 2024; Jeong & Lee, 2024; Rather, 2024; Wang, 2024).

### *Gemini*

Gemini, Google's advanced generative AI model, is gaining attention in the hospitality industry for its capacity to redefine service delivery, customer engagement, and operational efficiency. Leveraging its multimodal capabilities, Gemini integrates text, image, and contextual data processing to provide highly personalized and adaptive solutions. In the hospitality context, Gemini's strengths lie in crafting nuanced responses to customer inquiries, generating visually engaging marketing materials, and assisting in dynamic itinerary planning. For example, Gemini can create tailored travel recommendations by analysing customer preferences and trends, offering a more immersive and customized planning experience. Its advanced natural language understanding and contextual reasoning enhance chatbot interactions, ensuring precise and empathetic communication that resonates with diverse customer bases (Kewalramani & Rosen, 2024; Rane et al., 2024; Raulin, 2024; Visser, 2024). Moreover, Gemini's predictive capabilities allow hoteliers to anticipate guest needs, optimize resource allocation, and enhance demand forecasting accuracy. It also plays a crucial role in content creation, automating the design of promotional campaigns, virtual tours, and property descriptions that captivate potential customers. However, the literature also points to challenges, including the steep learning curve associated with implementing advanced AI models, the need for robust data governance frameworks, and concerns over ethical considerations such as privacy issues. Scholars suggest that the integration of Gemini should be complemented by human oversight to ensure that its deployment enhances, rather than diminishes, the core human-centric values of hospitality. As research evolves, Gemini's contributions to innovation and efficiency continue to position it as a transformative tool in the hospitality sector's digital transformation journey (Saeidnia, 2023; Skubis et al., 2024; Singh, 2025).

### *Related Research*

The hospitality industry is undergoing a significant transformation with the adoption of advanced technologies, including generative AI like ChatGPT. Singh and Singh (2024) highlight the potential of ChatGPT

to revolutionize the sector and empower emerging hoteliers. By leveraging ChatGPT, hotels can offer round-the-clock support to guests, addressing inquiries, suggesting local attractions, and streamlining reservation processes. Its ability to process and respond to natural language enhances guest experiences, fostering comfort and satisfaction. Moreover, ChatGPT enables hoteliers to extract valuable insights from customer interactions, facilitating data-driven decisions and personalized services. With its capacity for sentiment analysis, ChatGPT can help identify potential issues, allowing hoteliers to address concerns proactively, thereby ensuring guest loyalty and satisfaction. This integration of AI positions the hospitality industry to deliver more efficient, tailored, and responsive services. Furthermore, Dwivedi et al. (2024) examined current practices and challenges associated with implementing generative AI tools, including ChatGPT, in the hospitality and tourism sector, while also proposing a comprehensive research agenda. The study emphasizes that the integration of generative AI technologies, like ChatGPT, has the potential to revolutionize the industry. However, it also underscores the multifaceted challenges these technologies pose, considering the perspectives of businesses, customers, and regulatory bodies.

Gursoy et al. (2023) also highlight the widespread popularity and transformative impact of ChatGPT. With advanced features such as natural language processing and contextual awareness, ChatGPT is recognized as a disruptive innovation poised to revolutionize operations across various sectors, including hospitality and tourism. Its adoption is expected to significantly alter how customers search for information, make decisions, and how businesses deliver personalized services and experiences. Moreover, Talukder and Kumar (2024) explored the role of AI, particularly ChatGPT, in enhancing customer support within the hotel industry. The adoption of AI-driven solutions has significantly transformed how hotels and other hospitality businesses engage with their clientele. AI-powered chatbots, such as those utilizing ChatGPT, have been employed to handle routine inquiries, provide 24/7 assistance, offer personalized recommendations, and support multilingual commu-

nication. These systems are frequently integrated with existing hotel management platforms and are continuously refined based on guest feedback. Despite these advancements, the study highlights the importance of maintaining a balance between AI automation and human interaction to deliver unique and memorable experiences for hotel guests.

Ilieva et al. (2024) investigated the impact of generative AI on the tourism industry, introducing a novel theoretical framework for implementing and evaluating these tools in travel companies and among individual tourists. This framework was applied to assess the role of generative AI chatbots in planning both international and domestic trips within budgetary constraints. For international travel, ChatGPT offered a balanced solution from a tourism company's perspective, combining service quality, experience diversity, and time efficiency, though it did not excel in any single domain. Tourists found the experience satisfactory, providing good value for money, but it failed to exceed expectations, positioning it as a reliable yet unremarkable mid-tier option. Conversely, Gemini excelled in experience diversity by offering a broader range of locations, but lower service quality negatively impacted overall satisfaction. While budget-conscious tourists might appreciate the variety, they could find the accommodations and services lacking. Regarding domestic travel, ChatGPT delivered a diverse itinerary featuring a mix of nature, cultural experiences, and moderate hiking. Tourists enjoyed the variety, including eco-paths, UNESCO sites, and scenic views, resulting in high satisfaction. However, time efficiency was slightly compromised due to long travel distances. Gemini, on the other hand, provided a straightforward and balanced trip with cultural visits and some hiking opportunities. Although its service quality and customer satisfaction were reasonable, its lack of activity diversity made the experience somewhat repetitive. Overall, while both tools demonstrated strengths in specific areas, their performance varied depending on the trip type and priorities of the users.

### Methodology

This study employed a mixed-methods approach, combining quantitative data analysis with qualitative

insights through a detailed case study of a four-star hotel in Ao Nang, Krabi, Thailand. The research was conducted over a two-month period from January to February 2024, focusing on the implementation and impact of two AI tools: ChatGPT and Gemini. This time frame allowed for a comprehensive assessment of the AI systems' performance, adaptation, and impact on various operational metrics. The sampling strategy utilized purposive sampling, selecting a four-star hotel with 180 rooms and 120 full-time equivalent employees. This property was chosen due to its representative size, market position, and its recent implementation of AI tools, making it an ideal candidate for examining the practical applications and impacts of AI in hospitality operations. The hotel's location in Ao Nang, a popular tourist destination, provided exposure to diverse international clientele, enabling a broad assessment of AI capabilities in managing multilingual and multicultural guest interactions.

Data collection encompassed multiple sources and methods to ensure comprehensive coverage of AI implementation impacts. Quantitative data was gathered through the hotel's property management system, which tracked operational metrics including check-in processing times, response rates, document processing efficiency, and guest satisfaction scores. The researchers collected detailed performance data across seven key operational areas: front desk operations, guest inquiries, email responses, internal communications, document processing, translation services, and guest satisfaction ratings. Additionally, the qualitative component of this study consisted of semi-structured, in-depth interviews with the hotel owner to explore the integration of AI, its impact on operational efficiency, and its role in managerial decision-making. The interviews followed a structured guide, addressing key areas such as the implementation process, which included staff training and system customization, as well as improvements in workflow, response times, and service quality. Additionally, the discussion covered guest experiences, particularly in relation to AI-driven interactions, multilingual support, and overall satisfaction. Challenges and adaptation strategies were also examined, focusing on initial resistance, staff perceptions, and the effective-

ness of training programmes. Lastly, the interviews explored the strategic implications of AI, including its influence on business planning, data-driven decision-making, and competitive positioning. Each session lasted approximately 45 to 60 minutes and was recorded and transcribed for analysis, ensuring a comprehensive understanding of AI adoption within the hotel setting.

The data analysis followed a systematic approach, combining descriptive statistics and trend analysis. Quantitative data was analysed to identify patterns in operational efficiency, calculating growth rates, processing times, and accuracy rates across different service categories. Performance metrics were tracked weekly to observe progression in AI adoption and efficiency gains. The analysis included comparative assessments between January and February performance data to measure improvement trends. Guest satisfaction scores were analysed using a 5-point Likert scale, with results aggregated to evaluate changes in overall satisfaction, staff responsiveness, problem resolution, and communication clarity. For qualitative data, a thematic analysis approach was employed to examine interview transcripts, systematically identifying key themes related to AI adoption, operational impact, and strategic considerations. The analysis followed a rigorous process to ensure depth and accuracy in data interpretation. First, initial coding was conducted to extract significant statements and categorize them into relevant themes using an open coding approach. This was followed by pattern identification through axial coding, which analysed recurring themes such as efficiency gains, staff adaptation, and guest satisfaction. To enhance reliability, triangulation was applied by cross-referencing qualitative insights with quantitative performance trends, providing a comprehensive understanding of AI's role in hotel operations. Additionally, member checking was conducted, allowing the interviewee to review and validate interpretations, ensuring accuracy in thematic analysis. Finally, reflexivity was maintained throughout the process, acknowledging potential biases and ensuring that data interpretations remained grounded in the collected evidence. By systematically integrating both quantitative metrics and qualitative



Table 1 Hotel Profile

Characteristic	Description
Hotel Category	4-Star Hotel
Location	Ao Nang, Krabi, Thailand
Number of Rooms	180 Rooms
Staff Size	120 (Full-Time Equivalent)
Average Occupancy	January, 2024: 72% and February, 2024: 78%
AI Implementation	ChatGPT and Gemini

perspectives, these comprehensive methodological approaches enabled the researchers to gather rich, detailed data about the practical implementation and impact of AI tools in a real-world hospitality setting, providing valuable insights for both academic understanding and industry application.

## Results

The researchers conducted an in-depth interview with a hotel owner to gain insights into the practical impacts of implementing AI tools, specifically ChatGPT and Gemini, on daily operations, customer interactions, and overall business performance. Focusing on a two-month analysis of AI implementation, the hotel owner provided detailed information about key performance metrics, including occupancy rates, response times and others. During the interview, the hotel owner highlighted specific improvements resulting from these tools, such as enhancements in guest sa-

tisfaction scores due to quicker response times and measurable increases in employee productivity.

As detailed in Table 1, the case study was conducted over a two-month period (January–February 2024) at a 4-star business hotel with 180 rooms and a workforce of 120 full-time equivalent employees. During the study, the hotel experienced positive growth in occupancy rates, rising from 72% in January to 78% in February. This upward trend in occupancy highlighted the hotel's robust market performance and created an optimal testing environment for the newly implemented AI systems, ChatGPT and Gemini.

Table 2 highlights the systematic progression in efficiency and adoption during the implementation of ChatGPT and Gemini within front desk operations. The initiative commenced in January Week 1, achieving an initial 82% AI usage rate by processing 201 out of 245 check-ins at an average time of 3.3 minutes. This early phase involved intensive staff training to overcome the learning curve. By Week 2, notable advancements were evident, with an 85% AI adoption rate (219 of 258 check-ins) and a reduced processing time of 3.1 minutes, signifying enhanced staff confidence and system optimization. Week 3 furthered this trend, with the system managing 231 out of 262 check-ins (88% usage) at an average time of 3.0 minutes, bolstered by the integration of advanced features like predictive guest services. The month concluded with Week 4 achieving a 90% usage rate (257 of 285 check-ins) and an average processing time of 2.9 minutes, driven

Table 2 January and February Performance Metrics

Period	Check-Ins	AI Processed	Average Time	AI Usage
Week 1 (January 1–7)	245	201	3.3 Minutes	82%
Week 2 (January 8–14)	258	219	3.1 Minutes	85%
Week 3 (January 15–21)	262	231	3.0 Minutes	88%
Week 4 (January 22–31)	285	257	2.9 Minutes	90%
Week 5 (February 1–7)	268	244	2.8 Minutes	91%
Week 6 (February 8–14)	272	250	2.8 Minutes	92%
Week 7 (February 15–21)	280	260	2.7 Minutes	93%
Week 8 (February 22–29)	285	265	2.7 Minutes	93%

Notes Calculation: AI Usage % = (Number of AI-Assisted Transactions / Total Transactions) × 100;

Total Check-Ins: 2,155; Average AI Usage: 89.5%

Table 3. Detailed Guest Inquiry Analysis

Inquiry Type	January	February	Growth	Resolution
Room Information	1,250	1,340	+ 7.2%	98.5%
Service Request	985	1,055	+ 7.1%	97.8%
Booking Assistance	875	935	+ 6.9%	96.9%
Local Information	740	790	+ 6.8%	99.1%

Notes Total Inquiries: January (3,850); February (4,120); Average Resolution Rate: 98.1%

Table 4. Email Response Analysis

Email Category	January	February	Growth	Accuracy
Booking Confirmations	720	765	+ 6.3%	99.4%
General Inquiries	680	725	+ 6.6%	98.7%
Special Request	485	520	+ 7.2%	97.9%
Feedback Responses	355	370	+ 4.2%	99.1%

Notes Total Emails: January (2,240); February (2,380); Average Response Time: 2.5 minutes

by successful integration with the hotel’s property management system. In February, performance improvements continued. Week 5 saw a 91% AI adoption rate (244 of 268 check-ins) and a processing time of 2.8 minutes, while Week 6 improved to 92% usage (250 of 272 check-ins), maintaining the same processing time. The system reached peak efficiency in Week 7 with 93% AI utilization (260 of 280 check-ins) and an average processing time of 2.7 minutes, a level sustained through Week 8 (265 of 285 check-ins). Overall, the two-month implementation processed 2,155 check-ins, with AI usage progressively increasing from 82% to 93%. Average check-in times decreased from 3.3 to 2.7 minutes, underscoring the system’s maturity and the staff’s effective adaptation. This improvement highlights significant gains in operational efficiency, marking a successful deployment of AI tools in front desk operations.

Table 3 provides a detailed analysis of guest inquiries during the two-month implementation of ChatGPT and Gemini, highlighting significant improvements across all categories. Room information requests emerged as the most common type of inquiry, increasing by 7.2% from 1,250 in January to 1,340 in February. These inquiries, which centred on room amenities, view options, and availability, achieved an impressive 98.5% resolution rate. This was made

possible by AI’s ability to deliver comprehensive room descriptions, virtual tours, and real-time updates on availability. Service requests also experienced substantial growth, rising by 7.1% from 985 in January to 1,055 in February. This category included housekeeping needs, room service orders, and maintenance issues. The AI system’s capacity to automatically direct urgent requests to the relevant departments while providing immediate acknowledgments contributed to a resolution rate of 97.8%. Similarly, booking assistance inquiries saw a 6.9% increase, growing from 875 to 935. The AI efficiently managed rate inquiries, date changes, and special accommodation requests, achieving a 96.9% resolution rate. Local information requests, which involved queries about attractions, transportation, and dining options, increased by 6.8%, from 740 to 790. This category achieved the highest resolution rate of 99.1%, thanks to the system’s extensive database of local resources. Overall, the total inquiry volume rose by 7.0%, from 3,850 in January to 4,120 in February, maintaining an impressive average resolution rate of 98.1% across all categories. This success can be attributed to three key factors: the enhanced NLP capabilities of the AI systems, which enabled a better understanding of guest needs; an expanded knowledge base that addressed a wider range of scenarios; and improved integration with the hotel’s property ma-

Table 5 Internal Communication Metrics

Communication Type	January	February	Growth	Efficiency
Staff Updates	585	635	+ 8.5%	96.8%
Task Assignments	490	532	+ 8.6%	97.2%
Shift Reports	380	410	+ 7.9%	98.5%
Department Memos	225	243	+ 8.0%	99.1%

*Notes* Total Communications: January (1,680); February (1,820); Process Improvement: 32% time savings

nagement system, facilitating real-time updates and seamless booking modifications. These advancements underscore the effectiveness of AI in enhancing guest experiences and streamlining hotel operations.

Table 4 highlights the significant performance enhancements of the email response system during the two-month implementation period, with the total email volume increasing from 2,240 in January to 2,380 in February. Each category demonstrated notable improvements in efficiency and accuracy. Booking confirmations accounted for the largest category, growing by 6.3%, from 720 to 765 instances. These emails included comprehensive details such as room descriptions, check-in instructions, and personalized amenity recommendations. With an impressive accuracy rate of 99.4% and an average processing time of just 1.8 minutes per email, this category exemplified the system's capacity to streamline essential communication. General inquiries exhibited robust growth, rising by 6.6% from 680 to 725 emails. These inquiries covered a diverse range of topics, including hotel facilities, services, local attractions, and transportation options, all resolved with a 98.7% accuracy rate. Special requests experienced the highest growth rate, increasing by 7.2%, from 485 to 520 instances. This category often involved more complex issues, such as dietary accommodations, room preferences, and celebration arrangements. Despite the intricacies, the system maintained a commendable accuracy rate of 97.9%, supported by effective coordination with relevant departments. Feedback responses showed steady growth, rising by 4.2% from 355 to 370 emails. These responses achieved a 99.1% accuracy rate, with personalized replies addressing specific guest comments and concerns, demonstrating the system's ability to enhance guest satisfaction and engagement. Overall,

the email response system showcased exceptional adaptability and efficiency, processing increased volumes while maintaining high accuracy rates across all categories. These outcomes highlight the system's potential to elevate operational performance and guest communication quality in the hospitality sector.

Table 5 highlights the remarkable growth and efficiency improvements of the internal communication system during the two-month analysis period, with total communications increasing by 8.3% from 1,680 instances in January to 1,820 in February. Each category exhibited significant progress, contributing to the overall operational efficiency of the hotel. Staff updates constituted the largest volume of communications, rising by 8.5% from 585 to 635 instances. These updates covered essential information, including daily operational briefings, policy changes, occupancy forecasts, and VIP guest notifications. With an efficiency rate of 96.8%, the system ensured a seamless flow of information across all departments, enhancing coordination and preparedness. Task assignments showed the highest growth rate, increasing by 8.6% from 490 to 532 instances. This category benefited from the system's ability to distribute, track, and prioritize tasks across key teams, including housekeeping, maintenance, food and beverage, and the front office. Automated follow-ups and completion confirmations contributed to an impressive 97.2% efficiency rate, streamlining task management. Shift reports demonstrated steady growth, rising by 7.9% from 380 to 410 instances. These reports, which provided detailed handover information, pending tasks, and critical alerts, achieved a commendable efficiency rate of 98.5%, facilitating smooth transitions between shifts and minimizing operational disruptions. Department memos, though smaller in volume, experienced consistent growth,

Table 6 Document Processing Metrics

Document Type	January	February	Growth	Processing
Guest IDs	285	295	+ 3.5%	12 sec/doc
Registration Forms	265	275	+ 3.8%	15 sec/doc
Invoice Processing	205	215	+ 4.9%	18 sec/doc
Report Generation	135	140	+ 3.7%	25 sec/doc

Notes Total Documents: January (890); February (925); Accuracy Rate: 99.2%

Table 7 Translation Service Analytics

Document Type	January	February	Growth	Accuracy
Guest Communications	165	180	+ 9.1%	98.7%
Documents	120	130	+ 8.3%	99.1%
Signage	85	90	+ 5.9%	99.8%
Menu Items	55	60	+ 9.1%	99.4%

Notes Total Translations: January (425); February (460); Languages Supported: 28; Average Translation Time: 1.8 seconds per request

increasing by 8.0% from 225 to 243 instances. This category achieved the highest efficiency rate of 99.1%, reflecting the system’s effectiveness in coordinating cross-departmental activities, including preparations for special events and handling inter-departmental tasks. The internal communication system’s overall improvements underscore its vital role in enhancing operational workflows and fostering a well-informed and collaborative work environment. These advancements reflect the system’s capacity to support the hotel’s dynamic needs while maintaining high efficiency and accuracy rates.

Table 6 highlights the significant efficiency advancements achieved by the document processing system during the two-month evaluation period, with the total document volume increasing by 3.9%, from 890 in January to 925 in February. Each category demonstrated substantial improvements in speed and accuracy, underscoring the system’s effectiveness in streamlining administrative tasks. Guest ID processing emerged as the most frequent category, growing by 3.5% from 285 to 295 instances. The system’s advanced scanning and verification capabilities facilitated rapid authentication of diverse identification documents, including passports, national IDs, and driver’s licenses. With an average processing time of just 12 seconds

per document and a 99.6% accuracy rate, this category set a benchmark for efficiency. Registration form processing experienced a 3.8% increase, rising from 265 to 275 instances. The system’s ability to handle both digital and scanned paper forms reduced average processing time to 15 seconds per document—a remarkable 75% improvement compared to traditional manual methods. This efficiency allowed staff to focus on enhancing guest interactions and service quality. These improvements in the document processing system demonstrate its pivotal role in reducing administrative burdens, ensuring data accuracy, and expediting front desk operations. The system’s high-speed processing and integration capabilities contributed significantly to enhancing the overall guest experience and operational productivity.

Table 7 presents the outstanding performance and growth of the translation service over the two-month analysis period, with significant improvements across all categories. The service efficiently managed a total volume increase from 425 to 460 instances, reflecting enhanced operational capacity and accuracy. Guest communications emerged as the dominant category, experiencing a notable 9.1% growth, from 165 to 180 instances. This category, which primarily dealt with check-in/check-out instructions, service requests,

Table 8. Monthly Guest Satisfaction Scores

Metric	January	February	Change
Overall Satisfaction	4.6/5	4.8/5	+ 4.3%
Staff Responsiveness	4.7/5	4.8/5	+ 2.1%
Problem Resolution	4.5/5	4.7/5	+ 4.4%
Communication Clarity	4.8/5	4.9/5	+ 2.1%

Note Total Surveys Collected: January (425); February (468)

facility inquiries, and emergency communications, maintained an impressive 98.7% accuracy rate. The system processed these requests at an average time of 1.8 seconds per communication, ensuring timely and efficient responses to guest needs. Document translations also demonstrated substantial growth, rising by 8.3% from 120 to 130 instances. These translations, which encompassed essential materials such as registration forms, hotel policies, and service agreements, achieved a 99.1% accuracy rate. The system processed these documents at an average rate of 2.5 seconds per page, seamlessly handling multiple language pairs simultaneously. Signage translations, while showing more modest growth, increased by 5.9%, from 85 to 90 instances. This category achieved the highest accuracy rate of 99.8%, covering crucial translations for directional signs, safety instructions, and facility information in 28 languages. The system's precision in translating these signs ensure clear communication and guest safety. Menu item translations showed strong growth, rising by 9.1% from 55 to 60 instances. These translations, which handled daily menu updates, special dietary information, and culturally adapted culinary descriptions, maintained a 99.4% accuracy rate, ensuring that guests received accurate and relevant food information in their preferred language. These results highlight the translation service's key role in enhancing communication efficiency and service quality, ensuring that guests receive clear, accurate information across various categories, and facilitating a seamless multilingual experience.

