

Modeling tourist satisfaction drivers in a National Park: A review-based text mining and DEMATEL approach

XiaoXia Wu^{1*}, Suraiyati Rahman¹ , BaoHui Huang², ChengRu Wu², Feng Luo²

¹School of Housing, Building and Planning, Universiti Sains Malaysia, Penang, Malaysia

²College of Tourism Management, Wuyi University, Wuyishan City, Fujian Province, 354300, China



ARTICLE INFO	ABSTRACT
<i>Article history:</i> Received April 02, 2026 Received in revised form June 18, 2026 Accepted July 22, 2026 Available online September 01, 2024 <i>Keywords:</i> Dematel Grounded theory Tourist satisfaction User-generated content Wuyishan National Park *Corresponding author: Suraiyati Rahman School of Housing, Building and Planning, Universiti Sains Malaysia, Penang, Malaysia Email: suraiyati@usm.my	<i>Complex interactions among environmental, infrastructural, and experiential factors shape tourist satisfaction in national parks. With the rapid growth of digital platforms, user-generated content (UGC) has become a key resource for understanding tourists' perceptions and evaluations of destinations. Using Wuyishan National Park as a case study, this research analyzes online reviews through a text-mining approach combined with grounded theory coding to identify main satisfaction factors. A three-stage coding process—open coding, axial coding, and selective coding—was used to develop a structured indicator system from UGC data. The Decision-Making Trial and Evaluation Laboratory (DEMATEL) method was then used to explore causal relationships and influence networks among these factors. The findings indicate that external transportation, natural landscapes, cultural landscapes, and cultural connotations are primary drivers of tourists' overall evaluations and behavioral intentions. These insights offer practical guidance to improve transportation access, enhance cultural interpretation, and strengthen integrated tourism services. The study advances tourism research by combining user-generated content analysis with causal network modeling to better understand the core factors that influence visitor satisfaction at national park destinations.</i>

Introduction

Tourism is increasingly seen as a key contributor to emotional and psychological well-being, offering opportunities for people to escape daily stress and connect with diverse natural and cultural settings (Rasoolimanesh et al. 2021; Sharma, Mohapatra, and Roy 2022). As leisure and experiential travel continue to grow, tourism activities have a growing impact on local communities and environmental systems (Geng et al. 2025; Oviedo-García et al. 2019). In this context, national parks serve as integrated spaces where ecological conservation and tourism experiences must be carefully balanced.

McKercher and Prideaux (2020) highlight that tourism systems should maintain a dynamic balance between resource protection and visitor demand to sustain long-term destination viability.

Visitor satisfaction is widely recognized as a key indicator of the quality of tourism experiences and destination performance, affecting repeat visits, word-of-mouth promotion, and market competitiveness (Prayag et al. 2017). Recent research has shifted beyond purely functional assessments to emphasize emotional and sensory experiences, particularly immersive tourism activities that evoke enjoyment, relaxation, and surprise (Zhou and Wang 2024). At the same time, online reviews have become a vital source

for understanding tourists' perceptions because they offer genuine and experience-based evaluations of destinations (Guo, Barnes, and Jia 2017; Lojo, Li, and Xu 2020; Khan et al. 2021). According to electronic word-of-mouth (e-WOM) theory, such reviews promote information dissemination and social trust, thereby improving destination image and visitor loyalty (Yerizal and Abror 2019; Litvin, Goldsmith, and Pan 2008). Expectation-Confirmation Theory (ECT) additionally suggests that satisfaction occurs when actual experiences meet or surpass tourists' expectations, reinforcing positive attitudes and behavioral intentions (Elshaer et al. 2025; Zolfaghari and Choi 2023).

Despite extensive research, many studies analyze tourism attributes separately and fail to capture the structural interactions among satisfaction drivers. Previous research has examined factors such as natural landscape attractiveness (Li and Liu 2024), cultural and scenic quality (Lv et al. 2025), accommodation services (Paliska and Sedmak 2025), local cuisine (Björk and Kauppinen-Räsänen 2016), and emotional attachment (Sthapit, Björk, and Coudounaris 2022). However, these attributes are often studied independently rather than within a comprehensive analytical framework. Additionally, external conditions like weather variability, transportation disruptions, and unexpected events can further complicate the assessment of tourist satisfaction (Jeuring 2017; Štumpf et al. 2022). These limitations underscore the need for methods that can identify satisfaction factors from real visitor experiences and explore their causal relationships.

User-generated content (UGC) offers a valuable source of experiential information that captures tourists' genuine perceptions and assessments. By examining online reviews, researchers can identify key attributes of the experience embedded in visitor stories. Grounded theory coding, including open, axial, and selective coding, provides a systematic method for extracting conceptual factors from unstructured textual data. To further investigate the relationships among these factors, the Decision-Making Trial and Evaluation Laboratory (Dematel) method can be used to identify causal influence pathways within complex systems (Do and Shih 2016; Peng et al. 2022; Lin et al. 2025). Although Dematel has been widely applied in tourism planning and sustainable destination management (Tan and Kuo 2014; Hanine et al.

2021), its application in visitor satisfaction studies remains relatively limited, especially when combined with UGC-based factor extraction.

Using Wuyishan National Park as a case study, this research examines online reviews from major tourism platforms by integrating UGC text analysis, grounded theory coding, and DEMATEL causal modeling. Grounded theory coding is first used to identify satisfaction factors and develop an indicator system based on visitor stories. Then, the Dematel method is applied to explore causal relationships and the influence network among these factors. By integrating qualitative factor extraction with quantitative causal analysis, this study offers a systematic framework for identifying and modeling drivers of tourist satisfaction in national park destinations.

The main contributions of this study are twofold. First, it directly extracts tourist-satisfaction factors from user-generated content through grounded theory coding, thereby capturing authentic visitor perceptions. Second, it uncovers the causal relationships among these factors through Dematel analysis, providing deeper insights into the structural drivers of visitor satisfaction. The remainder of this paper is organized as follows. Section 2 reviews the literature on visitor satisfaction factors and related methodologies. Section 3 discusses the UGC data collection and grounded theory coding process. Section 4 explains the Dematel method and causal network analysis. Section 5 analyzes empirical results and managerial implications. Section 6 concludes with theoretical contributions and directions for future research.

Literature review

Multiple factors influencing visitor satisfaction in National Parks

National parks offer complex visitor experiences influenced by a range of ecological and recreational factors. Geographic location and access to transportation greatly affect destination choices and initial impressions (Sánchez-Rivero et al. 2024; Mehdizadeh and Kroesen 2025). Parks near urban areas or transportation hubs tend to attract short-term visitors and family tourists more often due to their perceived convenience and safety (Friman, Lättman, and Olsson 2020; Virkar and Mallya 2018).

The integration of surrounding attractions also influences the depth and length of tourism experiences. When national parks are linked with

nearby cultural villages, historic sites, or local markets, they boost regional identity and cultural involvement (Lv et al. 2025; Zhao et al. 2024). Natural landscapes such as mountains, lakes, and forests evoke emotional reactions and strengthen emotional bonds to places (Li and Liu 2024; Sthapit, Björk, and Coudounaris 2022; Obradović et al. 2022). Meanwhile, cultural landscapes and participatory activities improve perceived value and visitor satisfaction (Chan et al. 2025; Dimoulas 2022; Seyfi, Hall, and Rasoolimanesh 2020). The design of cultural spaces, local features, and the perceived value of heritage resources further shape tourism experiences and visitors' intentions (Cheng et al. 2024; Seyfi, Hall, and Rasoolimanesh 2020; Qiu et al. 2024).

Tourism infrastructure also plays a vital role in shaping visitor satisfaction. Transportation efficiency, accommodation quality, dining options, and recreational facilities collectively impact the travel experience (Oviedo-García et al. 2019; Russo et al. 2025). Local cuisine enhances cultural identity and destination appeal (Björk and Kauppinen-Räsänen 2016; Promsivapallop and Kannaovakun 2020), while the quality of accommodations influences perceptions of comfort and safety (Maiurro and Brandão 2025). Infrastructure quality not only affects visitor impressions but also indirectly impacts revisit intentions and positive word-of-mouth (Geng et al. 2025; McKercher and Prideaux 2020).