Table 8 presents a comprehensive guest satisfaction analysis, showing significant improvements across all measured metrics during the two-month study period. Data were collected from a robust sample of 425 surveys in January, which increased to 468 in Febru-

ary, reflecting enhanced guest engagement. Overall satisfaction saw the most substantial improvement, rising from 4.6/5 to 4.8/5, a 4.3% increase. This improvement was driven by higher ratings for room quality (4.7 to 4.8), service delivery (4.5 to 4.7), and amenity satisfaction (4.6 to 4.8). Guests expressed greater satisfaction with the hotel's offerings, which can be attributed to both enhanced AI integration and improved operational efficiencies. Staff responsiveness also demonstrated steady growth, increasing from 4.7/5 to 4.8/5 (2.1% improvement). This was linked to improvements in check-in speed, which decreased from 3.2 to 2.8 minutes, and request handling time, which reduced from 8.5 to 7.2 minutes. The streamlined processes enabled staff to respond more quickly to guest needs, contributing to the higher satisfaction scores. Problem resolution metrics showed significant progress, improving from 4.5/5 to 4.7/5, a 4.4% increase. Notably, first-contact resolution rates increased from 85% to 92%, and the average resolution time decreased from 15 to 12 minutes, highlighting the efficiency of the AI-enhanced problem-solving process. Communication clarity received the highest scores, advancing from 4.8/5 to 4.9/5, marking a 2.1% improvement. This was supported by enhanced language accuracy (98% to 99%) and information completeness (96% to 98%), ensuring that guests received clear and accurate information, further enhancing their experience. Demographic analysis of survey respondents showed a balanced representation, with business travellers comprising the largest segment (45% in January, increasing to 48% in February), followed by leisure guests (35% in January, decreasing to 32%), and group bookings maintaining a steady 20% share. This data provided insights into guest preferences and needs, enabling more targeted service improvements. The



overall improvements were attributed to better AI integration, enhanced staff training, streamlined processes, and superior service quality management. These efforts resulted in more personalized and consistent guest experiences. In addition, the survey participation rate increased from 68% to 75%, indicating guests' growing satisfaction with the hotel's feedback systems and the improvements made in service delivery.

#### *Implementation and Impact of ChatGPT and Gemini on Hotel Operations*

The in-depth interview with the hotel owner revealed several significant insights regarding the implementation and impact of ChatGPT and Gemini on hotel operations. The qualitative analysis highlighted three main themes: operational efficiency improvements, enhanced guest experience, and staff adaptation to AI technology. In terms of operational efficiency, the hotel owner reported substantial improvements in daily workflows following the AI implementation. The integration of ChatGPT and Gemini significantly streamlined front desk operations, with the most notable impact observed in check-in processes. The owner emphasized that the AI systems effectively handled routine inquiries and documentation, allowing staff to focus more on personalized guest interactions. This shift in task distribution led to more efficient resource allocation and improved service delivery across all departments. The enhancement of guest experience emerged as another crucial theme from the interview. The hotel owner noted that the AI tools' ability to provide instant, accurate responses to guest inquiries in multiple languages significantly improved guest satisfaction. The systems' capability to handle various request types, from room information to local attraction recommendations, ensured consistent service quality regardless of time or staff availability. The owner particularly highlighted the positive guest feedback regarding the quick response times and accurate information provision, which contributed to higher guest satisfaction scores. Staff adaptation to the AI technology presented both challenges and opportunities. Initially, some staff members showed hesitation toward the new systems, but the owner described a successful transition through comprehensive

training programmes and gradual implementation. The interview revealed that staff members ultimately embraced the technology as they witnessed its benefits in reducing routine tasks and enabling them to provide more personalized service. The owner emphasized that the AI tools served as supportive resources rather than replacements for human staff, leading to improved job satisfaction and more efficient team collaboration. The interview also uncovered valuable insights regarding operational decision-making and strategic planning. The hotel owner reported that the AI systems provided detailed analytics and performance metrics, enabling more informed management decisions. This data-driven approach helped optimize resource allocation, staffing levels, and service delivery strategies. The owner specifically noted how the AI tools' ability to analyse patterns in guest preferences and behaviour contributed to more effective operational planning and service customization. These qualitative findings complemented the quantitative data by providing context and deeper understanding of the AI implementation's impact on hotel operations. The hotel owner's perspectives offered valuable insights into the practical challenges and benefits of integrating AI technology in the hospitality sector, while highlighting the importance of balanced implementation that enhances rather than replaces human service elements.

#### **Discussion**

The implementation of ChatGPT and Gemini in a four-star hotel in Ao Nang has demonstrated significant operational improvements and enhanced guest experiences across multiple dimensions. The findings highlight several key themes that warrant further discussion: operational efficiency gains, enhanced guest satisfaction, multilingual capabilities, and staff adaptation to AI technology. The substantial improvement in operational efficiency is particularly noteworthy. The reduction in check-in processing times from 3.3 to 2.7 minutes, coupled with an increase in AI usage from 82% to 93%, indicates successful system integration and staff adoption. This efficiency gain aligns with previous research by Bulchand-Gidumal et al. (2023) and Gajić et al. (2024), which emphasizes AI's potenti-

al to streamline hospitality operations. The progressive improvement in processing times throughout the study period suggests a learning curve effect, where both staff and systems became more efficient with increased usage and familiarity.

The multilingual capabilities of AI systems have proven especially valuable, with translation services handling 28 languages at an accuracy rate of 98.7%. This finding supports Kusumanegara et al.'s (2024) research on AI's role in breaking down language barriers in tourism. The ability to provide instant, accurate translations across various document types and communications has significantly enhanced the hotel's capacity to serve international guests effectively. The document processing metrics, showing 99.2% accuracy across various document types, demonstrate the systems' reliability in handling critical administrative tasks. This high accuracy rate, combined with processing times as low as 12 seconds per document, represents a significant improvement over traditional manual processing methods. These findings support Anwar et al.'s (2024) research on digital transformation in hospitality, highlighting the potential for AI to dramatically improve operational efficiency. Internal communication improvements, evidenced by a 32% time savings and high efficiency rates across all communication types, indicate enhanced organizational coordination. The system's ability to manage various communication categories, from staff updates to department memos, with efficiency rates above 96%, suggests that AI can effectively support complex organizational communication needs, as proposed by Fahad et al. (2024) and Kumar et al. (2024).

Staff adaptation to AI technology revealed an interesting pattern. Initial hesitation gradually gave way to widespread acceptance as employees witnessed the systems' benefits in reducing routine tasks and enabling more personalized guest interactions. This transition aligns with Singh and Singh's (2024) observations that AI empowers hotel staff rather than replacing them. The successful integration led to improved job satisfaction and more efficient team collaboration, suggesting that proper implementation strategies can overcome initial resistance to technological change. Although the study acknowledges initial resistance

among employees to AI integration, further exploration of their specific concerns could provide deeper insights into the challenges faced during implementation. Some staff may have experienced difficulties in learning AI tools, particularly if they lacked prior experience with digital systems or felt overwhelmed by the transition from traditional service methods to AI-assisted operations. Scepticism regarding AI's ability to handle guest interactions effectively may have also contributed to hesitation, as employees could have questioned whether AI could adequately address complex guest needs or provide the same level of personalized service. While the study notes that comprehensive training and gradual implementation helped staff adapt, it remains unclear whether these programmes were entirely sufficient to alleviate concerns or if certain employees continued to struggle with AI usage. Buhalis et al. (2024) and M'hamed and Idrissi (2024) suggest that AI adoption in hospitality requires continuous training and ongoing support to ensure seamless integration and sustained employee confidence. Moreover, Kwong et al. (2024) and Sharma et al. (2025) highlight the importance of incorporating AI ethics training into hotel programmes to ensure that staff understand the ethical implications of AI use, particularly in guest interactions and data handling. Future research could explore long-term staff adaptation, the effectiveness of different training models, and the role of managerial support in fostering AI acceptance within the hospitality workforce.

In addition, guest satisfaction metrics demonstrated remarkable improvement, with overall satisfaction increasing from 4.6 to 4.8 out of 5. This enhancement can be attributed to faster response times and more accurate service delivery, supporting Rather's (2024) findings on AI's positive impact on guest experiences. The particularly high scores in communication clarity (4.9/5) demonstrate the AI systems' effectiveness in providing consistent, accurate information across multiple languages, addressing a critical need in international tourism destinations. While the study highlights a significant increase in guest satisfaction following the implementation of ChatGPT and Gemini, it is important to consider potential concerns regarding AI-driven interactions. One possible drawback is that

AI-generated responses, despite their efficiency and accuracy, may sometimes feel impersonal or lack the warmth of human interaction—a critical component of hospitality service. Additionally, AI systems, though highly advanced, are not infallible and may occasionally misinterpret guest requests or provide responses that do not fully address a guest's specific needs, leading to frustration. Some guests may also prefer human interaction over AI-driven assistance, particularly for complex or emotionally sensitive requests where empathy and personalized service are essential, in line with Inavolu (2024). Although the study does not report any significant guest complaints related to AI interactions, this absence of recorded dissatisfaction may be considered a limitation. Future research could address this gap by conducting detailed guest feedback analyses to assess whether AI responses meet guest expectations in both accuracy and service quality, ensuring that AI implementation enhances rather than detracts from the overall hospitality experience.

Furthermore, the results raise important considerations for industry practitioners. The successful implementation of AI systems requires careful attention to staff training, system integration, and change management strategies. The gradual improvement in performance metrics suggests that hotels should anticipate an adjustment period when adopting similar systems and plan accordingly. Additionally, the findings indicate that AI should be viewed as a complementary tool rather than a replacement for human service elements. The highest guest satisfaction scores were achieved through a combination of AI efficiency and enhanced human interaction, supporting Zahidi et al.'s (2024) assertion that AI should augment rather than replace human service in hospitality settings.

## Conclusion

This research provides compelling empirical evidence of the transformative impact of AI technologies, specifically ChatGPT and Gemini, in the hospitality industry through a detailed case study at a 4-star hotel in Ao Nang, Krabi in Thailand. The implementation demonstrated significant operational improvements, particularly in check-in processing efficiency and AI system adoption throughout the study period. In

addition, guest satisfaction metrics showed notable enhancements across all dimensions, with the most pronounced improvements in overall satisfaction and communication clarity. The systems' multilingual capabilities proved highly valuable, supporting multiple languages with high accuracy and facilitating seamless communication with international guests. Moreover, document processing efficiency saw substantial gains, while internal communications benefited from notable time savings across all departments. The successful implementation offered critical insights into change management and staff adaptation. Initial hesitation among staff was overcome through comprehensive training and a phased implementation approach, resulting in improved job satisfaction and more effective team collaboration. These findings underscore that, when properly implemented, AI technologies can significantly enhance both operational efficiency and guest satisfaction, fostering customer loyalty and driving high business performance while complementing, rather than replacing, human service elements.

## Research Implications

From a theoretical perspective, this research advances our understanding of AI integration in hospitality management. The findings validate and extend existing theories about technological adoption in service industries, particularly regarding the relationship between AI implementation and service quality enhancement. The study provides empirical evidence supporting theoretical frameworks on the role of AI in improving operational efficiency while maintaining service quality. Additionally, the research contributes to theoretical discourse on change management in technology adoption, demonstrating how appropriate training and gradual implementation can overcome initial resistance to technological change. From a practical standpoint, this research offers valuable insights for hospitality managers and practitioners. The documented improvements in operational efficiency and guest satisfaction present a compelling business case for AI adoption. The study provides a practical blueprint for implementation, highlighting the importance of comprehensive staff training, gradual system integration, and careful attention to chan-

ge management strategies. The success in enhancing both operational efficiency and guest satisfaction demonstrates the potential benefits for hotels willing to embrace AI technology.

#### *Limitations and Suggestions for Future Research*

This study has limitations that should be considered when interpreting the results. The relatively short study period, while providing valuable insights, may not capture long-term trends or seasonal variations in hotel operations and guest behaviour. The focus on a single four-star hotel in Ao Nang limits the generalizability of results to different hotel categories or geographical locations. Additionally, the study period coincided with a period of increasing occupancy rates, which may have influenced the observed improvements in operational metrics. Future research should address these limitations through several approaches. Long-term longitudinal studies across diverse hotel categories would provide more comprehensive insights into the sustained impact of AI implementation. Research comparing AI adoption across different geographical locations and market segments would help understand how cultural and market factors influence implementation success. Additionally, studies focusing on specific aspects of AI implementation, such as staff training methodologies or system integration strategies, would provide valuable practical guidance for the industry. Investigation into the optimal balance between AI automation and human service elements would benefit from further research, particularly in different cultural contexts and service categories. Research into the impact of AI implementation on staff retention, job satisfaction, and career development would provide valuable insights for human resource management in the hospitality industry. These suggested research directions would contribute to a more comprehensive understanding of AI's role in hospitality management and provide practical guidance for industry stakeholders as they navigate the ongoing digital transformation of the sector.

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# Insights into Slovenian Hospitality SME Managers' Attitudes toward AI

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This study explores the attitudes of Slovenian hospitality SME managers toward artificial intelligence (AI), with a focus on how their demographic characteristics (DC) and the physical characteristics (PC) of SMEs influence these attitudes. The study used a structured questionnaire and convenience sampling. Using data from 288 managers, it identifies both positive and negative perspectives on AI within a sector undergoing digital transformation.

The findings reveal quite balanced attitudes, with both positive and negative experiences being recognized, though there is a slight tendency towards a more negative perspective. Managers' DC play a more significant role in shaping attitudes than SMEs' PC. Younger and less experienced managers tend to be more optimistic and enthusiastic about AI adoption, while older and more experienced managers are generally more sceptical. Family-owned businesses, which represent 61% of the sample, recognize some of AI's potential benefits but primarily express more concerns about its use compared to non-family-owned businesses. SMEs with more employees and those operating in more competitive environments demonstrate a stronger propensity to adopt AI.

This study highlights key barriers to AI adoption in hospitality SMEs, emphasizing the need for targeted education and training programmes, particularly for older managers and those with limited exposure to digital (AI) tools. Promoting awareness of AI's benefits through practical demonstrations and best practice examples can reduce resistance and foster more positive attitudes. By addressing these challenges, the hospitality sector can enhance its digital transformation in an increasingly technology-driven environment.

**Keywords:** artificial intelligence, attitudes, hospitality, managers, SMEs, Slovenia



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## Introduction

Tourism plays a vital role in the European Union's (EU) economy, contributing 10% to its GDP (Pernice & Kuzhym, 2024). Notably, over 99% of businesses in the EU tourism sector are small and medium-sized enterprises (SMEs) (European Court of Auditors, 2021). Similarly, in Slovenia, tourism accounted for 9.2% of the country's GDP in 2023, with SMEs repre-

senting 99.8% of all companies (Republic of Slovenia, 2024). Recognizing the critical role of SMEs in driving economic growth, the EU Commission has prioritized the development of artificial intelligence (AI) skills among these enterprises (European Commission, 2024; Ulrich et al., 2021).

As technology advances, AI is transforming industries, positioning the hospitality sector at the crossro-

ads of tradition and innovation. AI refers to a broad range of techniques and tools that enable intelligent systems to perceive their environments and make informed decisions (Artificial Intelligence Act, 2024; Gimpel et al., 2023). While these advancements open doors to innovation, collaboration, and efficiency, they also bring ethical concerns and highlight the need for responsible governance to ensure equitable benefits (Abaddi, 2023; Soudi & Bauters, 2024). Despite challenges, AI is set to drive significant economic and societal progress, offering businesses opportunities to enhance efficiency, foster innovation, and address complex problems through data-driven solutions (Kelly et al., 2023). For hospitality SMES, AI presents substantial potential to improve service delivery. These businesses, often characterized by flat organizational structures and limited financial resources, can leverage AI to automate tasks such as room bookings, self-check-ins/outs, complaint management, and personalized recommendations (Cai et al., 2022; Citak et al., 2021). Restaurants, for instance, can use AI to manage table reservations, provide menu details, take orders, and process payments, ultimately reducing wait times and enhancing guest satisfaction (Tan & Netessine, 2020; Blöcher & Alt, 2021). AI also aids operational efficiency, inventory management, and guest experience enhancement (Bettoni et al., 2021; Ragazou et al., 2023; García-Madurga & Grilló-Méndez, 2023).

However, its adoption is not without challenges, including fears of job displacement, loss of control, and cybersecurity concerns (Saydam et al., 2022). Numerous studies have examined the barriers to AI adoption among SMES, citing issues such as limited knowledge and awareness (Soudi & Bauters, 2024), inadequate skills (Nannelli et al., 2023), high costs and infrastructure limitations (Oldemeyer et al., 2024), and organizational unpreparedness (Lada et al., 2023). Ethical and data security concerns further complicate the AI adoption process (García-Madurga & Grilló-Méndez, 2023). Understanding these challenges is essential for fostering entrepreneurship and economic growth (Abaddi, 2023).

From a theoretical perspective, attitudes play a critical role in shaping intentions to adopt technology, as highlighted in frameworks like the Techno-

logy Acceptance Model (TAM), the Theory of Planned Behaviour (TPB) model, and the Unified Theory of Acceptance and Use of Technology (UTAUT) model (see also the subsection Theoretical Frameworks for Technology Adoption). These models emphasize how different factors influence attitudes toward technology adoption. Recent research has stressed the importance of understanding determinants for effective AI implementation strategies (Kelly et al., 2023). Factors such as psychological needs (Bergdahl et al., 2023), personality traits (Schepman & Rodway, 2023), and perceived benefits (Ragab & Ezzat, 2021) have been identified as significant. However, Filieri et al. (2021) note a lack of empirical research predicting the specific factors influencing AI adoption in hospitality SMES (see also Table 1).

### *Research Gap*

While prior studies have explored AI adoption in large tourism enterprises (Chen et al., 2023; Ivanov & Webster, 2024; Ozdemir et al., 2023) and general (non-hospitality) SMES, a critical unanswered question remains: How do the demographic characteristics (DC) of managers and the physical characteristics (PC) of SMES influence managerial attitudes toward AI in hospitality SMES? Hospitality SMES operate within unique 'guest-oriented' ecosystems, making it difficult to generalize findings from larger tourism enterprises (Lada et al., 2023; Oldemeyer et al., 2024). Ozdemir et al. (2023) describe AI adoption in hospitality SMES as being in its 'infancy stage', noting that models for AI adoption in these businesses are still underdeveloped. Similarly, Gupta (2024) underscores the importance of identifying key factors that facilitate successful AI integration.

Compared to broader research on AI adoption, studies specifically addressing hospitality SMES are sparse. To the best of our knowledge, no research has comprehensively examined hospitality managers' attitudes toward AI nor the impact of managers' DC and SMES' PC on these attitudes. This study seeks to address this gap by: (1) evaluating the level of managers' attitudes toward AI; (2) investigating how managers' DC influence their AI attitudes; and (3) examining the effect of SMES' PC on managerial AI attitudes. Accor-

dingly, we aim to answer the following Research Questions (RQs):

- RQ1 *What is the level of hospitality SME managers' attitudes toward AI?*
- RQ2 *How do managers' DC influence their attitudes toward AI?*
- RQ3 *How do SMEs' PC impact managers' attitudes toward AI?*

This research contributes to the growing body of literature on AI adoption in hospitality SMEs by emphasizing the influence of DC and PC on managerial attitudes toward AI in the case of Slovenia. Theoretically, it integrates DC and PC to offer a nuanced perspective on AI adoption. Practically, it provides actionable insights for policymakers and industry stakeholders, advocating for targeted educational initiatives to cultivate positive managerial attitudes (see also the Discussion and Conclusion sections). Such interventions are critical to overcoming adoption barriers and accelerating the digital transformation of hospitality SMEs.

### **Theoretical Background: AI (R)Evolution In Tourism Research**

In the past decade, tourism research has experienced a significant surge in studies exploring AI. Much of this work has focused on Robots, AI, and Service Automation (also referred to as RAISA), particularly within the hotel and travel sectors, examining perspectives of both guests and service providers (Ivanov & Webster, 2019; Lukanova & Ilieva, 2019; Saydam et al., 2022). Kırtil and Aşkun (2021) reported an impressive annual growth rate of 8.36% in AI-related tourism research since 2017. This growing interest has spurred systematic reviews and bibliometric analyses on AI in tourism (e.g. García-Madurga & Grilló-Méndez, 2023; Kırtil & Aşkun, 2021; Knani et al., 2022; Law et al., 2023; Nannelli et al., 2023; Saydam et al., 2022).

AI has been defined through various lenses, often emphasizing two primary dimensions: cognition (behaviour) and human performance (rationality) (Kelly et al., 2023). The EU Artificial Intelligence Act, implemented in 2024, defines AI as a 'machine-based system that can, for a given set of human-defined objectives, make predictions, recommendations, or

decisions influencing real or virtual environments' (Artificial Intelligence Act, 2024). This study adopts this definition as its conceptual framework.

Although AI research in tourism remains somewhat fragmented (Nannelli et al., 2023), five major AI applications have been identified in the hospitality sector: search and booking engines, virtual assistants and chatbots, robots and autonomous vehicles, kiosks and self-service screens, and augmented/virtual reality (AR/VR) devices (Huang et al., 2021). These applications are used to address key objectives such as forecasting, operational efficiency, enhancing guest experiences, and promoting sustainability (García-Madurga & Grilló-Méndez, 2023).

Research on AI adoption has predominantly highlighted its positive impacts. AI empowers tourism businesses to analyse process-generated data, derive actionable insights, and make data-driven decisions, leading to improved operational efficiency (Doğan & Niyet, 2024; Gupta, 2024). By automating repetitive tasks, AI minimizes human errors and boosts productivity. From a business perspective, it drives growth by increasing sales, expanding market share, and boosting revenue (Liu, 2024; Traversa, 2024). At the guest level, AI enhances satisfaction by optimizing experiences and reducing wait times. For example, smart restaurant technologies streamline the dining process, minimizing human interactions and eliminating queues (Talukder et al., 2023).

However, alongside its benefits, AI adoption also presents ethical, legal, social, and economic challenges. These include concerns about job displacement and the transformation of traditional roles as routine tasks become automated. This shift disproportionately impacts guest service and operational positions, increasing unemployment risks (Du, 2024; Tabbassum et al., 2024).

Despite their critical role in the tourism sector, SMEs demonstrate relatively low rates of AI adoption. SMEs face unique challenges in leveraging AI technologies. Blöcher and Alt (2021) studied AI adoption in the EU restaurant sector, revealing a disconnect between academic enthusiasm and practical application, as managers expressed a need for clearer guidance on harnessing AI's potential. Similarly, Ulrich et al.