Price perception and experiential quality further influence tourist evaluations. Clear pricing boosts perceptions of value for money and builds visitor trust, while unfair pricing can decrease loyalty (Chung et al. 2011; Thirumarpan and Robinson 2025; Marpaung, Syaifuddin, and Toni 2024). Additionally, emotionally engaging and multisensory experiences shape overall impressions and behavioral responses, including recommendations and intentions to revisit (Prayag et al. 2017; Zhou and Wang 2024).

Overall, visitor satisfaction in national parks is influenced by accessibility, surrounding resources, natural and cultural landscapes, infrastructure quality, price perception, and immersive experiences, all of which together shape tourist perceptions and behavioral intentions.

UGC-Based semantic mining in tourism research

With the rapid growth of UGC on online travel platforms, text mining has become a crucial tool for understanding tourists' perceptions,

destination images, and experiential evaluations. UGC reviews contain rich narratives and emotional expressions that reflect tourists' genuine perceptions of tourism products and destinations. By analyzing large volumes of online reviews, researchers can identify key experience attributes and satisfaction-related themes that are hard to capture through traditional surveys (Guo, Barnes, and Jia 2017; Ali, Omar, and Soulaïmane 2022; Putri and Kusumaningrum 2017).

Previous studies have applied UGC-based text mining to analyze different tourism contexts. For example, Chen et al. (2021) analyzed online reviews to explore the semantic structure of urban tourism images, while Luo et al. (2021) developed improved semantic mining methods to boost interpretation accuracy. In nature-based tourism, Fu and Zhou (2024) examined online reviews of Wuyishan National Park and identified key experiential themes related to natural landscapes and cultural environments. Similarly, Hu et al. (2024) studied visitor experiences in urban parks and emphasized the importance of review-based analytics in uncovering attributes that affect visitor satisfaction.

UGC analytics has also been used to examine experience attributes such as scenery, cultural activities, pricing, and service infrastructure, revealing how these factors influence tourist evaluations and behavioral responses (Ali, Omar, and Soulaïmane 2022; Putri and Kusumaningrum 2017). Huang and Chelliah (2024) identified satisfaction-related attributes from online reviews, while Zhang et al. (2023) explored preference structures in peer-to-peer tourism experiences. These studies demonstrate that UGC provides a valuable empirical basis for identifying attributes of tourism experiences and drivers of satisfaction.

To systematically translate review narratives into analyzable constructs, qualitative coding methods like grounded theory are increasingly employed. Through open, axial, and selective coding, unstructured review texts can be organized into structured conceptual categories, facilitating the development of indicator systems for later causal analysis and decision-making.

Applications of Dematel in tourism research

Decision-making in tourism systems often involves multiple interdependent factors with complex causal relationships. The Decision-Making Trial and Evaluation Laboratory

(Dematel) method has been widely used to identify cause-and-effect relationships and influence pathways among factors within complex systems, providing a clear framework for analyzing interaction structures and supporting managerial decision-making (Do and Shih 2016; Peng et al. 2022; Yang, Leu, and Tzeng 2008).

In tourism research, Dematel has been applied in various settings. For destination image and tourist behavior, Alqahtani and Makki (2023) conducted a Dematel-based analysis to identify key factors influencing the development of tourism image. In sustainability and ecotourism studies, W. Huang, Chen, and Fu (2022) employed DEMATEL to assess sustainable tourism growth, while Kaymaz et al. (2021) combined spatial analysis with fuzzy DEMATEL to evaluate the feasibility of ecotourism. Dematel has also been utilized to study tourism governance and infrastructure systems. For instance, Braga et al. (2021) used Dematel to identify the factors driving smart city development, and Hanine et al. (2021) examined the connections between policy and infrastructure in urban growth.

In tourism service management, Dematel has been used to analyze service quality and strategic planning issues. Tan and Kuo (2014) applied Dematel to identify priority strategies for park and recreation agencies, while Tseng (2009) built a causal model linking hotel service quality and customer perceptions. More recently, Lin et al. (2025) combined text mining with Dematel to examine recreational comfort factors in national parks, showing the value of integrating review-based analytics with causal modeling.