(2021) found that German SMEs preferred traditional technologies and exhibited limited engagement with AI. These findings highlight the challenges SMEs encounter in translating AI's theoretical advantages into tangible business outcomes.

Given their distinct characteristics, SMEs require focused attention when examining AI adoption. Unlike larger enterprises, SMEs often operate with constrained resources, flat organizational structures, and limited technological expertise. These factors collectively slow AI adoption rates within the sector. Subsequent sections of this study will delve deeper into the specific factors influencing AI adoption in SMEs, emphasizing opportunities to overcome these challenges and unlock AI's transformative potential for the hospitality industry.

#### *Theoretical Frameworks for Technology Adoption*

Numerous theoretical models have been developed to explore and explain user acceptance of emerging technologies. Key frameworks include the TPB, the TAM (Davis, 1989), the UTAUT (Venkatesh, 2022), and the Diffusion of Innovations Theory. More recently, AI-specific frameworks such as the AI Device Use Acceptance (AIDUA) model (Gursoy et al., 2019) and the Task-Oriented AI Acceptance (T-AIA) model (Yang et al., 2022) have also been proposed. These models provide diverse perspectives on how and why technologies are adopted across various contexts, often emphasizing the interplay of technological, organizational, and environmental factors.

A consistent theme across these frameworks is the pivotal role of attitudes in shaping users' behavioural intentions and subsequent adoption behaviours. For instance, the TPB highlights 'attitudes toward the behaviour' as a crucial factor influencing intentions, which ultimately drives actual behaviour. Similarly, the TAM links attitudes to perceptions of usefulness and ease of use, both of which play a significant role in determining an individual's intention to adopt new technologies (Kelly et al., 2023).

#### *Measuring Attitudes Towards AI: Tools and Scales*

Attitudes are considered a crucial precursor in the technology adoption process across various theore-

tical models (as presented above). Given that implementation models are still evolving, recent state-of-the-art research instruments have been developed to specifically measure attitudes toward AI. These instruments aim to capture the nuances of how individuals and organizations perceive AI and its potential across different contexts, offering valuable insights into the factors that influence AI adoption. By focusing on attitudes, researchers can better understand the psychological and emotional barriers affecting decision-making, ultimately helping to develop more effective strategies for integrating AI into various industries. As AI adoption models continue to evolve, these tools will play a key role in shaping both theory and practice in the field.

These measurement scales assess attitudes toward AI in diverse contexts and populations, aiming to capture the multifaceted perceptions individuals hold and thereby facilitating a deeper understanding of AI's acceptance and integration.

For example, the ATTARI-WHE scale was developed to assess attitudes toward AI in the workplace, healthcare, and education (Gnambs et al., 2025). Similarly, the ATTARI-12, introduced by Stein et al. (2024), is a psychologically grounded questionnaire that examines attitudes toward AI as a unified construct, independent of specific contexts or applications. The AI Attitude Scale (AIAS-4) is a concise instrument consisting of four items, focusing on general attitudes toward AI and evaluating its perceived utility and societal impact (Grassini, 2023). Additionally, the MAL-L:AI Scale was developed to measure attitudes toward AI in language learning (Yıldız, 2023).

Finally, the General Attitudes towards Artificial Intelligence Scale (GAAIS) is a valuable tool for analysing attitudes toward AI, due to its robust psychometric properties and ability to capture the complexity of public sentiment. This 20-item scale (Schepman & Rodway, 2023) effectively differentiates between positive and negative attitudes, enabling researchers to explore various factors influencing these attitudes (Şahin & Yıldırım, 2024). The GAAIS has also been adapted for use in different cultures, confirming its cross-cultural applicability and relevance in diverse research contexts (Kaya et al., 2024).

### *The Spectrum of Attitudes Towards AI: Insights from Diverse Research Contexts*

Understanding attitudes towards AI is complex, influenced by various factors such as demographics, emotional responses, and individual personality traits. Recent research highlights a wide range of emotions towards AI, with both optimism and scepticism often shaped by personal experiences and perceptions of AI's impact on different aspects of life.

For example, Stein et al. (2024) analysed data from U.S. panel participants and German social science students, focusing on the predictive role of personality traits, such as the Big Five, the Dark Triad, and conspiracy mentality. Their findings indicated that individuals who are more agreeable and younger tend to have more favourable attitudes towards AI, while those with a propensity for conspiracy beliefs tend to view AI more negatively. This underscores the significant influence personality traits have on perceptions of AI.

In addition, Park et al. (2024) investigated the role of perceived human-likeness and concerns about job security. Their study, which surveyed 2,841 participants from various work environments, found that feelings of personal utility and adaptability were crucial in shaping attitudes towards AI in professional settings. These studies collectively highlight the complex relationship between individual differences and broader socio-economic factors in shaping attitudes toward AI, stressing the importance of understanding these dynamics to foster positive engagement with emerging technologies.

Cultural and gender dimensions also emerge as key factors. An extensive survey by Méndez-Suárez et al. (2024) of 20,671 European consumers revealed that men generally hold more favourable views of AI than women. Furthermore, respondents from East Asian countries expressed greater trust in AI management systems compared to those from Western nations, illustrating the influence of cultural contexts on AI perceptions.

Managerial attitudes are also crucial for AI adoption within organizations. Majrashi (2024), in a survey of 330 public sector managers in the United States, found that perceptions of AI's usefulness and ethical con-

cerns, such as transparency and privacy, were pivotal in shaping their intentions to adopt AI technologies. This emphasizes the need to address ethical concerns to build trust in AI systems. Similarly, Brink et al. (2023) examined managerial attitudes across sectors in the Netherlands and identified four key factors influencing AI adoption: demographics, familiarity, psychological traits, and personality. Their study highlighted the importance of transparent communication, tailored training, and user involvement in the design process to enhance AI acceptance.

Addressing anxieties about AI is also essential for improving attitudes. Kaya et al. (2024) found in their study of Turkish respondents that increased familiarity with AI technologies and reduced anxiety significantly predicted more favourable attitudes. These findings suggest that targeted educational initiatives and ethical implementation practices are critical for building trust and acceptance.

Together, these studies illustrate how attitudes towards AI are shaped by a combination of demographic, cultural, and psychological factors.

### *Factors Influencing AI Attitudes in SMEs: Insights from Recent Studies*

The table below presents state-of-the-art research studies examining the primary factors influencing attitudes towards AI in SMEs.

As demonstrated by the table above, the reviewed studies highlight various factors influencing attitudes toward AI adoption in SMEs, but there is limited emphasis on DC and PC. Interestingly, the literature reveals a gap in research focusing specifically on hospitality SMEs, indicating the need for more targeted studies in this area.

In terms of PC, the studies identify an interplay of various factors, including technical, organizational, and environmental challenges. Technical challenges, such as inadequate infrastructure, are frequently cited as barriers to AI adoption (e.g. Oldemeyer et al., 2024; Vogel et al., 2023). Firm size is another important factor influencing managerial attitudes toward AI adoption. Larger firms often face more complex operational challenges, making AI solutions more attractive for enhancing efficiency and maintaining a compe-

Table 1 Factors Influencing AI Attitudes

Author(s)	Sample	Main findings (influencing factors)
Iyelolu et al., 2024	Literature review study	Resistance to change, lack of technical expertise, and data security concerns, which hinder adoption and innovation.
Wong & Yap, 2024	Respondents from Malaysian MSMEs (n = 196)	Compatibility, top management support, alignment with business strategy, organizational resources, competitive pressure, and government regulations.
Schwaeye et al., 2024	Literature review study	A complex interplay of cultural factors, knowledge factors, and competitive pressures.
Badghish & Soomro, 2024	Managers from six different sectors in Saudi Arabia (n = 220)	Relative advantage, compatibility, sustainable human capital, market and customer demand, and government support.
Almashawreh et al., 2024	SME owner-managers in Jordan (n = 364)	Relative advantage, complexity, top management commitment, and organizational preparedness.
Agrawal et al., 2024	Indonesian SMEs (n = 292)	Technological, organizational, and environmental factors primarily influence attitudes, shaping their decision-making processes and competitive advantage in the market.
Oldemeyer et al., 2024	Literature review study	Lack of knowledge, costs, and inadequate infrastructure, encompassing social, economic, and technological challenges.
Bak et al., 2024	Literature review study	Strategy and business model, culture and attitude, resources, support, entrepreneurship and innovation, competitive position, and environmental conditions.
Charllo, 2024	SME representatives (n = 498) in the USA. Study results presentation using secondary data.	Lack of expertise, funding constraints, and data privacy concerns hinder.
Lada et al., 2023	Owners or managers of different SMEs in Sabah, Malaysia (n = 196)	Top management commitment and organization readiness significantly influences attitudes. In contrast, competitive pressure, employee adaptability, and external support show an insignificant impact.
Rawashdeh et al., 2023	SME owners and managers in the United States (n = 353)	The study identifies technological factors influencing AI adoption, highlighting the mediating role of accounting automation. Key variables include time-saving and efficiency improvements, which significantly impact attitudes.
Vogel et al., 2023	Literature review study	Fear of job loss, lack of AI experience, insufficient infrastructure, and the need for increased understanding of AI contribute to negative attitudes.

Note Summarized by authors from listed sources.

titive advantage (Agrawal et al., 2024). On the other hand, smaller firms tend to exhibit more scepticism toward AI, primarily due to perceived complexity and resource constraints, which inhibit technological advancement and the adoption of new technologies (Ivanov & Webster, 2024). As a result, smaller firms

may lag behind larger firms in utilizing AI for operational improvements.

Despite the rich body of research on factors influencing AI attitudes, the role of managers' DC and SMEs' PC, especially in hospitality SMEs, remains underexplored. Schwaeye et al. (2024) noted that the

current literature on SMEs presents a fragmented understanding of how these enterprises engage with AI technologies. This gap needs to be addressed in future studies to gain a clearer understanding of the specific barriers faced by hospitality SMEs and to identify ways to overcome them.

## Methods

### *Research Process, Instrument Design, and Data Analyses*

The variables included in the research instrument were carefully selected and adapted from prior studies. Considering the topic's novelty and evolving nature, an extensive review of recent literature was conducted using major academic databases. The review focused on tourism and SME-related research over the past five years, employing keywords such as *attitudes*, *AI*, *digitalization*, *hospitality*, and *SMEs*. Attitudes toward AI were measured using the 20-item GAAIS scale (Schepman & Rodway, 2023). The positive attitudes subscale includes 12 items, and the negative attitudes subscale includes 8 items (statements). Responses were recorded on a five-point Likert-type ordinal scale, ranging from 1 (*Strongly Disagree*) to 5 (*Strongly Agree*), with reverse scoring applied to negative subscale items to ensure consistency in analysis (see Table 2).

To provide insights into AI adoption, managers' demographic characteristics were collected using variables such as age, gender, education, years of experience in the industry, and managerial function (Kukanja et al., 2023). Additionally, physical characteristics of SMEs were collected using variables such as years of business activity, number of employees, family business status, number of competitors, capacity (number of seats/beds), and potential rent payments. These variables were introduced from previous studies (Planinc et al., 2022; Kukanja et al., 2023).

The data were analysed using IBM SPSS 29.0, with descriptive statistics (*M* – mean value, and *SD* – standard deviation) employed to summarize the key characteristics of the sample and variables, and bivariate analysis conducted to explore the impact of DC and PC on AI attitudes. Based on the type of variables and the data distribution, we applied appropriate statistical tests: Spearman's rank correlation coefficient to assess the relationships between two ordinal variables

or a combination of ordinal and numerical variables, the Kruskal-Wallis test (*H* test statistic) to compare differences in ordinal data across more than two independent groups, and the Mann-Whitney test (*U* test statistic) to compare differences in ordinal data between two independent groups. This comprehensive approach ensured a robust statistical analysis of the relationships between attitudes, managers' DC, and SMEs' PC.

### *Sample Description and Data Collection Process*

The sample for this study comprised SMEs operating in the Republic of Slovenia. These were specifically classified under the EU's standard NACE categories I55 (accommodation) and I56 (food and beverage service activities). According to the official business register (AJPES, n.d.), there were 8,303 businesses in these categories as of 2023.

Given the diverse nature of SMEs, which often engage in multiple business activities and span various subcategories, direct comparisons can be challenging. To address this, the study focused on SMEs whose operational revenue was exclusively derived from I55 and I56 activities. The selected sample emphasized businesses with similar operational characteristics, such as those providing 'traditional' bed accommodations (e.g. hotels, motels, and bed & breakfasts) and table service facilities (e.g. restaurants, inns, and snack bars). This approach ensured a more uniform sample, enabling more accurate comparisons within the targeted sector.

Due to the absence of detailed official data on the characteristics of hospitality SMEs, a convenience sampling method was employed, as explained later in the study. Data collection took place between January and July 2023. The process began by pre-screening public records to identify eligible SMEs, excluding those that did not meet the inclusion criteria of I55 and I56 classifications.

As in previous studies (e.g. Lada et al., 2023; Planinc et al., 2022; Kukanja et al., 2023), the respondents selected were managers or owner-managers, as they are the primary decision-makers regarding technology adoption. Respondents were required to confirm that their businesses primarily operate in the food

Table 2 Mean Values for GAAIS Items

Item code	Attitude towards AI	M	SD
A14	There are many useful applications of AI (+)	3.36	1.142
A03	Organizations use AI unethically (-)	3.17	1.141
A19	People like me will suffer if AI use increases (-)	3.16	1.314
A08	AI is sinister (-)	3.15	1.219
A05	I am excited about what AI can do (+)	3.06	1.318
A15	I get chills thinking about AI use in the future (-)	3.03	1.313
A17	Society will benefit from AI in the future (+)	2.98	1.148
A20	AI is used for spying on people (-)	2.98	1.331
A12	AI is exciting (+)	2.97	1.157
A02	AI can provide new economic opportunities (+)	2.94	1.237
A09	AI could take control over people (-)	2.94	1.418
A10	I think AI is dangerous (-)	2.91	1.288
A06	AI systems make many mistakes (-)	2.90	1.113
A11	AI can positively impact people's well-being (+)	2.88	1.054
A07	Interest in using AI in daily life (+)	2.55	1.232
A16	AI systems can perform better than humans (+)	2.48	1.226
A04	AI systems can help people feel happier (+)	2.43	1.209
A13	AI would be better than employees (+)	2.43	1.320
A18	I would like to use AI at work (+)	2.35	1.249
A01	I prefer using AI systems over humans (+)	1.98	1.265
Average		2.83	1.281

*Note* Positive and negative items are marked with the positive (+) or negative (-) sign. Prior to processing, the negative GAAIS items were reverse-scored (1 = Strongly agree; 5 = Strongly disagree). Thus, higher scores on each subscale represent more positive attitudes. Items are sorted by mean values in descending order.

(I55) or accommodation (I56) service sectors and generate the majority of their operating revenue from these activities. If a facility failed to meet the inclusion criteria or if a manager declined to participate, interviewers moved on to the next eligible facility.

By the conclusion of the data collection period, the study had sampled 288 SMEs, representing 3.46% of the total population in the I55–56 classifications. While this sample size offers a solid foundation for analysis, it may limit the generalizability of the findings to the broader population of hospitality SMEs (see also the Conclusion section).

## Results

### Sample Characteristics

The demographic data reveal that 66% of respondents (Slovenian hospitality SME managers) were men, and

the majority had completed at least secondary education (56%), with an additional 42% having attained an even higher level of education. The average age of the respondents was 44.53 years ( $SD = 10.31$ ). In terms of experience in the hospitality industry, respondents had an average of 21.06 years of experience ( $SD = 10.86$ ).

Regarding SMEs' PC, the average duration of business activity was 23.37 years ( $SD = 27.78$ ). A significant proportion of SMEs (70%) are managed by managers who are also their owners, indicating a strong entrepreneurial spirit. Additionally, 61% of all SMEs are family-owned businesses. The average number of employees was 14.10 ( $SD = 31.33$ ), the average number of competitors was 3.96 ( $SD = 4.74$ ), the average number of seats/beds was 101.39 ( $SD = 116.14$ ), and 43% of respondents reported paying rent, while the remaining 57% did not.



Table 3 Statistical relationships between managers' demographic characteristics and their AI attitudes

Item	Age		Gender		Education		Years of exp.		Managerial function	
	$r_s$	Sig.	U	Sig.	H	Sig.	$r_s$	Sig.	U	Sig.
A01	<b>-0.117</b>	<b>0.048</b>	8776.5	0.519	2.028	0.363	<b>-0.165</b>	<b>0.005</b>	7809.5	0.170
A02	-0.092	0.122	<b>7538.0</b>	<b>0.011</b>	1.452	0.484	-0.110	0.064	<b>6823.5</b>	<b>0.004</b>
A03	-0.024	0.682	8507.5	0.367	0.049	0.976	0.024	0.687	8021.0	0.455
A04	-0.100	0.094	7980.5	0.085	<b>6.445</b>	<b>0.040</b>	<b>-0.131</b>	<b>0.028</b>	7821.0	0.250
A05	<b>-0.196</b>	<b>0.001</b>	8187.0	0.130	4.479	0.107	<b>-0.232</b>	<b>0.000</b>	<b>6315.5</b>	<b>0.001</b>
A06	0.020	0.734	8730.0	0.583	1.491	0.474	0.021	0.724	<b>7265.5</b>	<b>0.036</b>
A07	-0.101	0.088	8038.0	0.080	<b>8.080</b>	<b>0.018</b>	<b>-0.165</b>	<b>0.005</b>	<b>6634.0</b>	<b>0.001</b>
A08	<b>-0.050</b>	<b>0.403</b>	9055.0	0.919	3.932	0.140	-0.037	0.537	8427.0	0.817
A09	<b>-0.142</b>	<b>0.016</b>	9131.5	0.955	3.209	0.201	<b>-0.134</b>	<b>0.024</b>	8353.0	0.679
A10	-0.132	0.026	8732.0	0.597	1.935	0.380	-0.111	0.062	8212.5	0.613
A11	-0.094	0.112	<b>7333.5</b>	<b>0.005</b>	5.039	0.081	<b>-0.137</b>	<b>0.022</b>	<b>7245.0</b>	<b>0.033</b>
A12	-0.066	0.266	8562.0	0.381	0.597	0.742	-0.080	0.179	<b>6777.5</b>	<b>0.004</b>
A13	-0.084	0.158	<b>7865.5</b>	<b>0.050</b>	4.819	0.090	-0.072	0.230	8331.5	0.767
A14	<b>-0.142</b>	<b>0.017</b>	8493.0	0.400	4.063	0.131	<b>-0.144</b>	<b>0.015</b>	<b>7225.5</b>	<b>0.041</b>
A15	<b>-0.156</b>	<b>0.008</b>	8271.0	0.164	2.858	0.240	<b>-0.120</b>	<b>0.043</b>	7767.0	0.174
A16	-0.100	0.093	<b>6856.5</b>	<b>0.001</b>	4.349	0.114	-0.047	0.437	8265.0	0.789
A17	-0.028	0.635	8575.0	0.388	<b>6.316</b>	<b>0.043</b>	-0.077	0.194	8035.0	0.381
A18	<b>-0.139</b>	<b>0.019</b>	8398.5	0.230	<b>13.596</b>	<b>0.001</b>	<b>-0.158</b>	<b>0.007</b>	7682.5	0.132
A19	-0.086	0.147	9154.0	0.983	0.169	0.919	-0.040	0.502	<b>7382.0</b>	<b>0.048</b>
A20	<b>-0.125</b>	<b>0.034</b>	8116.5	0.117	1.879	0.391	-0.085	0.153	7551.0	0.099

Note Statistically significant relationships ( $p \leq 0.05$ ) are marked in bold.

#### Statistical Analyses to Answer Research Questions

The results presented in Table 2 provide the answer to RQ1. The study evaluated the values for GAAIS items by calculating mean values and standard deviations. Negative attitudes were reverse scored. The overall mean score for attitudes indicated a slightly negative, yet close to neutral managerial attitude towards AI ( $M=2.83$ ), with quite a few differences between managers' opinions ( $SD=1.28$ ).

The Slovenian hospitality SME managers mostly agreed ( $M=3.36$ ) that there are many useful applications of AI (A14). On average, they agreed slightly less that organizations use AI ethically (A03), that people like them will not suffer if AI use increases (A19), and that AI is not sinister (A08). On the other hand, they least agreed ( $M=1.98$ ) that they prefer using

AI systems over humans (A01) and slightly more ( $M=2.35$ ) that they would like to use AI at work (A18).

In general, negative items (reverse scored) achieved slightly higher average ratings ( $M=3.03$ ,  $SD=1.27$ ) than positive items ( $M=2.70$ ,  $SD=1.21$ ). The highest-rated positive item was A14 ('There are many useful applications of AI') and the highest-rated negative item was A03 (reverse statement: 'Organizations use AI ethically'). In contrast, the lowest-rated positive item was A01 ('I prefer using AI systems over humans') and the lowest negative item was A06 (reverse statement: 'AI systems make few mistakes').

Next, statistical relationships between managers' DC and AI attitudes were calculated to answer RQ2.