Overall, Dematel offers an effective tool for identifying key drivers and causal relationships within complex tourism systems. However, its use in analyzing visitor satisfaction factors from user-generated content remains relatively limited, especially in the context of national park tourism.

Development of a satisfaction indicator system based on UGC analysis

This study develops a visitor-satisfaction indicator system for national parks using user-generated content (UGC). Online reviews are examined through text mining and grounded theory coding to identify main themes of visitor experiences and satisfaction. These themes are organized into structured indicators that reflect tourists' perceptions and evaluations. Compared to survey-based methods, UGC analysis captures

genuine visitor feedback and offers a data-driven basis for understanding what drives satisfaction and for supporting sustainable tourism management.

Case study: Wuyishan National Park

Wuyishan National Park is situated in northwestern Fujian Province, China (117° 24' 13" - 117° 59' 19" E, 27° 31' 20" - 27° 55' 49" N). Spanning more than 1,000 square kilometers, it is one of China's earliest national scenic areas and was designated as a UNESCO World Heritage Site in 1999 for its exceptional ecological and cultural importance.

The park features classic Danxia landforms, including cliffs, valleys, streams, and forested peaks. Its ecosystem supports many rare species, such as clouded leopards, black muntjacs, and southern yew trees, underscoring its importance for biodiversity. Wuyishan also has a rich cultural heritage, being the birthplace of Zhu Xi's Neo-Confucianism and home to historical sites like Wuyi Jingshe and Zhuzi Academy. Additionally, the region is globally recognized for Wuyi rock tea, especially Dahongpao, which enhances its cultural tourism appeal.

The park offers a range of recreational activities and environmental education programs that promote ecological protection and sustainable tourism. Visitors often engage in activities such as bamboo rafting along the Jiuqu River and hiking on eco-friendly trails. Due to its unique mix of natural scenery, cultural heritage, and tourism facilities, Wuyishan National Park is an appropriate real-world setting for studying visitor experiences and satisfaction using online review data (Fan et al. 2025).

Data collection and preprocessing

Online reviews were collected using the web crawler Octoparse with the keyword "Wuyishan National Park." Data were obtained from major Chinese travel platforms, including Ctrip, Tongcheng, Mafengwo, Dianping, and Xiaohongshu. In total, 18,236 reviews and 30 travelogues posted between January 2020 and January 2025 were retrieved, covering various aspects of visitor experiences.

Text preprocessing was done using Python. The Jieba segmentation tool and stop-word dictionaries from Harbin Institute of Technology and Baidu were used to clean and standardize the corpus. The main steps included removing

the visitor satisfaction indicator system used in later analysis.

Emotional attitude analysis

To examine visitors' emotional attitudes toward Wuyishan National Park, this study employed a lexicon-based sentiment analysis method. The BosonNLP Chinese sentiment dictionary was used in conjunction with a customized tourism-related vocabulary to determine the emotional polarity of online reviews. The process involved sentence segmentation, sentiment polarity classification (positive, negative, or neutral), calculation of sentiment scores for each review, and the aggregation of overall emotional tendencies.

Out of 10,982 valid reviews, 75.6% expressed positive sentiment, 22.1% were neutral, and 2.3%

were negative. Positive words such as "nice," "worthwhile," "recommended," "excellent," and "happy" were often associated with natural landscapes, iconic attractions, and recreational activities. Conversely, negative terms such as "queue," "price," "ticket collection," and "physical strength" mostly indicated dissatisfaction with ticketing processes, service efficiency, and the physical effort needed for certain activities.

Overall, the sentiment distribution shows that visitors have mostly positive attitudes toward Wuyishan National Park, while concerns primarily focus on operational and service areas. These insights provide a clearer understanding of visitor perceptions and help identify satisfaction-related factors used in the subsequent analysis.