The results presented in Table 3 demonstrate that managers' attitudes towards AI are significantly influ-

Table 4 Statistical relationships between SMEs' physical characteristics and managers' AI attitudes

Item	Years of busin. activ.		No. of employees		Family business		No. of competitors		Capacity		Rent	
	$r_s$	Sig.	$r_s$	Sig.	U	Sig.	$r_s$	Sig.	$r_s$	Sig.	U	Sig.
A01	-0.036	0.545	<b>0.167</b>	<b>0.005</b>	8777.0	0.122	0.020	0.744	-0.066	0.270	9969.0	0.906
A02	-0.063	0.292	0.115	0.055	<b>7947.5</b>	<b>0.007</b>	0.037	0.544	-0.001	0.984	9304.0	0.270
A03	0.032	0.592	-0.004	0.949	9245.5	0.613	0.086	0.154	0.037	0.535	9732.5	0.774
A04	-0.065	0.280	0.006	0.923	8629.5	0.136	0.065	0.278	<b>-0.125</b>	<b>0.037</b>	9456.5	0.484
A05	-0.058	0.329	<b>0.167</b>	<b>0.005</b>	<b>8427.5</b>	<b>0.048</b>	0.043	0.476	0.022	0.717	8945.0	0.105
A06	0.008	0.888	0.021	0.724	8489.5	0.083	<b>0.161</b>	<b>0.007</b>	-0.011	0.850	9849.5	0.936
A07	-0.036	0.549	<b>0.162</b>	<b>0.007</b>	<b>8108.0</b>	<b>0.014</b>	<b>0.118</b>	<b>0.050</b>	0.056	0.350	9206.5	0.214
A08	0.042	0.481	<b>0.132</b>	<b>0.028</b>	9097.0	0.392	<b>0.125</b>	<b>0.038</b>	0.071	0.240	8959.0	0.124
A09	0.011	0.853	0.082	0.174	9327.0	0.533	<b>0.121</b>	<b>0.044</b>	-0.056	0.351	9581.0	0.495
A10	0.004	0.946	0.087	0.149	8444.0	0.079	<b>0.155</b>	<b>0.010</b>	0.010	0.864	9405.5	0.443
A11	-0.088	0.142	-0.069	0.255	8817.0	0.219	0.027	0.655	-0.036	0.551	8706.0	0.061
A12	-0.112	0.060	0.003	0.955	9475.5	0.781	0.045	0.457	-0.023	0.704	8785.0	0.072
A13	-0.068	0.255	0.092	0.127	8469.5	0.070	0.056	0.352	0.003	0.965	9335.0	0.332
A14	-0.011	0.850	0.079	0.190	8537.5	0.102	-0.036	0.549	0.040	0.503	<b>7319.5</b>	<b>0.000</b>
A15	-0.009	0.875	<b>0.166</b>	<b>0.006</b>	<b>8096.0</b>	<b>0.013</b>	0.098	0.103	0.015	0.804	<b>8468.0</b>	<b>0.019</b>
A16	-0.080	0.179	-0.028	0.646	8796.0	0.249	-0.071	0.241	-0.014	0.812	9088.5	0.244
A17	-0.039	0.510	-0.026	0.671	8671.5	0.129	0.034	0.576	-0.023	0.698	9226.5	0.252
A18	-0.041	0.487	<b>0.127</b>	<b>0.034</b>	<b>8052.5</b>	<b>0.010</b>	0.102	0.088	-0.050	0.404	9509.5	0.424
A19	0.060	0.311	<b>0.125</b>	<b>0.038</b>	<b>8419.5</b>	<b>0.046</b>	<b>0.124</b>	<b>0.038</b>	-0.026	0.665	9471.5	0.396
A20	0.043	0.467	<b>0.125</b>	<b>0.038</b>	8390.5	0.054	0.117	0.053	-0.016	0.788	9075.5	0.175

Note Statistically significant relationships ( $p \leq 0.05$ ) are marked in bold.

enced by DC. Nearly all items are affected by at least one DC. Some DC, such as age, years of experience, and managerial function, have a more pronounced impact. On the other hand, each DC influences only certain items, but not more than half of them.

Negative correlations ( $r_s$ ) across all eight statistically significant items related to age, clearly indicate that attitudes towards AI are inversely proportional to experience. Results reveal that younger managers express greater enthusiasm, willingness and optimism regarding the use of AI (A01, A05, A09, A10, A14, A15, A18, A20), while older respondents are more sceptical about its benefits. However, the strength of these correlations is relatively weak, although they remain statistically significant.

Regarding years of experience, all statistically significant correlations are also negative, indicating that managers with shorter tenure are more positive towards AI (A01, A04, A05, A07, A09, A11, A14, A15, A18). The strength of these correlations is, again, relatively weak.

Regarding managerial function, the tests reveal statistically significant differences for certain items. Additional analysis of the average ranges across groups (detailed data are omitted due to space constraints) shows that managers who are also SME owners exhibit a somewhat more conservative approach towards the use of AI (A02, A05, A06, A07, A11, A12, A14, A19) compared to managers hired as external professionals.

Regarding gender and education, statistically significant differences are less pronounced. However, some differences are still present, and in those cases, further analysis of the average ranges across groups reveals that women express less agreement regarding the positive effects of AI usage than men (A02, A11, A13, A16), and higher education is associated with greater confidence in the potential of AI and recognition of its benefits (A04, A07, A17, A18).

In the last step, to answer RQ3, statistical relationships between attitudes and PC of hospitality SMEs were calculated.

From Table 4, it is evident that PC variables generally have a less pronounced influence on shaping managers' attitudes compared to DC variables. Some PC variables have no impact at all (years of business activity), others affect only one or two items (capacity and rent), while some do exhibit influence, but not on more than half of the items.

Positive correlations ( $r_s$ ) for statistically significant items related to the number of employees and the number of competitors clearly indicate that managers in companies with a larger number of employees are more willing to adopt AI (A01, A05, A07, A08, A15, A18, A19, A20), and similarly, managers in SMEs operating in more competitive environments are also more willing to adopt AI (A06, A07, A08, A09, A10, A19). However, the strength of these statistically significant correlations is relatively weak.

Regarding company ownership, the tests reveal statistically significant differences for certain items (A02, A05, A07, A15, A18, A19). Further analysis of the average ranges across groups (detailed data are omitted due to space constraints) shows that managers from family-owned businesses exhibit a more conservative approach towards AI adoption compared to those from non-family-owned businesses.

## Discussion

Our findings provide valuable insights into the adoption of AI within hospitality SMEs, a sector undergoing rapid digital transformation. Despite the potential of AI to enhance guest experiences and streamline operational processes, adoption rates among these

businesses remain notably low, highlighting persistent challenges in integrating AI technologies.

The analysis of Slovenian hospitality SMEs managers' attitudes toward AI (see Table 1) revealed a fragmented understanding and insufficient theoretical frameworks tailored to hospitality SMEs. The scarcity of research focusing on hospitality SMEs limits the applicability of broader SME studies' results to this unique ecosystem. Accordingly, this study aimed to examine hospitality managers' attitudes toward AI, exploring how DC and PC influence these attitudes.

Our research results show that managers' attitudes toward AI are slightly negative, yet close to neutral. This highlights the pressing need for industry-specific education and capacity-building efforts. Our results contrast with Schepman and Rodway (2023), who reported more favourable attitudes toward AI in a broader SME context. While direct comparisons are limited by the lack of existing studies specific to hospitality SMEs, our findings emphasize the critical role of attitudes in AI adoption (see also the subsection Theoretical Frameworks for Technology Adoption). The observed negative attitudes highlight a need for targeted interventions, such as education, best-practice showcases, and emphasizing AI's benefits, to foster more positive perceptions (see also the Conclusion section).

DC emerged as a more important factor, having a greater statistically significant influence on the items related to attitudes toward AI. Younger managers tend to be more receptive to AI than older, more experienced counterparts, especially those who do not own the business. This hesitancy among older managers may stem from entrenched management practices and values, such as the mindset of 'we have always done it this way'. Cultural and managerial factors, including a prioritization of personalized guest service over technological innovation, might further exacerbate this resistance. Our findings also suggest that women are less likely to agree on AI's benefits. Additionally, industry-specific challenges – such as the labour-intensive nature of hospitality, reliance on a seasonal and less-educated workforce, and operational complexities – may amplify these negative attitudes. Our research shows that higher education levels seem to

contribute to more favourable attitudes toward AI. Educational initiatives could promote a more positive stance toward AI.

The influence of PC is less pronounced than that of DC. Nonetheless, larger SMEs and those operating in more competitive environments show greater awareness of AI's potential. On the other hand, managers of family-owned businesses, which comprised 61% of our sample, exhibit caution in adopting AI, potentially reverting to traditional hospitality approaches.

AI, however, does not need to disrupt the provider-guest relationships. Instead, it can enhance them through tools like Customer Relationship Management (CRM), which personalize guest experiences, improve efficiency, and enable data-driven decision-making (Dwivedi et al., 2023; Ozdemir et al., 2023). AI's role in fostering a 'hybrid intelligence' ecosystem – where humans and AI collaborate – offers a promising pathway for the hospitality sector (García-Madurga & Grilló-Méndez, 2023; Kırtıl & Aşkun, 2021). However, achieving such an ecosystem will require greater investments in employee training and strategic alignment of AI tools with hospitality goals. As Nannelli et al. (2023) note, AI presents vast opportunities, but training is essential to avoid falling behind industry trends as the technology evolves.

Our findings diverge from Ivanov and Webster (2024), who examined attitudes toward AI in the Bulgarian hotel industry. They concluded that demographic and property characteristics did not significantly influence preferences for AI in decision-making, emphasizing instead that general attitudes toward AI were the strongest predictors of adoption. This contrast underscores the complexity of factors affecting AI adoption and the need for further exploration, as cultural and regional factors may also play a role in shaping AI attitudes.

As a relatively under-researched area, further studies are required to deepen our understanding of both attitudes and actual AI implementation in hospitality SMEs. This aligns with Mogaji et al. (2024), who stress the importance of developing nuanced conceptual frameworks in AI research. Importantly, integrating AI into hospitality requires a digitally skilled workforce capable of effectively utilizing and managing these

technologies. Managers, therefore, must focus on empowering their employees with the necessary digital competencies.

This study highlights the relatively low and predominantly negative attitudes toward AI among hospitality SME managers and the significant influence of DC, and partially PC, on these perceptions. Promoting positive attitudes toward AI is crucial for successful adoption. Achieving this will require targeted education, practical demonstrations of AI benefits, and tailored approaches that address DC and PC influences.

As the hospitality industry continues to evolve, managers must adapt by embracing digital transformation and equipping themselves and their employees with the skills necessary for AI integration. We can assume that the dual focus on AI and traditional skills will be critical for SMEs to sustain their competitiveness and meet the expectations of increasingly tech-oriented guests. Doing so will not only enhance their competitiveness but also ensure their long-term sustainability in an increasingly digitalized world.

## Conclusion

At the beginning of this paper, we set out to examine managerial attitudes toward AI (RQ1) and assess the impact of DC and PC of SMEs on these attitudes (RQ2 and RQ3). To achieve these objectives, we conducted a comprehensive literature review to identify key factors influencing AI attitudes in SMEs. Using data collected from 288 respondents (Slovenian hospitality SME managers), we analysed both positive and negative managerial attitudes and tested the relationships between the exogenous variables (DC and PC) and these attitudes.

Our findings indicate that managerial attitudes toward AI are generally slightly negative. We also demonstrated that DC – particularly age, years of experience, and managerial function – and PC – including the number of employees, number of competitors, and the company ownership (family business) – significantly influence these attitudes. Given the specific characteristics of the hospitality sector, our study suggests that improving managerial attitudes toward AI could, in line with the TAM model, enhance AI adoption. Addressing DC and PC factors can help mana-

gers better appreciate the benefits and challenges of AI implementation in SMEs.

Theoretically, this study contributes to the growing body of research on AI in SMEs. Within the relatively underexplored hospitality sector, it provides insights into how DC and PC shape managerial attitudes toward AI. By examining the interplay between family business dynamics, ownership-managerial roles, and attitudes, our research also enriches the literature on digital entrepreneurship in emerging hospitality studies. Furthermore, it underscores the need for a nuanced understanding of how cultural and regional factors might influence these dynamics, particularly in Slovenia, where specific market conditions may shape AI attitudes differently from broader global trends.

Practically, these findings offer actionable recommendations for hospitality managers. Managers must recognize the advantages of digitalization and adopt new technologies to improve both financial and non-financial performance. Addressing the prevailing slightly negative attitudes is critical for fostering a culture of innovation. For instance, educational programmes tailored to older managers or those with limited exposure to digital tools could facilitate more positive perceptions of AI. Encouraging peer-to-peer learning and sharing success stories from early adopters could further reduce resistance to change.

This study also highlights implications for government policy. The significant influence of age, experience, and gender differences on AI attitudes underscores the need for targeted educational initiatives aimed at specific demographic groups of managers. Policymakers and industry stakeholders, in collaboration with academia, should address gaps in AI knowledge and develop a supportive ecosystem to accelerate AI adoption within the sector.

However, this study has several limitations that future research should address. The sample size may restrict the generalizability of the findings, and the use of convenience sampling could affect the representativeness of the sample. Furthermore, the demographic profile of respondents – predominantly men, at least secondary-educated, aged 35–55, with a large proportion of family businesses and owner-managers (70%) – may have influenced the results. The relian-

ce on self-reported data poses another limitation, as survey responses may not fully capture actual behaviours or attitudes. Future research should also explore the potential long-term impact of AI adoption on SME competitiveness, particularly as digital transformation accelerates across industries.

Future research could benefit from broader, more diverse samples and alternative methodologies, such as mixed-methods approaches or case studies, to provide deeper insights. Studies incorporating triangulation among managers, guests, and employees could enhance understanding, especially in a sector where balancing digital and human interactions remains a challenge. Exploring generative AI applications, which are increasingly accessible online, could further illuminate how managers experiment with and perceive AI. Additionally, examining factors that influence AI attitudes across different industries, as identified in prior studies, could help contextualize the unique challenges and opportunities within the hospitality sector.

Finally, future research should address industry-specific factors such as guest orientation and resistance to change, which could significantly shape attitudes toward AI in hospitality SMEs. These efforts align with the EU Commission's initiatives to enhance AI-related skills and digital literacy among SMEs, paving the way for broader adoption and innovation within the sector.

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# Roadmap of Spiritual Pilgrimage Experience Towards Revisit Intention in the Indonesian Wali Songo Pilgrimage

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This study explains the roadmap that connects pilgrims' spiritual experience with the revisit intention of the tomb of Sunan Wali Songo in Central Java, Indonesia. Explaining how pilgrims' spiritual experience creates revisit intention in the religious tourism industry is important. A theoretical model involving attitude toward pilgrimage and pilgrim satisfaction is built based on the theory of planned behaviour (TPB) and tourist experience literature. For this purpose, around 303 pilgrims were analysed using structural equation modelling (SEM) based on AMOS 23.00, which is combined with the IBM SPSS 21. The results show that revisit intention can be improved by utilizing four pathways: (1) direct path of spiritual experience, (2) indirect path through attitude toward pilgrimage, (3) indirect path through pilgrim satisfaction, and (4) indirect path through attitude toward pilgrimage and pilgrim satisfaction. This study is expected to contribute to developing TPB and tourism marketing literature by providing a holistic model of spiritual experience and its influence on attitude toward pilgrimage, pilgrim satisfaction, and revisit intention. This study also offers important insights for managers engaged in the religious tourism industry.

**Keywords:** spiritual experience, attitude toward pilgrimage, pilgrim satisfaction, revisit intention



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Global marketing experts have recently developed experiential marketing-based strategies to ensure customer loyalty and retention, integrating brand capabilities to gain repeat purchases (Urdea & Constantin, 2021). This concept focuses on the customer consumption experience to achieve rational and emotional involvement (Chang, 2020). Customer consumption behaviour is diverse and results in positive or negative

experiences. These customer experiences are useful for encouraging interaction with the product and developing various positive reactions or perceptions (Ihtiyar et al., 2019). Customers are becoming more focused on experiences stimulating their sensations and emotions when interacting with a brand (Carù & Cova, 2008). Such customer behaviour is closely linked to the tourism market, which prioritizes value creation to sti-

mulate sensations, emotions, and positive memories when they visit tourist attractions (Agapito et al., 2017; Kastenholz et al., 2017; Coelho et al., 2018).

Tourism is travel outside one's residence for not more than one year for leisure, business, or other similar purposes (Ozturk et al., 2021). Pilgrimage is a part of religious tourism designed and motivated by the search for spirituality through travelling to holy places for spiritual purposes and internal understanding (Abad-Galzacorta et al., 2016). The main motivation for the journey is to gain spiritual experience and an internal knowledge of one's religious beliefs (Norman, 2012). Tourism research in post-modern societies generally frames pilgrimage as a sacred journey and shows pilgrims' search for spirituality through travel (Yanata, 2021). Although not all pilgrimages are motivated by the search for spirituality, many pilgrims still describe their travel experiences as spiritual. Therefore, the spiritual pilgrimage experience is important in making the pilgrimage a sacred journey (Yanata, 2021). More importantly, unique experiences in a religious context can fulfil visitors' spiritual needs, such as increasing their faith, enjoying inspiring objects, escaping from everyday life, or simply exploring the historical roots of religion (Huang et al., 2019).

One of the main goals of tourism is to foster the interest of visitors to return to the same tourist attraction in the future. This requires tourism managers to understand the determinants of tourists' interest in returning to the same attraction. Tourism managers also need to understand the roadmap of how each of these determinants regulates the interest in returning. This includes a roadmap of how the role of spiritual pilgrimage experiences impacts the interest in returning to the same pilgrimage tourist attraction in the future. Understanding the spiritual experiences of tourists on pilgrimage tourism is an important factor that tourism managers must comprehend because the main motivation for the visit is the achievement of spiritual goals and an internal understanding of religion (Abad-Galzacorta et al., 2016).

Researchers in various parts of the world have studied pilgrimage in different religions. For example, Handriana et al. (2020) explored pilgrimage tourism in Indonesia, especially pilgrimage tourism to the

Wali Songo ('Holy Nine') pilgrimage; Chang et al. (2020) measured and explored dimensions of pilgrimage experience such as spirituality, learning, physicality, assistance, and discomfort for visitors; Wang et al. (2020) studied pilgrims' motives, experiences, and benefits; Yanata's (2021) research showed that tourists' spiritual experience does not relate to revisit intention, and Wu et al. (2019) researched the driving factors of pilgrims' experiential supportive intentions. These researchers have raised the issue of how pilgrims' identities can explain critical factors for understanding pilgrimage (Liao et al., 2021). The knowledge gap arises where spiritual pilgrims' experience has not been widely explored as an essential source of determinants of revisit intention. This study offers such interaction. Revisit intention is the final stage of the psychological process, involving various concepts such as attitude, subjective norm, perceived behavioural control, and visitor satisfaction (Ajzen, 2011). Revisit intention is a subjective concept understood as the intention to revisit the same pilgrimage tourism object in the future.

In contrast, satisfaction is understood as the internalization of perceptions built during a visit to a tourist object. A spiritual pilgrimage experience that awakens the spirit of life will produce satisfaction that leads to a positive attitude towards the pilgrimage and will subsequently positively impact revisit intention. Therefore, a roadmap connecting spiritual pilgrimage experience to revisit intention is important to discuss. The main objective of this study is to find and explain the roadmap connecting the spiritual pilgrimage experience to revisit intention. Path analysis was conducted to determine how the roadmap of the spiritual pilgrim's experience (SPE) construct can influence attitude toward pilgrimage tourism (ATP), pilgrim satisfaction (PS), and revisit intention (RI). To the authors' knowledge, such a roadmap has never been created with pilgrimage tourism as the object. Some possible paths that can be taken to explain the intended roadmap are (see Figure 1):

1. Direct path from SPE to RI.
2. Indirect path from SPE to RI through ATP.
3. Indirect path from SPE to RI through PS.
4. Indirect path from SPE to RI through PS and ATP.



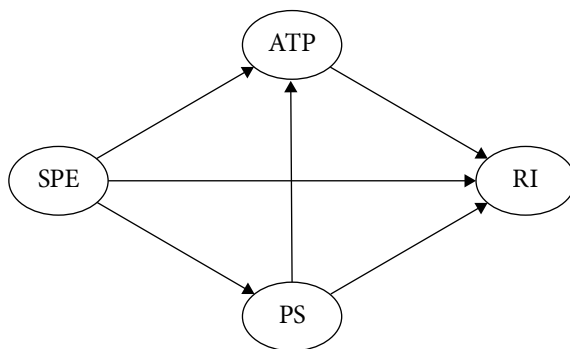


Figure 1 Roadmap of SPE to RI through PS and ATP  
Source?

## Literature Review

### *Spiritual Pilgrimage Experience (SPE)*

Experience marketing can be a foundation for implementing communication strategies that influence customer behaviour to increase satisfaction and revisit intention (Kailani & Narcisa, 2015). Elements such as sensing, feeling, thinking, acting, and relating answer customer needs for multisensory brand events (Urdea & Constantin, 2021). Therefore, businesses can leverage customer experience to strengthen customer relationships and gain rational and emotional engagement (Chang, 2020). This customer experience is the impression that a customer carries after they have contact with a product, service, or business and forms a perception that consolidates sensory information (Anshu et al., 2022). Customer experience becomes a source of learning for companies to increase satisfaction, set expectations and benchmarks, develop customer trust, win loyal customers, and create affectional bonds with customers (Slack and Singh, 2020; Singh et al., 2021).

Customer or visitor experience has become the centre of tourism industry studies (Bigne et al., 2020). This experience is defined as a past personal travel event strong enough to enter a tourist's long-term memory (Bagheri et al., 2023). Some researchers explain the dimensions of the tourist experience from different perspectives. For example, Coelho et al. (2018) explain nine dimensions of memorable tourist experiences: travel purposes, lived emotions, dreams and desires fulfilment, degree of perceived novelty, travel

planning, travel companionship, interpersonal interaction, knowing the tourist and local attractions, and cultural exchange. Zhang et al. (2022) viewed the tourist experience from the perspectives of credible and accurate qualitative information, interactivity among stakeholders, ease of accessing and using tourism information, personalization of services, and security that ensures the confidentiality of personal information when engaging in various tourism-related transactions. Jyotsna and Prakash Sai (2022) found thirteen affinities that explain the pilgrimage tourism experience: safety, accessibility, local culture, popularity, cleanliness, visiting time, number of pilgrims, service price, hedonistic experience, friendliness, budget, spiritual atmosphere, and holistic pilgrim experience. Bagheri et al. (2023) explained the role of the tourist experience in education, aesthetics, entertainment, and escapism in determining tourist well-being. This research focuses more on the spiritual experience of tourists and its role in encouraging revisit intention.

The spiritual pilgrimage experience integrates the concepts of 'spiritual', 'pilgrim', and 'experience'. In this context, spirituality refers to the transcendental, divine, and sacred aspects of personal life, an idea beyond what can be seen, touched, or heard (Underwood, 2011). Spirituality is a process of self-discovery about the meaning of life, satisfaction, and self-identity, both within and outside of religion (Yanata, 2021). Thus, spirituality is a unique dimension of human experience related to a relationship with something intimately spiritual, faith-based, and personal that is transcendental and beyond the self, and which is felt as something fundamental or most important in achieving the meaning and purpose of life, truth, and values (Kao et al., 2020). Pilgrims undertake a religious journey to a holy place for spiritual purposes and internal understanding (Abad-Galzacorta et al., 2016). Experience is a feeling, knowledge, or skill in doing, seeing, or feeling something (Same & Larimo, 2012) or a person's emotions and beliefs about what happens when involved in an activity (Karim et al., 2022). Thus, the spiritual pilgrimage experience is the feeling and beliefs of a person who makes a religious journey to a holy place for spiritual purposes and internal understanding. The religious journey becomes

an important concept because religion teaches transcendent meaning and the idea of universal truth, such as belief in a higher existence beyond oneself (Heelas & Woodhead, 2005). Religion becomes a source of knowledge and practice that embodies spirituality (Sharpley, 2016). Journeys to perform worship, celebrations, and rituals provide spiritual experiences for believers, satisfying their needs for physical health, attention, spirituality, socialization, and connection with nature (Wang et al., 2020). Pilgrimage is considered a popular path to personal, subjective, and inner spiritual fulfilment as people seek healing and spirituality during their free time (Yanata, 2021). Chang et al. (2020) found Six forms of important spiritual pilgrimage experiences: experiences of interacting with objects, feeling severe spiritual attachment, closeness, usefulness, inspiration, and blessings from objects during pilgrimage to holy places.