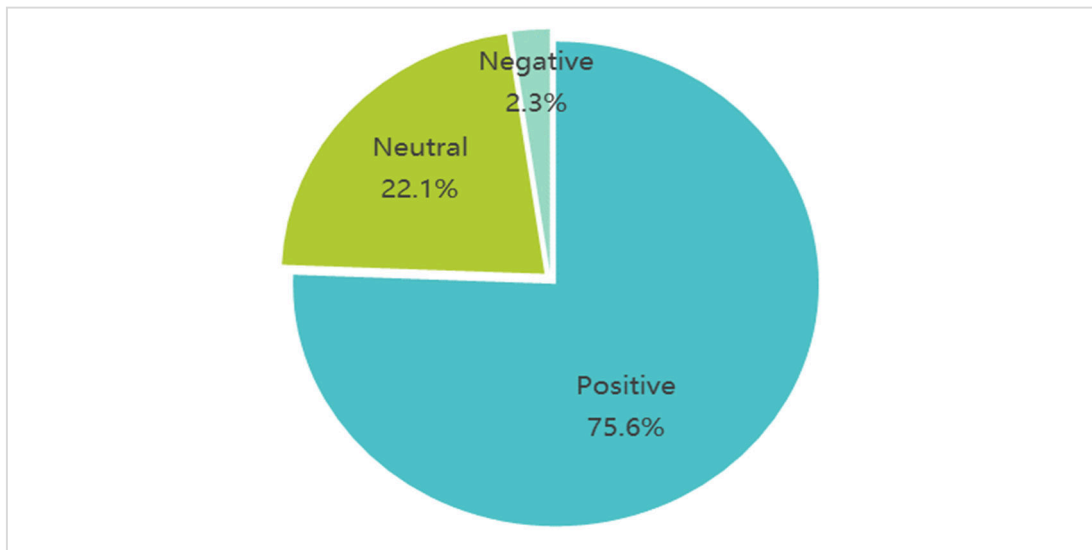


Figure 2. presents the overall distribution of sentiment polarity in visitor reviews

Development of the satisfaction indicator system using grounded theory

To develop a visitor satisfaction indicator system for Wuyishan National Park, this study used a grounded theory approach to analyze user-generated content (UGC) from online reviews. Grounded theory enables the systematic extraction of conceptual categories from textual data through iterative coding and interpretation.

A focus group of five experts in tourism management and destination research was invited to carry out the coding process. Following grounded theory procedures, the analysis was conducted in three stages: open coding, axial coding, and selective coding. During the open

coding phase, review texts were examined line by line to identify key concepts related to visitor experiences and perceptions. Similar concepts were then grouped during axial coding to form broader thematic categories. Finally, selective coding was used to integrate these categories into a coherent conceptual framework describing the main dimensions of visitor satisfaction. Differences in coding interpretations were discussed among the experts until consensus was reached. This iterative discussion process helped ensure the reliability and conceptual consistency of the coding results.

To illustrate the indicator development process, the indicator "Natural Landscape (TA1)"

can serve as an example. During open coding, several high-frequency concepts related to natural scenery were identified in the review texts, including “Tianyou Peak,” “Jiuqu River,” “Dahongpao Scenic Area,” and “Danxia landform.” These concepts describe visitors’ perceptions of the park’s natural environment and geomorphological features. In the axial coding stage, these concepts were grouped into a broader category representing natural scenic attributes. Finally, through selective coding and expert discussion, this category was defined as the indicator “Natural Landscape,” representing tourists’ perceptions of the park’s natural scenery and geomorphological characteristics.

Through repeated discussions and consensus within the expert group, a total of 14 satisfaction indicators were identified and organized into four main dimensions: Surrounding Environment, Tourism Attractions, Tourism Elements, and Tourism Perception. The Surrounding

Environment dimension includes geographic location, external transportation, and nearby attractions. Tourism Attractions encompass natural landscapes, cultural landscapes, and cultural connotations. Tourism Elements consist of tourism dining, accommodations, internal transportation, entertainment activities, and tourism consumption. Finally, Tourism Perception reflects visitors’ overall evaluations, recommendation intentions, and revisit intentions.

This hierarchical structure converts qualitative insights from online reviews into a structured indicator system that reflects tourists’ perceptions and experiential evaluations. The resulting dimensions and criteria serve as the foundation for the subsequent Dematel analysis of causal relationships among satisfaction factors. The detailed classification of indicators is shown in [table 2](#).

Table 2. Visitor satisfaction indicator system derived from grounded theory coding

Dimension	Code	Indicator	Description	References
Surrounding Environment (SE)	SE1	Geographic Location	Visitors’ perceptions of the spatial setting and geographic characteristics of the destination	Chen et al. (2021); Mehdizadeh and Kroesen (2025); Sun et al. (2024)
	SE2	External Transportation	Accessibility and convenience of reaching the destination, including ticketing and external transport services	Friman, Lättman, and Olsson (2020); Russo et al. (2025); Virkar and Mallya (2018)
	SE3	Nearby Attractions	Cultural sites and attractions surrounding the park that enrich the tourism experience	Alqahtani and Makki (2023); Lv et al. (2025); Zhao et al. (2024)
Tourism Attractions (TA)	TA1	Natural Landscape	Scenic beauty and geomorphological features such as peaks, rivers, and natural formations	Fan et al. (2025); Fu and Zhou (2024); Obradović et al. (2022)
	TA2	Cultural Landscape	Cultural settings, village environments, and landscape aesthetics experienced by visitors	Chan et al. (2025); Cheng et al. (2024); Rasoolimanesh et al. (2021)
	TA3	Cultural Connotation	Historical and cultural meanings associated with the destination	X. Huang and Chelliah (2024); Lv et al. (2025); Zhou and Wang (2024)
Tourism Elements (TE)	TE1	Tourism Dining	Food services and culinary experiences available to visitors	Björk and Kauppinen-Räsänen (2016); Zhu, Zhu, and Weng (2024)
	TE2	Travel Accommodation	Quality and availability of accommodation and lodging services	Elshaer et al. (2025); Paliska and Sedmak (2025); Marpaung, Syaifuddin, and Toni (2024)
	TE3	Tourism Transportation	Internal transportation services within the scenic area	Friman, Lättman, and Olsson (2020); Russo et al. (2025); Virkar and Mallya (2018)
	TE4	Travel Entertainment	Recreational activities such as rafting, climbing, and experiential tourism	Hu et al. (2024); Oviedo-García et al. (2019); Thirumarpan and Robinson (2025)
	TE5	Tourism Consumption	Visitors’ perceptions of price fairness and value for money	Chung et al. (2011); Thirumarpan and Robinson (2025); Zolfaghari and Choi (2023)
Tourism Perception (TP)	TP1	Overall Evaluation	Visitors’ overall emotional and cognitive evaluation of the destination	Ali, Omar, and Soulimane (2022); Guo, Barnes, and Jia (2017); Štumpf et al. (2022)

Dimension	Code	Indicator	Description	References
	TP2	Recommendation Intention	Willingness to recommend the destination to others	Litvin, Goldsmith, and Pan (2008); Prayag et al. (2017); Yerizal and Abror (2019)
	TP3	Revisit Intention	Intention to revisit the destination in the future	X. Huang and Chelliah (2024); Sharma, Mohapatra, and Roy (2022); H. Zhang, Wu, and Buhalis (2018)

Dematel framework construction and causal structure analysis

To analyze the causal relationships among the identified satisfaction factors, this study employs the Decision-Making Trial and Evaluation Laboratory (Dematel) method. Dematel is commonly employed to examine complex systems with interconnected factors, allowing researchers to identify influence patterns and differentiate between causal and effect elements within a network (Peng et al. 2022). The implementation process includes these steps.

Step 1: Construction of the direct influence matrix.

Based on the 14 indicators identified in Section 3.4, experts evaluated the degree of influence of factor i on factor j using a five-point scale ranging from 0 (no influence) to 4 (very high influence). The evaluation results were used to construct the direct influence matrix $A = [a_{ij}]$.