In research related to the spiritual tourism experience, Kamal and Kashif (2022) explain that tourists consider religious and spiritual destinations as places of spirituality, peace, and sacredness, and the journey to these places has high religious value. Pilgrims pay attention to the spiritual journey because they believe that by doing so, they will gain spirituality, peace, and blessings (Kamal & Kashif, 2022). According to Heintzman (2013) and Ponder and Holladay (2013), involvement in pilgrimage activities offers positive spiritual outcomes and meanings such as the benefits of transcendence (connection with a higher power), spiritual transformation (self-improvement), eudemonic states (i.e. happiness), and many others. Coghlan (2015) asserts that tourist experiences create positive emotions, engagement, and meanings, enhancing visitor well-being. Pilgrimage is thus known for its potential for restorative, hedonic, or broader well-being outcomes and significantly contributes to an individual's increased spirituality or inner psychological development (Abdul Halim et al., 2021).

#### *Spiritual Pilgrimage Experience and Attitude toward Pilgrimage (ATP)*

The concept of attitude was introduced by Fishbein and Ajzen (1975) as a latent disposition or tendency to respond with a degree of liking or disliking toward a

psychological object. Thus, attitudes relate to positive or negative evaluations of certain outcomes or performance. For example, De Vos et al. (2021) explain attitudes toward travel modes as the level of positive or negative evaluation or assessment of liking or disliking a particular travel mode. Nystrand and Olsen (2020) describe attitudes toward regular consumption of functional foods as a level of evaluation or judgment of whether something is good or bad, pleasant or unpleasant, and wise or foolish. Charton-Vachet et al. (2020) measured attitudes toward a region through visitors' evaluations of attractions that are pleasant or unpleasant, interesting or uninteresting, and liking or disliking them, as well as positive or negative attitudes toward the region they visit. Thus, attitudes toward pilgrimage are positive or negative, like or dislike, interesting or uninteresting, and pleasant or unpleasant evaluations toward a particular pilgrimage.

In general, attitudes are determined by a person's experience with a particular entity. For example, customer experiences in online markets, such as convenience, delivery experience, and recovery, determine their attitudes toward online shopping (Anshu et al., 2022; Sudarti et al. 2024), religious or spiritual experiences determine adolescents' health attitudes and behaviours (Rew & Wong, 2006), and memorable tourist experiences determine the attitude toward pilgrimage (Bhandari et al., 2024). As with those studies, this study examines the influence of spiritual pilgrimage experiences on tourists' positive attitudes toward pilgrimage. The authors believe that pilgrims' religious or spiritual experiences during a visit to a holy place will determine their attitudes toward the tourist attraction. Spiritual experiences will be the basis for pilgrims' positive or negative, favourable or unfavourable, attractive or unattractive, and pleasant or unpleasant assessments of a particular pilgrimage tourist attraction. Therefore, H1 is proposed as follows:

*H1: Spiritual pilgrimage experience has a positive influence on attitude toward pilgrimage.*

#### *Spiritual Pilgrimage Experience and Pilgrim Satisfaction (PS)*

One of the purposes of pilgrimage travel is to gain personal satisfaction, described as a function of pre-

-travel expectations and post-travel experiences. When the post-travel experience exceeds pre-travel expectations, tourists will feel satisfied; conversely, if the experience obtained causes feelings of displeasure, tourists will be dissatisfied (Chen & Chen, 2010). Biswas et al. (2021) explained the characteristics of people who are satisfied after visiting a tourist destination, namely, having an interest in returning to the same tourist attraction, having a feeling of satisfaction with the services provided, feeling happy after visiting, feeling that they enjoyed the tourist attraction, and overall feeling satisfied with the visit that occurred to the tourist attraction. Rasoolimanesh et al. (2021) explained the importance of three indicators used to measure visitor satisfaction: total satisfaction with the tourist visit, happiness with the travel experience, and a unique and enjoyable experience at the destination. Torabi et al. (2022) explain that people who are satisfied with their travel are satisfied with the quality of service provided, feel that the trip was beyond their expectations, and have a unique and happy experience. Bagheri et al. (2023) mention satisfaction as a combination of the pleasure obtained by visitors, suitability to needs, and the right choice for the objects they visit. This study assumes that satisfied pilgrims feel pleasure when visiting pilgrimage tourist objects, joy and happiness after making a pilgrimage to the tourist object, satisfaction with the tourism services provided by the tourist object, and overall satisfaction with the pilgrimage tourism visit.

Customer experience determines satisfaction (Lee et al., 2019). From a transaction-specific perspective, such as in transactions in the tourism industry, customer satisfaction is evaluated based on the customer's purchasing experience. Customer satisfaction reflects the relationship between cognitive and emotional processes because satisfaction or dissatisfaction is an emotional feeling formed in response to confirmation or disconfirmation of cognitive processes (Williams & Soutar, 2009). Therefore, experience quality is a psychological outcome of customer participation in tourism activities or the tourist's affective response to desired socio-psychological benefits (Chen & Chen, 2010). A memorable experience for a tourist will satisfy them and increase their interest in revisiting the

same tourist attraction (Torabi et al., 2022). This includes the spiritual pilgrimage experience in pilgrimage tourism objects. According to Andriotis (2009), the existential tourism experience mode is relevant in religious tourism because the spiritual connection to a place is a search for spirituality when travelling to a holy place. Religious experiences, such as the pursuit of inner purity, are related to reorganizing emotions to orchestrate feelings (Kim & Kim, 2019). From the perspective of religiosity, religious and spiritual experiences are very important in achieving life satisfaction (Aftab et al., 2022; Yaden et al., 2022), job satisfaction (Rashidin et al., 2019; Asutay et al., 2021; Aftab et al., 2022) and satisfaction of religious tourists (Liro, 2023). In the context of pilgrimage, tourist satisfaction is defined as the evaluation of the fulfillment of expectations from the trip and visit. Tourists with religious motivations are generally more satisfied with religious and spiritual expectations, such as those related to happiness and being part of a religious community (Liro, 2023). Therefore, tourism managers must maintain sacredness and create offers for visitors with strong religious attributes (Liro, 2023). This means that pilgrim satisfaction is formed when they get spiritual experiences while visiting pilgrimage tourism objects. Therefore, H2 is proposed as follows:

*H2: Spiritual experience has a positive effect on pilgrims' satisfaction.*

#### *Pilgrim Satisfaction and Attitude Toward Pilgrimage*

Marketing literature emphasizes that customer satisfaction determines their attitude toward a product or service (Lamb et al., 2010; Kotler & Armstrong, 2012). Customer consumption experience allows them to evaluate a product or service they consume as good or bad, useful or not useful, profitable or detrimental, and so forth. There is a tendency for customer experience that results in satisfaction to determine their positive attitude toward a product or service. This means the more satisfied customers are, the more positive their attitude towards the product or service consumed. This logic will likely occur in the religious tourism market, especially pilgrimage tourism. In this market, visitors enjoy pilgrimage tourism products and services. Tourism services then provide a satis-

fyng or unsatisfactory experience. If the experience is satisfying, they tend to assess the tourist attraction they visit positively. Conversely, if the experience does not result in satisfaction, they tend to give a less good, or bad, assessment of pilgrimage tourism products and services. Therefore, H3 is proposed as follows:

*H3: Pilgrim satisfaction has a positive effect on attitude toward pilgrimage.*

#### *Spiritual Pilgrimage Experience and Revisit Intention (RI)*

TPB describes intention as measuring how hard a person is willing to try and how much effort will be expended to perform the behaviour (Ajzen, 1991). In the context of tourist visits, revisit intention means that tourists have plans to revisit the tourist attraction soon, confidence to revisit the tourist attraction, and the person concerned has the support of resources, time, and opportunity to revisit the same attraction (Meng & Cui, 2020). Other researchers explain that someone who has the desire to revisit the same tourist attraction is someone who has plans to travel to a destination that offers a unique experience, someone who recommends a unique destination to their family and friends, and someone who is willing to share their positive experiences with the tourist attraction they have visited (Torabi et al., 2022). Thus, revisit intention is the probability that someone will visit a tourist attraction, consider visiting these sites in the future, visit the attraction soon, and intends to travel to the same attraction (Kim & Park, 2013; Hasan et al., 2019; Hasan et al., 2020; Kayal, 2023). This study assumes that pilgrims who are interested in revisiting the same pilgrimage site are those who tend to choose the pilgrimage site at another time when they want to go on a pilgrimage tour, prioritize choosing a pilgrimage to the same site in the future, are motivated to revisit the pilgrimage site in the future, and have the resources, time and opportunity to revisit the pilgrimage site in the future.

According to Paisri et al. (2022), tourists want a unique and memorable experience when visiting special destinations such as pilgrimage tourism objects. Tourism providers want a competitive advantage in the free market, so they must offer an positive experience to visitors (Torabi et al., 2022). A memorable

experience will satisfy a tourist and increase their interest to revisit the same tourist attraction in the future (Torabi et al., 2022). Kim and Kim (2019) explain that religious experiences obtained from tourism are categorized as a special type of tourism experience because they are related to one's religion and are likely to provide better emotional growth regarding faith and spirituality. This means that the spiritual experience obtained during the visit allows tourists to return to the same object in the future. Therefore, H4 is proposed as follows:

*H4: Spiritual pilgrimage experience has a positive effect on revisit intention.*

#### *Pilgrim Satisfaction and Revisit Intention*

Marketing literature shows that customer-oriented marketing maximizes customer satisfaction (Lamb et al., 2010; Kotler & Armstrong, 2012) because satisfied customers tend to make repeat purchases. Satisfaction predicts post-purchase behavioural intentions (Ha & Jang, 2010; Kuo & Wu, 2012). Consumers with higher satisfaction levels tend to have stronger intentions to repurchase (Kuo et al., 2009; Chen & Chen, 2010). In the last five years, several studies on customer behaviour have shown that satisfied customers are an important antecedent of repurchase intention (Chi, 2018; Baker-Eveleth & Stone, 2020; Trivedi & Yadav, 2020; Hendar et al., 2021). The same case occurs in research on tourist behaviour in the tourism market. Several studies agree that tourists satisfied on their first visit tend to return to the same place in the future (Seetanah et al., 2018; Eid et al., 2019; Rajput & Gahfoor, 2020; Liao et al., 2021; Chin et al., 2022; Torabi et al., 2022). Therefore, H5 is proposed as follows:

*H5: There is a positive influence of pilgrim satisfaction on revisit intention.*

#### *Attitude toward Pilgrimage Tourism and Revisit Intention*

The basic model of the relationship between attitude and intention was developed by Fishbein and Ajzen (1975). They explained that attitudes toward behaviour, along with social norms and perceived levels of behavioural control, are factors that influence intention. In the last five years, these findings have been suppor-

ted by consumer behaviour researchers who explain that attitudes toward a product determine customers' repurchase intentions (Bashir, 2019; Charton-Vachet et al., 2020; Nystrand & Olsen, 2020; Anshu et al., 2022). The same case also occurs in the tourism industry. Consumer behaviour researchers in this industry consistently find a positive influence of tourists' attitudes toward tourist attractions on their interest in revisiting the same attraction (Choe & Kim, 2018; Hasan et al., 2019; Qiu et al., 2019; Liao et al., 2021). Therefore, H6 is proposed as follows:

*H6: There is a positive influence of attitude toward pilgrimage on revisit intention.*

## Research Method

### Measurement

All the measurement items of the constructs in this study were adapted from the available literature. This is important to ensure the reliability and validity of the data used. Five spiritual pilgrimage experience items adapted from Chang et al. (2020) consist of the experience of seeing the world in a new way, the meaning of life and authenticity, the meaning of religious beliefs, the meaning of sources of strength and positive energy, and a sense of security and happiness. Six attitudes toward pilgrimage items from Meng and Cui (2020) are feelings of joy, happiness, usefulness, attraction, impact, and future expectations. Four pilgrims' satisfaction items from Biswas et al. (2021) include enjoyment, feelings of satisfaction, pleasure, and conformity to expectations.

Meanwhile, four revisit intention items from Meng and Cui (2020) related to tendencies, plans, motivations, and supporting resources to visit the same tourist attraction. The scale used to measure the 19 items (Table 2 on page 81) uses the Bipolar Adjective Agree-Disagree Scale of 1–10 points. Point 1 indicates 'strongly disagree', and point 10 indicates 'strongly agree' with the statement submitted (Ferdinand, 2014).

### Data Collection

The population of this study consisted of pilgrims to one or several Indonesian Wali Songo pilgrimages who had experienced at least one visit. The determination of the number of samples followed the views

Table 1 Sample profiles (N = 303)

Variable	Amount	Percentage
Gender		
Male	23	7.60
Female	280	92.40
Age		
≤ 15 years	10	3.30
16 – 20 years	137	45.21
≥ 20 – 25 years	52	17.16
≥ 25 years	104	34.32
Education		
Elementary & Middle School	14	4.62
High School/Vocational School	178	58.75
Diploma	9	2.97
Bachelor	96	31.68
Postgraduate	6	1.98
Visiting experience		
Just one time	14	4.62
Two times	35	11.55
Three times or more	254	83.82

Source primary data processed, 2024

of Hoelter (1983) and Kyriazos (2018) that a minimum sample size of 200 is sufficient statistical power for SEM-based data analysis. A closed questionnaire with 10 scales was designed to obtain information on respondents' perceptions of the constructs studied. Islamic social groups in several districts, such as Demak, Semarang, Kendal, Kudus, and Pekalongan, Central Java, Indonesia, who had conducted religious tourism to one or several tombs of Wali Songo became the target respondents of this study. 5 surveyors were sent to the area to obtain data directly from the target respondents. Incidentally, most of the Islamic social groups were women who were over 15 years old. This study used 303 data points obtained through online distribution over two months to 425 pilgrims to the tomb of "Sunan Wali Songo." A total of 363 respondents were willing to answer the questions. After filtering invalid questionnaire answers (questionnaires filled with the same answers, incomplete answers, and extreme choices), 303 out of 363 (83.47%) responses were declared valid. Demographic information is shown in Table 1. The respondents of this study were mostly women aged between 16 and 25 years, most of whom



were educated at high school/vocational school, and they had visited the same object at least three times. This shows that women make a huge contribution to the development of religious tourism, especially adult women aged 16 to 25 years.

## Data Analysis and Results

### Assessment of Measurement Model

The data screening process and checking respondents' responses resulted in 303 responses being retained because they met the sample criteria. As evidence of normal distribution, all critical ratio skewness and multivariate kurtosis values were between -2.58 and +2.58 at a significance level of 0.001 (Hair et al., 2012). Evaluation of multivariate outlier used the Mahalanobis distance criterion on df 19 (number of indicators) with a significance level of  $p < 0.001$ , namely *Chi-square* of 44,820. The results indicate no problem in the multivariate outlier because the maximum Mahalanobis distance value (40,990) is still below 43,820. The final results of this analysis process found 5 SPE factors, 6 ATP factors, 4 PS factors, and 4 RI factors that were retained. Therefore, 19 items were retained for further analysis (see Table 2).

Data analysis is used to understand the causality of the relationship between constructs, utilizing a combination of SEM-AMOS 23.0 and SPSS IBM 21. The combination of SEM and SPSS analysis is used to understand the validity and reliability of the constructs. SEM analysis also determines the goodness-of-fit model and hypothesis testing. Construct reliability and validity were analysed using confirmatory factor analysis (CFA) with the guidance that all indicator items positively significantly determine the main construct and evidence of convergent construct reliability and validity above 0.7 (Hair et al., 2012). The assessment of each measurement scale turned out to be valid because each indicator item turned out to be positively and significantly related at  $p < 0.001$ , reliable because Cronbach's Alpha exceeded the threshold of 0.70 as suggested by Nunnally [1978], all AVE squared values are above 0.5 (Table 2), and all correlation values between constructs are below Constructs Reliability (see Table 3) (Hair et al., 2012).

The criteria for a good goodness-of-fit index follow the recommendations of Hair et al. (2012): (a) the *Chi-Square* value is not significant at  $p\text{-value} = 0.001$ ; (b) GFI, AGFI, CFI, and TLI are above 0.9; (c) CMIM/DF is less than 2; and (d) RMSEA is not more than 0.08. The results show that (a) the *Chi-Square* value

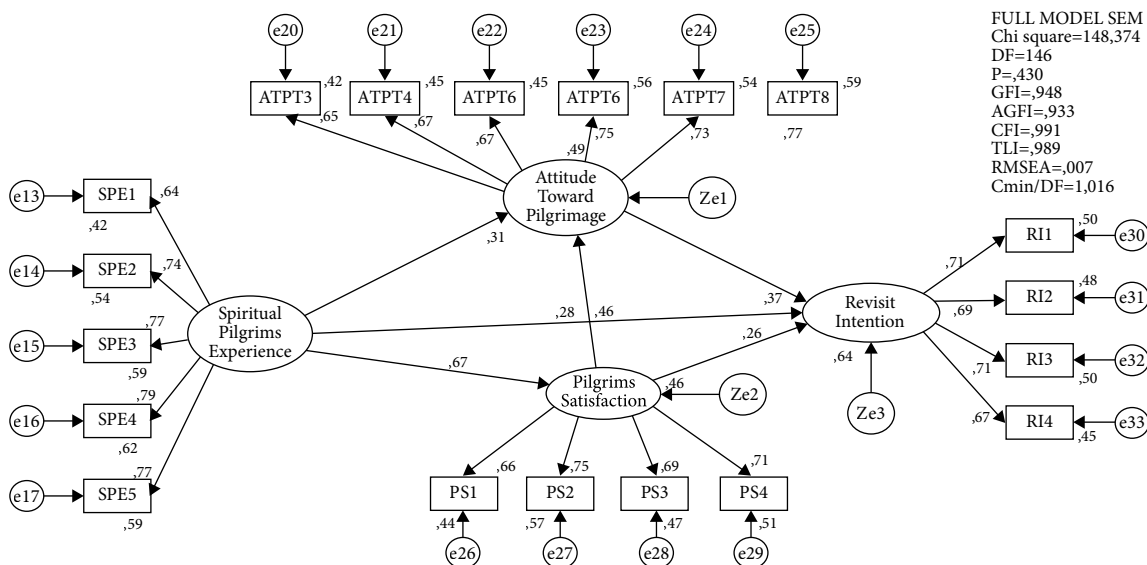


Figure 2 SEM-AMOS Test

Table 2 Constructs and Measurement Items

Constructs and measurement items	Std. loading
<b>Revisit Intention</b> (CA = 0.779, CR = 0.789, AVE = 0.645, DV = 0.803)	
• I intend to revisit the Wali Songo pilgrimage.	0.709***
• I have plans to revisit the Wali Songo pilgrimage soon.	0.694***
• I am motivated to revisit the Wali Songo pilgrimage.	0.709***
• I have the resources, time, and opportunity to revisit the Wali Songo pilgrimage.	0.671***
<b>Pilgrim Satisfaction</b> (CA = 0.793, CR = 0.798, AVE = 0.663, DV = 0.814)	
• I feel pleasure when visiting the Wali Songo pilgrimage.	0.663***
• Overall, I feel satisfied after visiting the Wali Songo pilgrimage.	0.752***
• I feel happy after visiting the Wali Songo pilgrimage.	0.688***
• Tourist attraction services for the pilgrims exceeded my expectations.	0.715***
<b>ATPT</b> (CA = 0.846, CR = 0.857, AVE = 0.750, DV = 0.866)	
• Wali Songo pilgrimage is fun.	0.651***
• Wali Songo pilgrimage brings happiness.	0.671***
• Wali Songo pilgrimage is very useful.	0.669***
• Wali Songo pilgrimage is interesting to visit.	0.748***
• Wali Songo pilgrimage positively impacts improving the vision of life.	0.732***
• Wali Songo pilgrimage has a bright future.	0.765***
<b>SPE</b> (CA = 0.839, CR = 0.860, AVE = 0.773, DV = 0.879)	
After visiting Wali Songo pilgrimage...	
• I gained the experience of seeing the world in a new way.	0.645***
• I gained experience about the meaning of life and the authenticity of myself.	0.735***
• I gained experience with the meaning of religious belief.	0.770***
• I gained experience with the meaning of the source of power and positive energy.	0.788***
• I gained an experience of feeling safe and happy.	0.769***

Notes (\*\*\*) p-value < 0.001, CA = Cronbach's Alpha, CR = Constructs Reliability, AVE = Average variance extracted, DV = Discriminant validity

Table 3: Validity and reliability of measurement

N = 306	AVE	CA	Republic of Indonesia	PS	ATPT	SPE
Republic of Indonesia	0.645	0.779	0.803 <sup>a</sup>			
PS	0.663	0.793	0.692	0.814		
ATPT	0.750	0.846	0.715	0.661	0.866	
SPE	0.839	0.839	0.680	0.671	0.611	0.879

Notes <sup>a</sup> Construct reliability is the diagonal bolt. PS = Pilgrim Satisfaction; RI = Revisit Intention; ATPT = Attitudes Towards Pilgrim Tourism; SPE = Spiritual Pilgrim Experience; CR = Construct Reliability; AVE = Average Variance Extract; CA = Cronbach's Alpha.