Step 2: Matrix normalization

The direct influence matrix was normalized to ensure that all values fall within a stable range. The normalization coefficient is calculated as

$$\kappa = \max \left(\max_i \sum_{j=1}^n a_{ij}, \max_j \sum_{i=1}^n a_{ij} \right)$$

The normalized matrix is then obtained as

$$N = A / \kappa$$

Step 3: Total influence matrix calculation

The total influence matrix $T = [t_{ij}]_{n \times n}$ captures both direct and indirect relationships among factors and is calculated as

$$T = [t_{ij}]_{n \times n} = N + N^2 + N^3 + \dots \\ = N(I - N)^{-1}$$

Step 4: Causal indicator analysis

From the total influence matrix, the following indicators are derived:

$$R_i = \sum_{j=1}^n t_{ij} \text{ and } P_i = \sum_{i=1}^n t_{ij},$$

Where R_i represents the total influence exerted by factor i on others, and P_i represents the total influence received. The prominence of each factor

is calculated as $R_i + P_i$ indicating its overall importance in the system, while the relation value $R_i - P_i$ identifies causal direction. A positive value indicates a causal factor, whereas a negative value indicates an effect factor.

Finally, a causal diagram based on $R_i + P_i$ and $R_i - P_i$ is constructed to visualize the influence structure among satisfaction factors and to identify key drivers within the visitor satisfaction system.

Empirical analysis of Wuyishan National Park

To examine the causal relationships among the satisfaction indicators, the Dematel method was applied based on expert evaluations. It should be noted that the expert panel used for Dematel evaluation differs from the focus group involved in the grounded theory coding in Section 3.4, which was responsible for indicator identification and naming. In Dematel studies, the recommended number of experts generally ranges from 10 to 30 to ensure reliable judgment and analytical stability (Parenté and Anderson-Parenté 1987).

In this study, 30 experts were invited to participate in the Dematel survey, and 15 valid responses were obtained. In this study, 30 experts were invited to participate in the survey, and 15 valid responses were collected. The respondents consisted of three senior managers from Wuyishan National Park, five executives from tourism businesses, and seven university professors with over ten years of teaching or research experience in tourism-related fields. All experts understood destination management and tourism system analysis.

The questionnaire asked experts to evaluate the degree of influence of each factor on others using a five-point scale ranging from 0 (no influence) to 4 (very high influence). Based on the expert scores, the initial direct influence matrices were constructed at two levels: a 4×4 matrix for dimensions and a 14×14 matrix for criteria (see tables 3 and 4).

Following the Dematel procedure described in Section 3.5, the matrices were normalized and

used to derive the total influence matrices (tables 5 and 6). The average values of each matrix were used as thresholds to filter out weak relationships and identify the main influence paths within the system. Values above the threshold are highlighted in bold.

Using the total influence matrices, the prominence $R + P$ and relation $R - P$ values

for each dimension and criterion were calculated (table 7). These values were then graphed to create the Influential Network Relationship Map (INRM), in which prominence indicates the overall importance of each factor, and relation indicates whether a factor is part of the cause group or the effect group (figure 2 and figure 3).

Table 3. Initial influence relation matrix of dimension

<i>Adim.</i>	SE	TA	TE	TP
SE	0.000	3.063	3.441	3.693
TA	2.937	0.000	3.378	3.882
TE	2.307	2.118	0.000	3.756
TP	2.307	2.244	3.252	0.000

Table 5. Total influence relation matrix of dimension, centrality, and causality

<i>Idim.</i>	SE	TA	TEL	TP	R	R+P	R-P	Group
SE	0.749	0.949	1.184	1.288	4.170	7.434	0.905	Cause
TA	0.953	0.735	1.178	1.296	4.162	7.371	0.952	Cause
TE	0.790	0.768	0.789	1.114	3.461	7.600	(0.678)	Affected
TP	0.772	0.757	0.988	0.838	3.355	7.890	(1.180)	Affected
P	3.264	3.209	4.139	4.535				

Table 7. Centrality and causality of criteria

Criteria	R	P	R+P	R-P	Group
SE1	3.335	0.770	4.105	2.565	Cause
SE2	2.602	2.447	5.049	0.155	Cause
SE3	2.640	2.874	5.514	(0.234)	Affected
TA1	2.742	2.042	4.784	0.700	Cause
TA2	2.654	2.264	4.918	0.390	Cause
TA3	2.423	1.682	4.105	0.742	Cause
TE1	2.148	2.639	4.787	(0.492)	Affected
TE2	2.250	2.795	5.045	(0.546)	Affected
TE3	2.501	2.656	5.158	(0.155)	Affected
TE4	2.486	2.958	5.444	(0.472)	Affected
TE5	2.413	3.110	5.523	(0.697)	Affected
TP1	2.887	3.549	6.436	(0.662)	Affected
TP2	2.909	3.473	6.383	(0.564)	Affected
TP3	2.567	3.298	5.865	(0.730)	Affected