Table 4 Goodness of Fit Indices of the Measurement Model

Chi-Square	DF	p-value	GFI	AGFI	CFI	TLI	RMSEA	CMIN/df
148,374	146	0.430	0.948	0.933	0.991	0.989	0.007	1,016

Notes CFI= Comparative Fit Index; TLI = Tucker-Lewis Index; DF = Degree of Freedom; GFI = Goodness of Fit Index; AGFI = Adjusted Goodness of Fit Index; RMSEA = Root Mean Square Error of Approximation; CMIN/df? = Chi-square value per degree of freedom

Table 5 Path Estimates and Hypothesis Results

Hypothesis	Regression	$\beta$	SE	t-value	p-value	Results
H1	SPE→ATP	0.306	0.079	3.355	0.000	Accepted
H2	SPE→PS	0.671	0.084	7.311	0.000	Accepted
H3	PS→ATP	0.456	0.101	4.300	0.000	Accepted
H4	SPE→Republic of Indonesia	0.279	0.097	2.768	0.006	Accepted
H5	PS→Republic of Indonesia	0.258	0.106	2.571	0.010	Accepted
H6	ATP→Republic of Indonesia	0.374	0.110	3.780	0.000	Accepted

Source printout of SEM-Amos 24.0 program, 2024.

Note PS= Pilgrim Satisfaction; RI = Revisit Intention; ATP = Attitudes Towards Pilgrim Tourism; dan SPE = Spiritual Pilgrim Experience; SE = Standard error THESE DO NOT MATCH THE TABLE, PLEASE REVIEW

of 148.374 is not significant at  $p$ -value = 0.001 ( $p$  = 0.430); (b) GFI (0.948), AGFI (0.933), CFI (0.991) and TLI (0.989) are all above 0.9; (c) CMIM/DF (1.016) is less than 2; and (d) RMSEA (0.007) is not more than 0.08. This shows that the model is feasible for testing the relationship between the hypothesized constructs (Table 4).

#### Hypothesis Test Results

The results of data analysis using the structural equation model (SEM) with Amos 24.0 showed that SPE had a significant effect on ATP ( $\beta$  = 0.306,  $p$  < 0.05), PS ( $\beta$  = 0.671,  $p$  < 0.05) and RI ( $\beta$  = 0.279,  $p$  < 0.05); PS had a significant effect on ATP ( $\beta$  = 0.456,  $p$  < 0.05) and RI ( $\beta$  = 0.259,  $p$  < 0.05); and ATP had a significant effect on RI ( $\beta$  = 0.374,  $p$  < 0.05). This proves that all proposed hypotheses (H1–H6) are accepted.

#### Discussion

This study believes that visitors' spiritual experiences form ATP and PS. One of the purposes of pilgrimage is basically to gain spiritual experience. It examines the influence of spiritual experience on revisit intention directly and indirectly through visitors' attitudes towards pilgrimage tourism objects and pilgrims' satisfaction. This study explains the path that connects spiritual experiences to their intention to revisit them in the future. This study found that the spiritual pilgrimage experience positively affects pilgrims' satisfaction, ATP, and revisit intention. Pilgrims' satisfaction positively affects ATP and revisit intention, and ATP on revisit intention. Ultimately, this study found four paths that must be taken to achieve revisit intention.

*First*, spiritual pilgrimage experiences directly influence revisit intention. This study complements previous research findings that customer experience determines revisiting intention (Lee et al., 2019; Parisri et al., 2022). In the tourism industry, the tourist's memorable experience also determines the revisit intention (Torabi et al., 2022). A pilgrimage is a tourist attraction that offers visitors spiritual sensations because they relate to the religious values such as the values of faith and piety, spiritual awareness, humility and respect, and inner calm.. Spiritual pilgrimage experiences in tourist attractions will encourage visitors to revisit the same object in the future. This study enriches this view by establishing that the spiritual pilgrimage experience is the source of their desire to revisit the same religious tourist attraction.

*Second*, the spiritual pilgrimage experience determines their satisfaction, which determines their revisit intention. Recent research explains that customer experience also determines satisfaction, which determines revisit intention (Lee et al., 2019). Satisfaction is believed to be a more emotional response to a perceived experience (Bowen & Clarke, 2002). According to Verma and Sarangi (2019), tourist experiences, such as spiritual experiences, correlate positively with tourist satisfaction. Pilgrims who get positive experiences from spirituality tend to feel satisfied with their visit. Therefore, special observation and attention to facilities that enable the creation of spiritual pilgrimage experiences is very important for pilgrimage management to continue striving for. When pilgrims highly value their experience, they will have positive emotions, resulting in high satisfaction (Zhang et al.,

2022). Several recent studies have explained that religious and spiritual experiences are very important in achieving life satisfaction (Aftab et al., 2022; Yaden et al., 2022; Liro, 2023); this study explains that pilgrims' spiritual experience greatly determines visitor satisfaction. Torabi et al. (2022) explain that tourists with pleasant and satisfying memories of their experiences will tend to revisit the same tourist attraction. This finding clarifies that one form of special religious tourism experience, spiritual experience, also has the same effect. Pilgrims who get spiritual experiences when visiting pilgrimage tourist attractions and who are satisfied with their visits determine their interest in revisiting in the future.

*Third*, spiritual experience determines pilgrims' attitudes towards pilgrimage tourism objects, which determines their revisit intention. Previous research shows that customer experience determines their attitudes toward the products or services they consume (Anshu et al., 2022). Bhandari et al. (2024) explain that memorable tourist experiences affect their attitude towards pilgrimage. This means that customers who have a positive attitude towards a product or service will have a better attitude towards the product or service they consume. However, research on specific customer experiences, such as spiritual experiences from consuming products or services, is still very limited. The novelty of this study is the integration of specific experiences, namely the spiritual experiences of customers (pilgrims), in forming attitudes toward a religious entity. People who have positive spiritual experiences at pilgrimage tourist attractions have positive attitudes towards the tourist attraction. This positive attitude ultimately determines the revisit intention. This is in accordance with several previous research results which explain that customer attitudes towards a product determine their interest in repurchasing the same product or service in the future (Ajzen, 1991; Chawla & Joshi, 2019; Nystrand & Olsen, 2020; Braje et al., 2021; Anshu et al., 2022). Thus, this study broadens the view of the theory of planned behaviour (TPB) by placing spiritual experience as a builder of pilgrims' attitudes towards pilgrimage tourism objects. This attitude becomes a driver of their interest in revisiting in the future.

*Fourth*, spiritual experience determines pilgrims' satisfaction, that satisfaction determines their attitude toward pilgrimage tourism objects, and that attitude determines revisit intention. This is quite a long path to go through when explaining the influence of spiritual experience on revisiting intention. Marketing literature shows that one of the keys to success in tourism marketing is ensuring that tourists feel satisfied with their visit. In religious tourism, satisfaction can be obtained when they have a spiritual experience during their visit. Visitors who have a satisfying spiritual experience will give a positive assessment of pilgrimage tourism objects. Because of that positive assessment, they desire to revisit the same tourist object. This study confirms that tourists who are impressed with the spiritual values of religious tourism objects will be satisfied with their spiritual experience, thus encouraging them to revisit them.

Marketing literature confirms that creating a tourism experience is key to building tourists' attitudes toward a tourism object and their satisfaction. In this regard, for pilgrimage tourism objects to attract tourists and influence behavioural changes among them, the management of the tourism object needs to understand and invest its resources to facilitate visitors' pleasant spiritual experiences. Therefore, pilgrimage tourism managers must ensure that the spiritual experience obtained by tourists not only satisfies their visitors but also forms their positive attitude toward pilgrimage tourism.

Spiritual experience may be a unique construct that explains the attitude toward pilgrimage. Spiritual experience generated by religious values in pilgrimage tourism objects involves mystical and spiritual experiences that become a source of contemplation of life in a religious atmosphere, closeness to God, emotional involvement with religion, and the spirit to continue to improve oneself. This experience is related to the historical aspect of the pilgrimage that people visit to commemorate the history of Wali Songo, the 'Nine Holy Teachers' who contributed to the spread of Islam in Java, to pray for them, and learn from their life journeys to improve and increase their faith in Allah. Thus, spiritual experience is an experience undertaken to gain individual meaning or purpose and belief in a

higher power, the meaning of life and authenticity, the meaning of religious belief, the meaning of a source of strength and positive energy, and feelings of security or happiness. As explained above, a pilgrim with a spiritual experience will have a positive assessment of pilgrimage tourism, including their evaluation of pleasure, usefulness, interest, increased vision of life, and opportunities for future object development. Therefore, spiritual experiences must be considered in pilgrimage tourism because connecting with the deceased can be a unique spiritual and religious experience (Yanata, 2021). This includes respecting and praying for the late Wali Songo, who passed away centuries ago (Handriana et al., 2020).

## Conclusion

### *Theoretical and Managerial Implications*

This research contributes to the development of TPB, especially in the religious pilgrimage tourism market. Integrating the unique construct of spiritual experience and pilgrims' satisfaction into the TPB model will enrich knowledge about the antecedents of attitude toward pilgrimage and its consequences. It should be noted that the integration of spiritual experience as an antecedent of attitude, especially in the religious tourism market in Indonesia, has not been explored and explained empirically.

Managerially, this research contributes to increasing visits to pilgrimage tourism objects. Pilgrimage management needs to invest heavily in facilitating the creation of spiritual pilgrimage experiences. Such experiences can be generated by developing pilgrimage sites and holding religious events that encourage the formation of mystical and spiritual experiences as a source of contemplation of the religious life, closeness to God, and emotional involvement with religion. This can be done by designing religio-centric buildings, facilitating special places to pray for respected people, increasing guides who can explain in detail the history of respected people, holding events or festivals related to pilgrimage tourism, and creating a religious culture in the environment of pilgrimage tourism sites. The demand for religious experiences at traditional pilgrimage sites can create opportunities to realize such experiences by providing religious-

s-themed spaces and holding religious performances (Shinde, 2020).

### *Limitations and Future Research*

Although this study provides an interesting contribution, it still has limitations. First, this study focuses on the role of spiritual experience in developing attitudes toward pilgrimage. It does not explain the role of this experience in forming other constructs in the TPB, such as subjective norms and perceived behavioural control. In the future, it is important to test the influence of spiritual experience on these two constructs. Second, this study focuses on the pilgrimage to the tomb of Sunan Wali Songo.

In addition, Indonesia has many Islamic sites (such as the Grand Mosque of the Surakarta Palace, the Grand Mosque of Demak, the Maimun Palace in Medan, Cheng Hoo in Semarang, and others). Thus, it would be fascinating if future research involves these religious sites as objects of study. Third, this study focuses on Islamic pilgrimage and has not been conducted on pilgrimage sites of other religions, such as the Hindu Temple in Besakih Bali, the Buddhist Site of Borobudur Temple in Central Java, Goa Maria Sendangsono Yogyakarta, and so forth. Involving these sites in research based on the spiritual pilgrimage experience would be very interesting. Fourth, alternative theoretical frameworks are still needed in the future, such as a combination of marketing experience and TPB that can be applied to understand pilgrims' behaviour and visitors' intentions to engage in pilgrimage.

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# Gamification in the Tourism and Hospitality Sector: A Narrative Literature Review and Research Directions

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This paper represents a narrative literature review on gamification within tourism and hospitality sector (T&H). Out of 61 studies, 55 papers examined the importance of adopting gamification in this industry but failed to acknowledge the role of motivational affordances that are responsible for invoking gameful experiences in tourism apps and promoting sustainable travel practices which benefits all gamification parties specifically app designers, core service providers, third party service providers, and tourists or players. Motivational affordances are crucial for the fulfilment of basic psychological needs for relatedness, autonomy, mastery, and purpose, that in turn induces further behavioural outcomes reflected in achieving meaningful users' interaction, engagement, and loyalty in addition to potentially achieving rewards. Hence, the researchers have searched in a number of databases including Elsevier, ResearchGate, Routledge, Springer, and Scopus to reveal whether gamification literature within T&H sector provided enough examinations for motivational affordances and their ultimate effects on psychological and behavioural outcomes. Finally, the researchers elaborated on specific future research directions.

**Keywords:** gamification, tourism and hospitality sector, hospitality and tourism review platforms, motivational affordances.



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## Introduction

Gamification has been considered as a powerful tool to provide an appealing environment through game elements (Bravo et al., 2021) and the gamification market is estimated to grow to USD 30.7 billion by 2025 (Markets and Markets, 2020). It has been applied in various game contexts (Bravo et al., 2021; Bitrian et al., 2021; Moro et al., 2019; Sigala et al., 2015); Xu et al., 2017; Yoo et al., 2017), and non-gaming contexts (De-terding et al., 2011; Robson et al., 2015). Particularly,

the existing gamification literature has focused on various domains such as education and learning (Bonde et al., 2014; De-Marcos et al., 2014; Denny, 2013), crowdsourcing and health (Eickhoff et al., 2012; Jones et al., 2014; Lee et al., 2013), commerce (Hamari, 2013; 2015), fitness and exercise (Bitrian et al., 2020; 2021); environmental behaviour (Lee et al., 2013; Miao et al., 2022; Shahzad et al. 2023); and government services and public engagement (Bista et al., 2014; Tolmie et al., 2014).



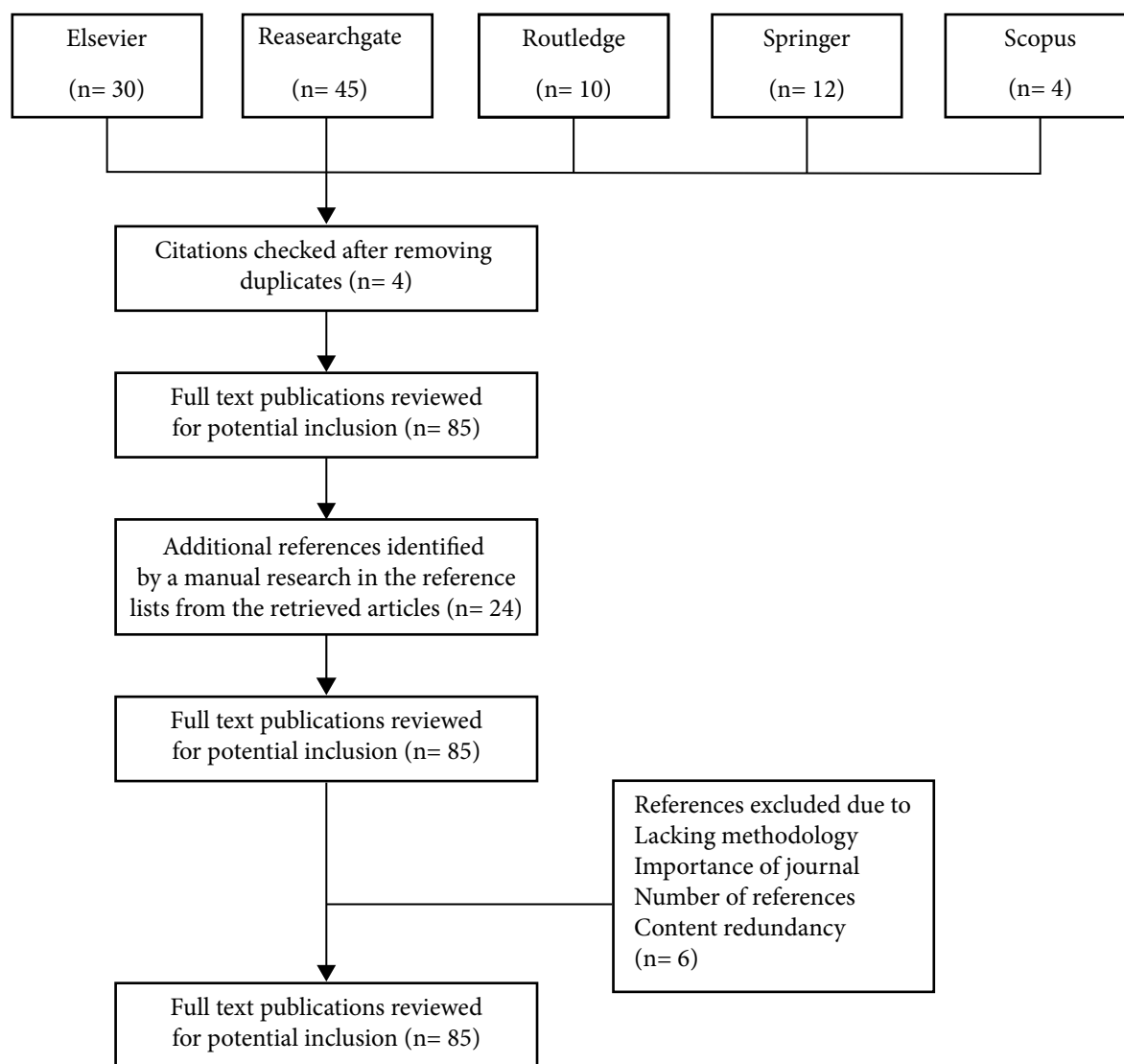


Figure 1 Flow Chart of the Literature Selection Process for the Present Article.

Gamification in tourism and hospitality sector refers to “a process that uses motivational affordances to enhance services by creating experiences similar to those created by games” (Bravo et al., 2021, p. 1). Due to technological developments, this industry has rapidly evolved in recent years and many firms have started to incorporate gamification to future-proof their businesses (Sharma et al., 2024), whether offline through business training, productivity in the workplace, collaboration and healthy competition, etc., or online through the creation of a digital app.

As today’s digital landscape is constantly evolving, gamification is heavily applied to tourism mobile apps; and users are becoming co-creators of value by sharing information and creating content (Bitrian et al., 2021; Sigala, 2007). The most widely used tourism and hospitality review platforms are as follows: (1) TripAdvisor.com, recognized as an American company that deals with online travel agencies, shopping websites, and mobile apps in order to increase content generation of users; (2) TripIt, being an American award-winning travel organizing app that provides

features for customers with supportive notifications and warnings during their trip; (3) Yelp, serving as an American one-stop travel, local, and delivery of food app that allows tourists to explore find places and businesses; (4) Airbnb, operating as an online marketplace that connects people who are looking for accommodations and short stays; and (5) Qunar travel, a company that allows travellers to book and purchase various travel products including flights, hotels, train and bus tickets, travel routes, and car rentals. These gamified apps create opportunities to interact with the tourist destination (Aebli, 2019) and to transmit knowledge (Lee, 2019). For example, the 'PBL triad' (points, badges, leaderboards) is widely adopted in most gamified platforms (Bitrian et al., 2021), and is exchanged for bonuses or rewards (Zhou et al., 2023).

Numerous studies have noted that gamification is a tool used to enhance a service that includes affordances within gameful experiences for the purpose of supporting users' overall value creation (Anagnostopoulou et al., 2018; Deterding et al., 2011; Hamari et al., 2014; Huotari & Hamari, 2017; Shneiderman, 2004). Affordances are defined as "various elements and mechanics that structure games and aid in inducing gameful experiences within the systems" (Koivisto & Hamari, 2019, p. 193). Based on the conceptualization of gamification by Koivisto and Hamari (2019), motivational affordances consist of achievement/progression elements (badges, medals, points, leaderboards, rankings, progress bars), social elements (competition, cooperation, social networking, teammates), and immersion elements (avatars, storylines, narratives).

Subsequently, the affordances included in a service result in psychological outcomes (engagement, loyalty), and drive intrinsic motivation as well as psychological needs of users, namely, competence, autonomy, relatedness (Bitrian et al., 2020; 2021; Rigby & Ryan, 2011; Ryan & Deci, 2000; Xi & Hamari, 2019), and purpose (Bravo et al., 2021; Pink, 2009), which in turn lead to behavioural outcomes such as continued use intention, word of mouth (WOM) intention, and user-generated content (Bitrian et al., 2021; Deterding, 2015; Hamari et al., 2014; Huotari & Hamari, 2017).

However, it has been declared that 'motivational effects have yet to be fully explored in a psychologi-

cal perspective, while some features (e.g. technology, apps) continue to evolve' (Ratinho & Martins, 2023, p. 3). In addition, tourism and hospitality are considered a frontline service industry which include technological advancements in strategic processes (Pasca et al., 2021). Therefore, scholars should examine the way gamification motivates a new generation, contributes to innovative tourism and hospitality platforms, and affects the way reviewers, users, service providers, game designers, and communities think and act.

In light of this, the study's objective is to review the current state of gamification within the hospitality and tourism sector and identify a direction for gamified tourism platforms moving forward because as far as the researchers know, no narrative literature review has been developed before on gamification within this sector.

## Methods

An analysis of peer-reviewed scientific literature was performed throughout June and July 2024 with the purpose of identifying studies for a narrative review of gamification in the tourism and hospitality sector. This paper consists of a narrative review inspired by the authors' collective interest in incorporating gamification into the tourism and hospitality fields from 2010 to 2024. As shown in figure 1, the literature review included five databases: Elsevier, ResearchGate, Routledge, Springer, and Scopus with the following gamification terms: achievement/progression elements, social elements, immersion elements, self-expression affordances, identity affordances, motivational affordances, game design elements, gameful experience, video games, serious games, gamified service, gamified mobile experience, applications, and players. These search keywords were also supported by other keywords: intrinsic motivation, extrinsic motivation, relatedness, autonomy, mastery, purpose, competence, awareness, visitors' loyalty, TripAdvisor, Airbnb, online travel agencies (OTA), tourists, customer engagement, app rating, continued use intention, WOM intention, tourists' destinations, autonomous motivation, controlled motivation, augmented reality, narratives, fun, reviewer trustworthiness, review use-

fulness, enjoyment, tourism destination reputation, and the degree of tourists' attractiveness.

Based on the literature, the most commonly used database in this paper is ResearchGate ( $n=45$ ), which appeared as a widely accepted professional network for scientists and researchers in 2008; it provides various features related to social networks and bibliographic databases that permits its subscribers to share and discover research (Singh et al., 2022). In addition, it has a very wide scope, including most of the peer-reviewed online academic journals, books, conference papers, dissertations, theses, technical reports, preprints and many other types of scholarly literature.

The full-text publications reviewed for potential inclusion criteria were many types of articles related to gamified tourism; and the exclusion criteria for the disqualified studies were all types of articles with missing texts or grey literature, published in a language other than English, and published before 2010. In addition, additional references were recognized by traditional research in the reference lists from the collected articles.

## Results

### *Gamification in the Hospitality and Tourism Sector*

Gamification has been employed in the hospitality and tourism sector because this process enriches the level of tourists' education, awareness, and satisfaction (Negrusa et al., 2015). Its effectiveness has been the subject of many studies which have examined the effect of gamification on psychological and behavioural outcomes. The majority of articles are associated with gamification in the hospitality and tourism sector, but are not specific to affordances. The following discusses a selection of previous studies related to gamification in general, as well as its application within the hospitality and tourism sector.

The most studied platforms in the T&H sector are: (1) TripAdvisor's funware, which was founded in 2000 in the U.S. and has been gamified by converting the website's functions into play tasks in order to attract audiences and motivate users to remain engaged with these platforms (Sigala, 2015); (2) Airbnb, which started in 2007 in the U.S. and has been applying game mechanics such as badges, travel coupons, discounts

on household effects, invitations to exclusive events, webinars from market experts, and tax services, offering a mixture of social, utilitarian, and hedonic benefits for both hosts and guests or users (Sigala et al., 2019); (3) Geocaching, a notable gamified travel app that started in 2000 in the U.S. It is grouped under three concepts: the treasure hunt, the itinerancy, and the game. It consists of the practice of hiding a container in a specific location, then publishing the latitude and longitude coordinates of the location on a geocaching web in order for 'geocachers' to find it using a GPS device (Machado, 2021). This GPS-enabled treasure hunt boosts the tourists' visit to a destination, which in turn increases their satisfaction and the destination's image.

Users on tourism and hospitality platforms might reveal positive or negative outcomes which have both theoretical and practical significance because they provide a formal knowledge related to the causes of human behaviour and to the design of social environments that increase users' wellbeing. Therefore, research and studies, guided by many theories, have confronted a huge challenge with these issues specifically (Deci & Ryan, 1985).

Accordingly, most of the studies mentioned in the Appendix were rooted in theory. These studies were characterized by theoretical diversity, as shown in Table 2. Literature revealed that certain theories are analysed more heavily than average, namely, Self-determination theory (SDT), the Unified theory of acceptance and use of technology (UTAUT), and the flow theory, while other papers related to gamification were guided by theories whose usage does not exceed the average (see Table 2). In addition, different variables and relationships were examined in the T&H sector such as brand awareness, brand loyalty, users' engagement, intrinsic motivation, extrinsic motivation, satisfaction, fun, flow, enjoyment, co-creation of personal value, customer experience, tourists' interest in the destination, users' green behaviour in tourism, app rating, WOM intention, continued use intention, users' generated content, users' psychological needs for autonomy, competence, relatedness, purpose, mastery, controlled motivation, autonomous motivation, the degree of attractiveness

Table 2 List of Theories Employed in the Literature

Theories	Frequency
Self-determination theory	38
Unified theory of acceptance and use of technology	8
The flow theory	5
Altruism theory	2
Motivation theory	4
Cognitive evaluation theory	3
Source credibility theory	1
Social identity theory	2
Prospect theory	1
Rational action theory	1
Theory of social influence	3
Affordance theory	1

of the tourist destination, and tourism destination reputation.

The findings of all studies highlighted the fact that including gamification in the T&H sector results in favourable outcomes: (1) motivating travellers or tourists to engage with their websites and write reviews; (2) boosting tourists' online experiential values and trip planning processes; and (3) increasing the degree of attractiveness of the tourist destination. The interesting findings were related to the categorization of gamified trip players, which highlighted the importance of designing appealing gamified trips based on various market segments, taking into consideration that it is a costly and difficult process (Coghlan & Carter, 2020; Shen et al., 2020). Other interesting results found that eco-gamification promotes green behaviour, which makes a positive impact on tourism (Souza et al., 2020). Notably, most studies analysed gamification in TripAdvisor; and only a few analysed the gamification tool in the Yelp and Airbnb tourism and hospitality platforms. Results found that travellers perceive the role of reviews of 'Elite' reviewers with the 'Elite' badge on TripAdvisor as valuable, useful, and entertaining. In addition, some studies focused on the positive impact of including rewards in gamified tourism apps on users' participation in that app. Contrary to these results, Zhou et al. (2020) found that users who

are rewarded in an online travel community are not more committed.

### *Gamification in Tourism and Hospitality Review Platforms*

Since gamification has revealed a positive effect on both psychological and behavioural outcomes in the T&H sector, we have sought to evaluate the extent to which gamification affordances within tourism and hospitality review platforms might affect different psychological and behavioural outcomes. Based on the overall literature, it appears that only 6 studies are related to gamification affordances in the realms of tourism and hospitality. Therefore, further research is needed in this area to clarify the crucial role of each game affordance and its impact on psychological and behavioural outcomes.

Many authors suggested compilations of recurring game design elements, which are considered as the basic building blocks in the development of gamification apps (Deterding et al., 2011; Hamari et al., 2014; Koivisto & Hamari, 2019; McGonigal, 2011; Werbach & Hunter, 2012; Zichermann & Cunningham, 2011; Zichermann & Linder, 2010). Game design elements such as points, scores, xp, challenges, quests, missions, tasks, clear goals, badges, achievements, medals, trophies, leaderboards, rankings, levels, performance feedback and stats, progress, status bars, skill trees, quizzes, questions, timers, increasing difficulty, social networking features, cooperation, teams, competition, peer-rating, customization, personalization, multiplayer, collective voting, avatars, character, virtual identity, narratives, storytelling, dialogues, 3D world, in-game rewards, and role play were classified into different categories of motivational affordances such as achievement/progression elements, social elements, and immersion elements.

Based on a sample of 312 U.S. TripAdvisor platform users, Abou-Shouk and Soliman (2021) showed that the intention to adopt gamification by online travel agencies (OTA) increased the engagement of users in gamified apps, which subsequently increased users' awareness and loyalty. This article examined the mediation impact of user engagement, but scholars are advised to analyse the moderation impact of corpo-

rate image and/or corporate reputation on the relationship between gamification adoption intention and brand awareness and brand loyalty.

In addition, inspired by user generated content in tourism and hospitality review platforms, and based on a sample of 266 American reviewers using TripAdvisor platform, Bravo et al. (2021) found that different motivational affordances had a positive impact on users' psychological needs for relatedness, autonomy, mastery, purpose which in turn boosts autonomous motivation and user-generated content. Therefore, it would be interesting if future studies investigate the role of the Octalysis framework (Chou, 2019) to strengthen the understanding of motivational effects of gamification and their impact on user-generated content.

Moreover, the implementation of game mechanics within digital platforms results in more satisfied users according to Kim et al.'s (2021) study. They examined the impact of motivational affordances (letterboxing and rewards) on psychological outcomes of 1,203 users (fun, flow, satisfaction, and enjoyment) and revealed that users' flow, level of fun, satisfaction, and enjoyment increased due to the use of gamified apps. The study focused on two gamified elements specifically, letterboxing and rewards; therefore, future studies can further explore other gamified elements such as time and personalization customized to the gamification design processes.

Furthermore, research conducted by Lee (2019) employed a gamified app used by 165 college students interested in tourism and cruise destination. The findings indicated that gamification had a significant effect on knowledge gain related to cultural heritage attractions. However, gamification had a negative direct impact on users' enjoyment and flow experience and a negative indirect impact on loyalty toward cultural heritage attractions, which contradicts with previous findings. For future studies, scholars should examine the role of specific game design elements (e.g. rewards and mission) in promoting visitor motivational behaviour and knowledge gain.

In addition, Shi et al. (2022) assessed the impact of gamification affordances on tourists' value co-creation in online travel agencies' platforms. A total of 317

customers on the OTA platform completed the survey. Results showed that gamification affordances (achievement, identity, competition, and self-expression) increase tourists' functional, social, and emotional values, which in turn increases the intention to purchase during online shopping carnivals as they became key strategy for customer engagement and sales boosting for e-commerce platforms such as online travel agencies platform of Alibaba (i.e., Flypig). Future studies are encouraged to study the impact of different gamification designs on users' value and purchase intention based on users' different personality traits (Octalysis Framework).

Furthermore, a qualitative marketing research conducted by Foris et al. (2024) highlighted the fact that gamification affordances applied within an online promotion app (BrasovTourism app) increase the degree of attractiveness of tourists' destinations. It would be valuable for future studies to examine the moderating effect of demographic variables, specifically age and gender, on the association between gamification affordances and the degree of attractiveness of tourists' destinations.

All studies mentioned in this paper examined the important role of adopting online or offline gamification and revealed that interacting with gamification promotes a diversity of outcomes. The understanding of gamification effects on purchase intention, perceived ease of use, perceived usefulness, user-generated content, and user awareness were frequently used in contrast to other less examined outcomes, namely, tourism destination reputation, degree of attractiveness, review usefulness, perceived enjoyment, online review helpfulness, reviewer trustworthiness, intention to recommend, willingness to buy, active engagement, and the degree of attractiveness of the tourist destination (see Table 3).

All results shown above reveal the fact that the whole process of including gamification elements in hospitality and tourism applications serves as stimuli that give rise to a best experience for tourists. This contradicts with the unexpected findings of Lee's (2019) study that investigated the effect of gamification on tourists' psychological outcome and knowledge gain in light of cultural heritage sites named in the



Table 3 List of Outcomes Studied in the Literature

Outcomes	Frequency
Purchase intention	4
Loyalty	3
Perceived ease of use	5
Perceived usefulness	4
User-generated content	3
Tourism destination reputation	2
Users' awareness	4
The degree of attractiveness	2
Review usefulness	2
Perceived enjoyment	3
Online review helpfulness	1
Reviewer trustworthiness	1
Intention to recommend	2
Willingness to buy	1
Active engagement	1
The degree of attractiveness of the tourist destination	2

study as popular cruise tourism destinations and found that the use of a Korean gamified app for cruise tourism destinations called 'Gyeongbok Palace in My Hand' had negatively affected users' flow ( $\beta = -0.106$ ,  $p < 0.05$ ), enjoyment ( $\beta = -0.404$ ,  $p < 0.05$ ), and loyalty, as those assigned to the gamification user group were, on average, 0.694 units lower in their flow than those belonging to the non-gamification group, and non-users of gamification showed higher levels of enjoyment than users of gamified elements. However, findings revealed a positive impact on users' level of knowledge gain ( $\beta = 0.021$ ,  $p < 0.05$ ) which is a strong factor that encourages visitors to use cultural heritage sites.

## Discussion

Based on the literature, it is evident that most existing research is based on theoretical papers and quantitative studies; as for game-related motivational affordances, it is relatively apparent that few gamification studies specifically examined the role of motivational affordances on users' psychological out-

comes in the tourism and hospitality fields and are limited by small sample sizes. Researchers noticed that most studies mentioned in China, Japan, Spain, Korea, and the U.S.A. dominated the literature. The general results of gamification in the T&H sector are supported by the recent systematic review conducted by Pasca et al. (2021), which has revealed that both tourists and service providers gain value from T&H services that include gamification because it has been deemed an innovative tool that promotes the interaction of consumers and their participation in the co-creation of experiences or services. Gamification has also enabled service providers to identify innovative tools and develop new strategies to remain the leaders in the market. Many studies examined in this paper showed notable findings. For example, results of previous studies highlighted the role of gamification in raising awareness of sustainable development goals (SDGs). For example, gamified items are used in mobile apps to educate users on social equality, climate change and, clean water. This technique educates users about SDGs and encourages them to step forward in achieving sustainable development in their local areas. Another contribution lies in combining gamification and innovation culture as powerful tools for tourism destination. Moreover, this interesting finding was related to specific gamified tourism activities that were designed based on the travelling habits and lifestyles of Millennials in order to improve the overall tourist experience. Based on the literature, scholars mentioned 6 books related to: (1) gamification as a tool for marketing communication in tourism; (2) gamification as a tool in new market research and in tourism; (3) game principles and elements leading to effective gamification in tourism; (4) digital gamification apps in the tourism industry; (5) the application of gamification mechanisms and social media tools in the promotion of tourism regions and enterprises and (6) game experiences as enhancing engagement in tourism.

Concerning the findings generated from tourism and hospitality review platforms studies, the motivational potential of gamification mechanics is recognized by self-determination theory (Deci and Ryan, 1985), and the drive framework of motivation (Deci

et al., 1999; Bravo et al., 2021). Moreover, a few studies developed different theoretical models based on UTAUT to investigate whether demographic variables, specifically age and gender, have a moderation effect on the relationship between gamified elements and various psychological outcomes especially that minimal focus has been given to the role of gender and age in the gamified online marketplace (Koivisto & Hamari, 2014; Zhang et al., 2020).

Our analysis revealed stronger dominance of SDT theory and UTAUT usage within specific streams of gamification as compared to gamified tourism platforms which revealed a lack of a core in terms of game elements. It was clear in the literature that TripAdvisor.com platforms are more popular than any other tourism and hospitality review platform. However, there is still a need for explaining the success of other gamified tourism platforms, especially in the form of qualitative studies to address the 'how' and 'why' in order to enable a deeper understanding of users' experiences in tourism platforms. Researchers found that the effects of affordances on different psychological outcomes vary based on the elements and mechanics that structure the game. Consistently, achievement affordances are mostly adopted in gamified activities; the second most common provision of affordances is social affordances; thirdly come the immersion-oriented affordances, which are not as frequently used as achievement and social properties (Koivisto & Hamari, 2019). Future studies should respond to the calls for larger conceptualization of gamification research within tourism and hospitality review platforms.

### Limitations

Our narrative review is limited to specific peer-reviewed publications within specific databases which are Elsevier, ResearchGate, Routledge, and Springer. Authors interested in examining another narrative literature review related to gamification in the tourism and hospitality sector could use data collected by other databases such as JSTOR, Google Scholar and many others. In addition, given the massive employment of elements of game mechanics recently in training, education, health, marketing, and wellness initiatives, case studies on gamification in the T&H sector are

important to examine. Findings also point to the need for longitudinal studies that are sensitive to differences emerging over time on users' lasting behaviour and loyalty to game elements within tourism apps. It is also of great importance to take into consideration the impact that gamified elements exert on users' different psychological needs that are likely to change based on the type of motivational affordances users engage with; because different types of motivational elements lead to alteration in users' psychological needs. In addition, it is imperative to shed light upon the 'Octalysis Framework' (Chou, 2019) to analyse the motivational effects of gamification in hospitality and tourism review platforms. Researchers wish that this consolidation of the research evidence will help refine research questions and theory used for gamification within tourism and hospitality sector. While gamification holds great potential to enhance effectiveness in the tourism and hospitality sector, investigations are required in the tourism and hospitality industry as a whole, as well as on specific platforms within the field.

### Conclusion

In sum, previous studies have indicated that gamification represents a pivotal and attractive strategy for app designers, managers, and service providers in the T&H sector, especially during this time of fierce competition, as service providers are seeking innovative tools and strategies not only to grow better but also to make a significant contribution in the world of tourism.

Although numerous studies have explored gamification in the T&H sector, our review of current literature provides suggestions for further studies on motivational affordances applied in tourism and hospitality review platforms and more robust assessment of the permanent impact of this gameful thinking on standardized outcomes. Further studies must also focus on theoretical foundations which open up scientific discussions and deeper exploration of the theoretical frameworks that underpin gamification's impact. Pertaining to this, this narrative review showed that studies on gamification in the tourism and hospitality sector have so far used a variety of different theories. Based on the literature, some theoretical foundations

were considerably more popular than others, of which the most popular ones are self-determination theory, utilized in 38 studies, and unified theory of acceptance and use of technology, utilized in 8 studies; in contrast, the least popular ones are source credibility theory, prospect theory, rational action theory, affordance theory, and social identity theory (Table 2).

Finally, gamification aids to change from a business-centric perspective to a truly sustainable perspective as many touristic practices analysed included players' or users' intrinsic motivation in the game mechanism (Negrusa et al., 2015). Therefore, game designers should be able to design gamified touri-

sm mobile apps that bring fun, engagement, and satisfaction to users based on three inclusions: (1) the incorporation of achievement/progression elements related to earning points and getting rewards; (2) the incorporation of social elements where app designers should consider creating a community of users within the app; and (3) the incorporation of immersion game elements related to customizing avatars and interacting with the avatars of other users. Everything aforementioned aspires to a sustainable approach and provides a new research direction.

## Appendix

Authors Country	Purpose	Type of source	Summary points
Abou-Shouk and Soliman (2021) UAE	To investigate the antecedents and consequences of gamification's adoption intention by tourist organizations, and to examine customer engagement's mediating effect.	Quantitative research	Tourism organizations opt to adopt gamification in order to boost the engagement of customers and to attain brand awareness and increase loyalty for tourist destinations.
Aebli (2019) Germany	To explore tourists' motives for engaging with gamified technology during a pleasure vacation.	Qualitative research	Gamified elements help tourists in achieving numerous motivational goals and enhance their communications throughout the vacation destination.
Aguiar-Castillo et al. (2019) Spain	To verify if the WasteApp can be a successful tool to foster recycling and to improve tourism destination reputation.	Quantitative research	WasteApp is a gamified application that increases tourists' behaviour of recycling and enhances the destination image that embraces it.
Alčaković et al. (2017) Serbia	To examine the role of Millennials within the tourism industry, to figure out the significant role of gamification as an emerging tool that creates a memorable tourism experience, and to generate various benefits to customers' destinations within tourism.	Theoretical paper	Millennials are expected to reshape future tourist demand, and tourist destinations will target emerging target segments, utilizing information technologies and the diverse benefits of gamification.
Banerjee et al. (2017) India	To estimate and predict reviewer trustworthiness.	Quantitative research	Trustworthy reviewers could be identified and ranked using reviewer characteristics.

Authors Country	Purpose	Type of source	Summary points
Bravo et al. (2021) Spain	To analyse (1) the impact of gamification on users' psychological need for relatedness. Autonomy, mastery, and purpose; (2) the impact of autonomous and controlled motivation on content creation.	Quantitative research	Using gamified elements boosts psychological need satisfaction and controlled motivation; feelings of mastery and purpose foster autonomous motivation; in addition, autonomous motivation has a significant impact on content creation.
Bulencea and Egger (2015) Germany	To understand why game experiences are so engaging.	Book	Linking gamification to experience design might offer an unparalleled formula for crafting transformative experiences.
Celtek (2010) Turkey	To understand the characteristics and abilities of the mobile advergame as an advertising and marketing tool for the tourism industry.	Quantitative research	Games were successful in branding but ineffective in viral marketing because devices needed to play these games are expensive.
Coghlan and Carter (2020) Australia	To explore the process of developing a serious game as an interpretive tool for the Great Barrier Reef, Australia.	Qualitative research	Games can be designed to represent a complex and threatened ecosystem and reveal positive feelings among tourists, specifically curiosity and delight.
Correa and Kitano (2015) Brazil	To analyse the structure of the game Brazil Quest, an app developed to harness the potential of gamification in tourism.	Theoretical paper	The game Brazil Quest can be classified as an entertainment or a hobby game, able to entertain tourists for a short period.
Filieri et al. (2019) France and Italy	To reveal the factors that moderate the influence of extremely negative reviews on review helpfulness.	Quantitative research	Reviews with extremely negative ratings are more likely to be helpful when the review is longer and easier to read and when the reviewer is an expert or discloses his identity.
Foris et al. (2024) Greece	To identify the necessity and the usefulness of implementing gamification within the online tourism promotion application in Brasov County: the Brasov Tourism App.	Conference paper	The adoption of the gamification functionality, within the online promotion application, increases the degree of attractiveness of the tourist destination.
Garcia et al. (2018) Spain	To present gamified mobile experiences as valid tools for DMOs to improve the experience of tourists, and to present the benefits provided to DMOs by analytics tools included in gamified mobile experiences.	Quantitative research	Both DMOs and tourists can profit from gamified mobile experiences.
Hlee et al. (2019) Korea	To identify a heuristic processing of content richness and source credibility and to apply both for utilitarian and hedonic evaluations.	Quantitative research	The impact of content richness and source credibility on utilitarian evaluations is likely to be higher for a casual restaurant than for a luxury restaurant, whereas only the number of content-rich images had a greater effect on hedonic evaluations of a casual restaurant.

Authors Country	Purpose	Type of source	Summary points
Hu and Chen (2016) Taiwan and United States	To address three hidden assumptions: (1) all reviews are visible equally to online users; (2) review rating (RR) and hotel star class (HSC) affect review helpfulness individually with no interaction; and (3) characteristics of reviews and reviewer status are constant.	Quantitative research	Three review visibility indicators (including days since a review was posted, days since a review has remained on the home page, and number of reviews with the same rating at the time a review was written) had a varied and strong effect on review helpfulness.
Huang and Lau (2020) Hong Kong	To understand the aspirations of people with visual impairments in terms of tourism and to explore how smart tourism destinations could potentially enhance the tourism experience they offer.	Qualitative research	Participants showed positive attitude towards autonomy, achievement needs, and socializing with other individuals. They also revealed their desire to play games on their phones.
Kachniewska (2015) Poland	To present the application of gamification mechanisms and social media tools in the promotion of tourism regions and enterprises as well as the promotion of tourism activity itself.	Book	Gamification helps in improving visitation, demonstrating the destination's values, motivating users to engage in the long-term, creating awareness, boosting visitors' loyalty, helping visitors interact, learn, and share opinions, helping explore the destination, and finding brand ambassadors.
Kawanaka et al. (2020) Japan	To investigate the effects of gamification on tourist behaviour and satisfaction.	Experimental study	Tourist behaviour changes due to the specific design of gamification.
Kim et al. (2021) Korea	To test the impacts of two-game features: (1) letterboxing; and (2) external rewards, in order to understand the effects of gamification on tourist psychological outcomes in a maze park.	Quantitative research	The main effects of letterboxing that trigger intrinsic motivations appear to be significant on tourist psychological outcomes. Moreover, there are important interaction effects between letterboxing and rewards on tourist flow.
Kwok et al. (2020) USA	To discover the main elements of home-sharing products' marketing mix that are appreciated most by travellers, allowing practitioners to draw insightful business intelligence.	Quantitative research	Listings managed by hosts with the 'Superhost' badge are likely to receive more reviews and more positive comments.
Kwok and Xie (2016) USA	To examine the factors contributing to the helpfulness of online hotel reviews and to measure the impact of manager response on the helpfulness of online hotel reviews.	Quantitative and qualitative research	The rating and the number of sentences in a review negatively affect helpfulness of online hotel reviews. In addition, manager response and reviewer experience in terms of reviewer status, years of membership, and number of cities visited positively affect helpfulness of online hotel reviews. Manager response moderates the influence of reviewer experience on the helpfulness of online hotel reviews.



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La Cuadra et al. (2019) Spain	To analyse the effects of the experience when visiting a zoo on our emotions and the way they influence our behaviours and to examine whether gamification programs could be used to boost the relations suggested.	Quantitative research	There is a predisposition of the visitors to the adoption of new gamified technologies that enrich the experience.
Lee (2019) Korea	To investigate the impact of gamification on tourist psychological outcome and knowledge gain in light of cultural heritage sites known as cruise tourism destinations.	Quantitative research	The usefulness of gamified apps conveys memorable and real-time information and knowledge to users in cultural heritage sites.
Lent and Marciniak (2020) Spain	To examine the impact of gamification and augmented reality technology on tourist attractiveness.	Quantitative research	The foreign tourists tend to demonstrate a positive attitude towards mobile tourism games that apply gamification techniques and use augmented reality technology.
Li et al. (2019) China	To examine the effects of temporal, explanatory, and sensory cues on customers' perceived usefulness and enjoyment in restaurant online reviews.	Quantitative research	Reviewers from among 'Elite' reviewers are perceived as more useful.
Li et al. (2017) United States and Spain	To examine the factors that influence the peer evaluation of hotel online reviews.	Quantitative research	Consumers' review evaluation is not independent or solely relevant to text features, but is socially included and influenced by the online reviewer's social network and social identity.
Liang et al. (2017) China, United States and Hong Kong	To examine the gamification design developed by Airbnb that awards a 'Superhost' badge to hosts who receive good reviews and observes how this can impact an accommodation's review volume and ratings.	Quantitative research	An accommodation with the 'Superhost' badge result in more reviews and higher ratings. In addition, guests are willing to spend more on 'Superhost' accommodations.
Linaza et al. (2014) Switzerland	To explore how pervasive augmented reality games can be used to deliver an engaging tourism experience.	Qualitative research	The game provides a fun and interactive way to guide participants through different PoIs. It allows them to search for unique QR codes, unlock clues, answer quiz questions, and expand buildings.
Liu and Park (2015) China	To identify the factors affecting the perceived usefulness of online consumer reviews.	Quantitative research	The perceived usefulness of reviews is positively affected by messenger and message characteristics.
Liu et al. (2019) Taiwan	To conceptualize festival gamification through intrinsic motivation of SDT and psychological needs' for competence, autonomy, and relatedness.	Quantitative research	A five-dimensional, 16-item festival gamification scale (FGS) was developed, which includes dimensions of relatedness, mastery, competence, fun, and narratives.

Authors Country	Purpose	Type of source	Summary points
Machado (2021) Portugal	To identify how the development of the gamification concept, specifically geocaching, can contribute to attracting more tourists and to reinforce the destination image of Madeira.	Quantitative research	Destination Management Organizations (DMOs) should include in their official web pages some specific information that helps with finding geocache places, alongside photographs of geocaching experiences, and develop apps and games in an accessible format.
Meenakshy et al. (2020) India	To understand the effect of the varied game-related motivational affordances in the online context on consumer intent to write reviews on online tourism sites.	Quantitative research	Intrinsic motivational affordance of enjoyment had a significant effect on tourist intention to write reviews compared to extrinsic factors like achievement and rewards.
Mileva (2023) Bulgaria	To research the impact of innovativeness and innovation culture as premises for effective gamification at destination level.	Theoretical paper	Innovation culture and gamification are power tools for tourism destination management.
Moro et al. (2019) Portugal	To raise and develop research hypotheses related to the influence of gamification features on the written online reviews about hotels.	Quantitative research	Three badge items were most applicable, involving the total number of badges, the passport badges, and the explorer badges, highlighting the relation between gamification affordances and travellers' behaviour when writing reviews.
Negrusa et al. (2015) Romania	To highlight the role of gamification in the tourism and hospitality industry and further, in the larger context of sustainable development.	Case study	Tourism products include economic objectives with social and environmental positive externalities so the training environment becomes more engaging and the tourists discover the history.
Nunes and Mayer (2014) Italy	To test the acceptance of a smartphone game which would support the tourism experience of visitors to an island with tourism.	Quantitative research	An updated tourist profile of a more connected and technologically sophisticated public includes interest in interaction with mobile technologies that assist tourists even on trips where they want to experience nature, adventure, social interaction and relaxation.
Ozkul et al. (2020) Turkey	To explore the digital gamification apps in the tourism industry based on some parameters.	Book	Digital gamification activities are mostly used as a contribution to promote and market the destinations.
Pamfilie et al. (2016) Romania	To offer a contribution to the research in the field of gamification, to show some of the revolutionary solutions found by top organizations, based on gaming techniques, and to suggest a model related to gamification in a tourism organization.	Theoretical paper	The paper brings benefits for both the user and the organization, from financial advantages, to social gain, promoting sharing knowledge and acting as a leisure activity.
Park and Nicolau (2015) UK and Spain	To assess the effect of review ratings on usefulness and enjoyment.	Quantitative research	The size of the effect of online reviews depends on whether they are positive or negative.

Authors Country	Purpose	Type of source	Summary points
Pasca et al. (2021) Italy	To synthesize and conceptualize the current state of gamification knowledge in the tourism and hospitality sector.	Systematic literature review	Through gamification, T&H services create value for app users and service providers.
Pradhan et al. (2023) India	To identify key issues, offer insights into the potential of gamification in tourism, and recommend areas for future research.	Systematic literature review	Including machine learning techniques, EEG, eye-tracking method, and experimental research in order to gain a nuanced understanding of gamification in tourism.
Roinioti et al. (2022) Switzerland	To discuss the gamification strategies and methodologies used by TRIPMENTOR, a game-oriented cultural tourism application.	Theoretical paper	Gamification boosts tourism marketing strategy and serves as a tool for encouraging users to share their experiences, and discovering areas in a way designed to meet their personal needs, interests, and habits.
Schuckert et al. (2015) China	To examine how virtual badges affect the online behaviour of reviewers and readers based on status-seeking theory in an online environment.	Quantitative research	Online readers prefer low ratings reviews; however, reviewers with high-level badges tend to post moderate ratings and avoid extreme ratings.
Sever et al. (2015) Turkey	To evaluate the potential of gamification in online tourism marketing.	Theoretical paper	Gamification boosts online advertising activities.
Shen et al. (2020) Canada	To examine visitors' motivations for taking a gamified trip.	Qualitative research	Not all players are keen to share trip experiences on social media, compete with others, or receive badges.
Shi et al. (2022) China	To examine the emerging phenomenon of gamified technology use in the tourism context and to provide valuable implications for designing appealing gamified online travel agency platforms.	Mixed methods	The four key gamification affordances, namely, achievement affordance, identity affordance, competition affordance, and self-expression affordance contribute to tourists' diverse value perceptions on the online travel agency (OTA) platform, which boosts their purchase intention during an online shopping carnival.
Sigala (2015) Greece	To investigate the use and the impacts of gamification in a specific tourism context in the case of TripAdvisor's funware.	Quantitative research	Users logging into the TripAdvisor's platform with their Facebook account, engage significantly more with demanding website tasks; gain significantly higher experiential values in terms of social-emotional benefits; claim significantly greater impacts of TripAdvisor on making their trip planning more interactive and social; and report significant associate destinations with specific groups.
Sigala (2015) Greece	To identify the game principles and elements that can lead to effective gamification in tourism.	Book	Gamification is a significant tool used for crowdsourcing any marketing practice and influencing customer behaviour at any stage of the consumer behaviour process.

Authors Country	Purpose	Type of source	Summary points
Skinner et al. (2018) USA	To examine how organizations in the tourism sector could meet the needs of Millennials and Generation Z through engaging with the existing gamified location-based practice of geocaching as an information and communication technology-enabled gamified enhancement to the destination experience.	Qualitative research	Through engaging with geocaching smaller entrepreneurial businesses can reap the benefits associated with employing the principles and practices associated with smart tourism to meet the needs of this new generation of tourism consumers who seek richer digital and often gamified tourism experiences.
Soro and Thibault (2020) Italy	To investigate the relationship between gamification and the latest digital marketing approaches within the tourism and travel industry.	Theoretical paper	Tourism and gamification generate diverse synergies, many of which are already being explored by professionals and firms to boost and sell both touristic services and games.
Souza et al. (2020) Portugal	To examine specific stakeholders and their perspectives concerning not only the benefits, but also the challenges of (eco)gamification.	Qualitative research	Eco-gamification promotes 'green' behaviour, transmits complex information through entertainment, rewards users for good practices, strengthens engagement and avoid tourism overcrowding.
Stadler and Bilgram (2016) USA	To investigate the way gamification is employed in a new market research and in a tourism industry which boosts consumers' experience and generates desirable results.	Book	The concept of gamification may be conceived as a powerful enabler and amplifier of individual value co-creation.
Tomej and Xiang (2020) China	To examine whether the concept of affordance helps in aligning the elements of a tourism service with intended service experiences.	Case study	The affordance-based framework helps tourism designers to disentangle the complex relationships that exist in the interactions of tourists with their environments and therefore to guide and facilitate the creative process.
Xu et al. (2013) China	To discuss the concept of how game design elements and game thinking can be applied in a tourism context.	Theoretical paper	Gamification is a significant, emerging trend for the coming years.
Xu et al. (2015) China	To explore the gamification trend and its potential for experience development and tourism marketing.	Qualitative research	Tourists' game playing motivation is multidimensional. Players tend to start with purposive information seeking, then move on to an intrinsic stimulation.
Xu et al. (2017) China	To examine gaming in general terms and the application of it in specific tourism areas.	Theoretical paper	Drawn on the MDA model, the study demonstrates that gamification is a significant tool for business in general, and it is also emerging as a future trend for tourism.
Yang et al. (2018) Taiwan	To construct a behaviour model for Pokémon Go users by consideration of motivation, and tourism benefit.	Quantitative research	The tourism industry should highlight users' attraction with Pokémon-related products and events to boost the motivation of Pokémon Go users.

Authors Country	Purpose	Type of source	Summary points
Yilmaz and Coskun (2016) Turkey	To explore the use of gamification as a tool for marketing communication in tourism.	Book	The new generation of tourists are investigators more than learners because they tend to discover the facilities and the touristic products and services on their own.
Yoo et al. (2017) Korea	To examine the factors responsible for the adoption of smart tourism applications which include game elements, using the Google Maps tourist guide program.	Quantitative research	Individuals regard a gamified smart tourism app as a low-level game tool.
Zhang et al. (2020) China	To collect the profiles of elite reviewers in Yelp and analyse their behavioural changes from the year before being elites to the first year of being elites and then to the second year of being elites.	Quantitative research	'Elite' reviewers increase their contributions and the readability of their reviews and become more conservative in the short term, while in the long term their rating behaviours stabilize.
Zhou et al. (2020) USA	To test the moderating role of advertising towards the impact of Online Travel Community commitment on products/services-related behavioural intentions.	Quantitative research	Users rewarded in an online travel community are not more committed.
Zhou and Guo (2017) China	To investigate whether, how, and why the order of a review will affect review helpfulness from a social influence perspective.	Quantitative research	The negative effect of review order on review helpfulness is not significant when the reviewer has more social connectedness or higher level of expertise, or when the review is negatively assessed or recently posted.

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### **Uporaba krajinskih risb za preučevanje dojemanja destinacij**

Yihao Zhuo and Hirofumi Ueda

Ta članek predstavlja raziskovalno študijo, v kateri je uporabljena kvalitativna raziskovalna metoda, ki temelji na risanju – tehnika skiciranja krajinske podobe (LIST) – za raziskovanje predstav ljudi o turističnih destinacijah. Ta metoda vključuje udeležence, ki s skiciranjem simboličnih prizorov izražajo svoje dojemanje določenih krajev. V nasprotju s prejšnjimi študijami, ki so temeljile na risanju, metoda LIST uporablja štiriaspektni model zaznavanja krajine za interpretacijo predstav ljudi ter prepoznavanje njihovih vrednot in interesov. Kot študijo primera smo raziskali podeželski turizem v avtonomni regiji Guangxi Zhuang na Kitajskem, pri čemer smo zbrali skice podob 166 lokalnih študentov tretjega letnika, da bi osvetlili njihovo dojemanje podeželskih destinacij. Metoda LIST se je izkazala za koristno pri razumevanju funkcionalnih značilnosti podeželskih destinacij Guangxija ter pri odkrivanju psiholoških doživetij, ki jih anketiranci pričakujejo. Članek obravnava tudi možnosti in omejitve uporabe metode LIST pri raziskavah podobe turističnih destinacij.

*Ključne besede:* risanje, podoba destinacije, podeželski turizem, tehnika skiciranja krajinske podobe

*Academica Turistica*, 18(1), 3–20

### **Dejavniki, ki vplivajo na dajanje napitnin v restavracijah: primer Hrvaške**

Ina Rimac, Ljudevit Pranić, and Ena Jurić

Napitnine v gostinstvu so razširjen, vendar premalo raziskan pojav, zlasti v regijah, kjer kulturna, ekonomska in družbena dinamika odstopajo od ustaljenih norm. Ta študija raziskuje ključno vlogo vrednosti, kot jo zaznavajo potrošniki, pri oblikovanju vedenja glede napitnin v restavracijah, s posebnim poudarkom na Hrvaški—v okolju, kjer na prakso dajanja napitnin vplivajo edinstvene kulturne, ekonomske in družbene značilnosti. Na podlagi analize podatkov 438 hrvaških prebivalcev študija razkriva, kako različne dimenzije storitev—kot so kakovost hrane, ambient, priročnost storitve in kakovost strežbe—ter v kombinaciji z demografskimi značilnostmi in načini plačila oblikujejo prakse dajanja napitnin ter priporočila od ust do ust. Raziskava umešča hrvaške prakse dajanja napitnin v širši okvir turističnih inovacij, pri čemer poudarja povezovanje zakonodajnih reform (kot je uvedba napitnin na podlagi kartic), operativnih izboljšav (kot je vključevanje digitalnih plačilnih sistemov) in spreminjajočih se kulturnih norm. Te inovacije izboljšujejo gastronomsko izkušnjo tako za domačine kot za mednarodne turiste ter usklajujejo lokalne gostinske prakse z globalnimi standardi. Ugotovitve poudarjajo, kako lahko prehodna gospodarstva z izkoriščanjem teh kombiniranih inovacij okrepijo svojo konkurenčnost na globalnem turističnem trgu ter spodbujajo pozitivno zaznavo turistov.

*Ključne besede:* napitnine, restavracije, zaznana vrednost, turistične inovacije, Hrvaška

*Academica Turistica*, 18(1), 21–38



### **Revolucioniranje hotelskega poslovanja z umetno inteligenco: študija primera o moči integracije ChatGPT in Gemini**

Pongsakorn Limna, Tanpat Kraiwanit, Tanatorn Tanantong, and Todsanaï Chumwatana

Ta študija preučuje implementacijo in vpliv ChatGPT in Gemini v štirizvezdičnem hotelu v Ao Nangu, Krabi, Tajska, v obdobju januar–februar 2024. Z uporabo mešanega raziskovalnega pristopa, ki združuje kvantitativno analizo in kvalitativne vpogleda, je raziskava ocenila operativne metrike v več storitvenih področjih ter zbrala podrobne povratne informacije lastnika hotela. Študija je pokazala znatne izboljšave operativne učinkovitosti, pri čemer se je čas obdelave prijav gostov zmanjšal s 3,3 na 2,7 minute, stopnja sprejetja AI-sistema pa se je povečala z 82 % na 93 %. Ocene zadovoljstva gostov so se opazno izboljšale, saj se je skupna ocena zadovoljstva zvišala s 4,6 na 4,8 od 5. AI-sistemi so izkazali impresivne večjezične zmožnosti, saj so obdelali 28 jezikov z 98,7-odstotno natančnostjo, medtem ko je bila natančnost obdelave dokumentov 99,2 % pri različnih vrstah dokumentov. Notranja komunikacija je dosegla 32-odstotni prihranek časa, pri čemer so stopnje učinkovitosti v vseh kategorijah presegle 96 %. Čeprav je bila prilagoditev osebja sprva izziv, je bila uspešno obvladana s celovitim usposabljanjem in postopnim uvajanjem, kar je privedlo do izboljšanega zadovoljstva zaposlenih in boljše timske dinamike. Ugotovitve zagotavljajo empirične dokaze, da lahko strateška integracija umetne inteligence izboljša tako operativno učinkovitost kot zadovoljstvo gostov, pri tem pa dopolnjuje človeški element storitev. Raziskava ponuja dragocene vpogleda za vodje v gostinstvu, ki razmišljajo o uvedbi umetne inteligence, ter predstavlja praktične smernice za uspešno tehnološko integracijo v gostinski sektor, hkrati pa izpostavlja priložnosti za nadaljnje raziskave v različnih hotelskih kategorijah in geografskih kontekstih.

*Ključne besede:* integracija umetne inteligence, ChatGPT, Gemini, gostinstvo, operativna učinkovitost

*Academica Turistica*, 18(1), 39–55

### **Vpogled v odnos menedžerjev malih in srednje velikih slovenskih gostinskih podjetij do umetne inteligence**

Saša Planinc and Marko Kukanja

Študija preučuje stališča slovenskih menedžerjev gostinskih MSP do umetne inteligence (UI), s poudarkom na vplivu njihovih demografskih lastnosti in lastnosti MSP na ta stališča. V študiji je bil uporabljen strukturiran vprašalnik in priložnostno vzorčenje. Na podlagi podatkov 288 menedžerjev je bil ugotovljen tako pozitiven kot negativen odnos do UI v sektorju, ki doživlja digitalno preobrazbo.

Rezultati kažejo na precej uravnotežena oz. le nekoliko negativna stališča, pri čemer so prisotne tako pozitivne kot negativne izkušnje. Demografske lastnosti managerjev imajo pomembnejšo vlogo pri oblikovanju stališč kot lastnosti MSP. Mlajši in manj izkušeni menedžerji so bolj optimistični in navdušeni nad uvajanjem UI, medtem ko so starejši in bolj izkušeni managerji praviloma bolj skeptični. Družinska podjetja, ki predstavljajo 61% vzorca, prepoznavajo nekatere potencialne koristi UI, sicer pa izražajo predvsem več skrbí glede njene uporabe v primerjavi z ne-dru-

žinskimi podjetji. MSP z več zaposlenimi in tista, ki delujejo v bolj konkurenčnih okoljih, kažejo večjo nagnjenost k uvedbi UI.

Študija izpostavlja ključne ovire za uvedbo UI v gostinskih MSP, s poudarkom na potrebi po ciljno usmerjenih programih izobraževanja in usposabljanja, zlasti za starejše managerje in tiste, ki imajo manj stika z digitalnimi (UI) orodji. Spodbujanje zavedanja o koristih UI s praktičnimi prikazi in primeri dobrih praks lahko zmanjša odpor in spodbuja bolj pozitivna stališča. Gostinski sektor lahko z naslavljanjem teh izzivov okrepi svojo digitalno preobrazbo v vse bolj tehnološko podprtem okolju.

*Ključne besede:* umetna inteligenca, stališča, gostinstvo, managerji, MSP, Slovenija.  
*Academica Turistica*, 18(1), 57–72

### **Vpliv duhovne romarske izkušnje na odločitev o ponovnem romanju v indonezijsko Wali Songo**

Hendar Hendar, Ken Sudartil, Ari Pranaditya, and M. Iqbal Ramdhani

Pričujoča raziskava pojasnjuje potek, ki povezuje duhovno izkušnjo romarjev z njihovo namero po ponovnem obisku grobnice Sunan Wali Songo v osrednji Javi v Indoneziji. Razumevanje, kako duhovna izkušnja romarjev ustvarja namero po ponovnem obisku v okviru verskega turizma, je pomembno. Teoretični model, ki vključuje odnos do romanja in zadovoljstvo romarjev, je bil oblikovan na podlagi teorije načrtovanega vedenja (angl. Theory of Planned Behaviour – TPB) in literature s področja turistične izkušnje. V ta namen je bilo analiziranih približno 303 romarjev s pomočjo strukturnega modeliranja enačb (angl. Structural Equation Modelling – SEM), ki temelji na programu AMOS 23.00 in je kombiniran s programom IBM SPSS 21. Rezultati kažejo, da je mogoče namero po ponovnem obisku izboljšati preko štirih poti: (1) neposredne poti prek duhovne izkušnje, (2) posredne poti prek odnosa do romanja, (3) posredne poti prek zadovoljstva romarjev ter (4) posredne poti prek odnosa do romanja in zadovoljstva romarjev. Pričujoča raziskava naj bi prispevala k razvoju TPB in literature s področja trženja turizma z zagotavljanjem celostnega modela duhovne izkušnje ter njenega vpliva na odnos do romanja, zadovoljstvo romarjev in namero po ponovnem obisku. Raziskava prav tako ponuja pomembne vpoglede za menedžerje, ki delujejo na področju verskega turizma.

*Ključne besede:* duhovna izkušnja, odnos do romanja, zadovoljstvo romarjev, namero po ponovnem obisku  
*Academica Turistica*, 18(1), 73–88

### **Igrifikacija v turističnem in gostinskem sektorju: pregled pripovedne literature in raziskovalne usmeritve**

Rola Hamie, Alaa Abbas, and Ali Abou Ali

Pričujoči članek predstavlja narativni pregled literature o uporabi igrifarskih elementov (igrifikacije) v sektorju turizma in gostinstva. Izmed 61 raziskav jih je 55 obravnavalo pomen uporabe igrifikacije v turizmu in gostinstvu, saj ta transformira turizem ter spodbuja trajnostne potovalne prakse, kar koristi vsem udeležencem igrifikacije: oblikovalcem aplikacij, osnovnim ponudnikom storitev, ponudnikom dodatnih storitev ter turistom oz. igralcem. Pri tem pa se zanemarija dejstvo, da

je vključevanje motivacijskih spodbud, ki so odgovorne za ustvarjanje igralnih izkušenj v turističnih aplikacijah, ključno za zadovoljevanje osnovnih psiholoških potreb po povezanosti, avtonomiji, obvladovanju in smislu. To posledično vodi do nadaljnjih vedenjskih rezultatov, ki se kažejo v doseganju smiselne interakcije uporabnikov, angažiranosti in zvestobe ter potencialno tudi v pridobivanju nagrad. Raziskovalci so preučili številne baze podatkov, vključno z Elsevierjem, Research-Gatom, Routledgeom, s Springerjem in Scopusom, da bi ugotovili, ali literatura o igrifikaciji v sektorju turizma in gostinstva ponuja dovolj raziskav o motivacijskih spodbudah ter njihovih končnih učinkih na psihološke in vedenjske rezultate. Na koncu so raziskovalci podali specifične smernice za prihodnje raziskave.

*Ključne besede:* igrifikacija, turizem in gostinstvo, platforme za pregled gostinskih in turističnih storitev, motivacijske spodbude

*Academica Turistica*, 18(1), 89–108



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