Based on the analysis shown in table 5 and fig. 2, significant interactions were identified among the four dimensions. The data in table 5 indicate that TP has the highest prominence score, making it the most critical dimension, followed by TEL and SE. From a causal perspective, SE and TA are classified as “Causal factors ($R - P > 0$)”, while TE and TP are categorized as “affected factors”

($R - P < 0$), as shown in fig. 8. These results suggest that SE and TA act as driving forces within the system, exerting substantial influence on the other dimensions. Therefore, management should focus on strategies targeting SE and TA to enhance TE and TP, ultimately boosting visitor satisfaction effectively.

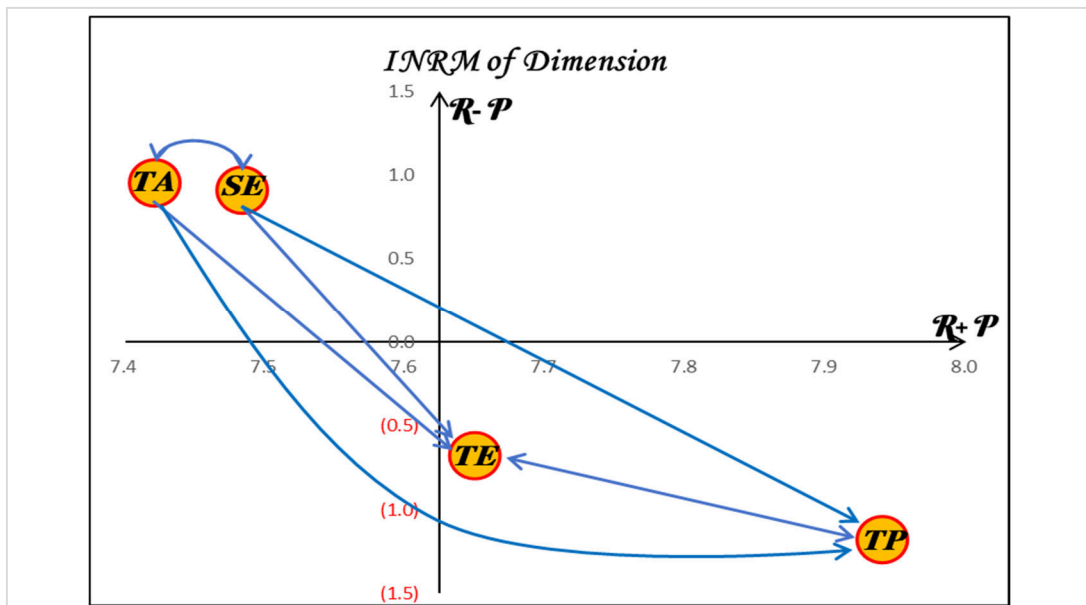


Figure 3. Influence network-relationship map of dimension

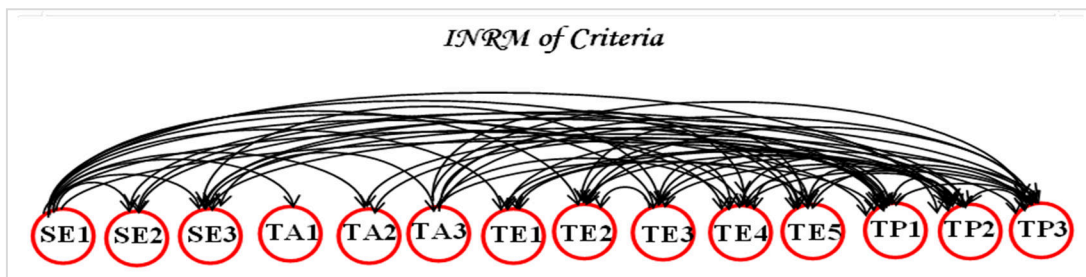


Figure 4. Influential network-relationship map of criteria(a)

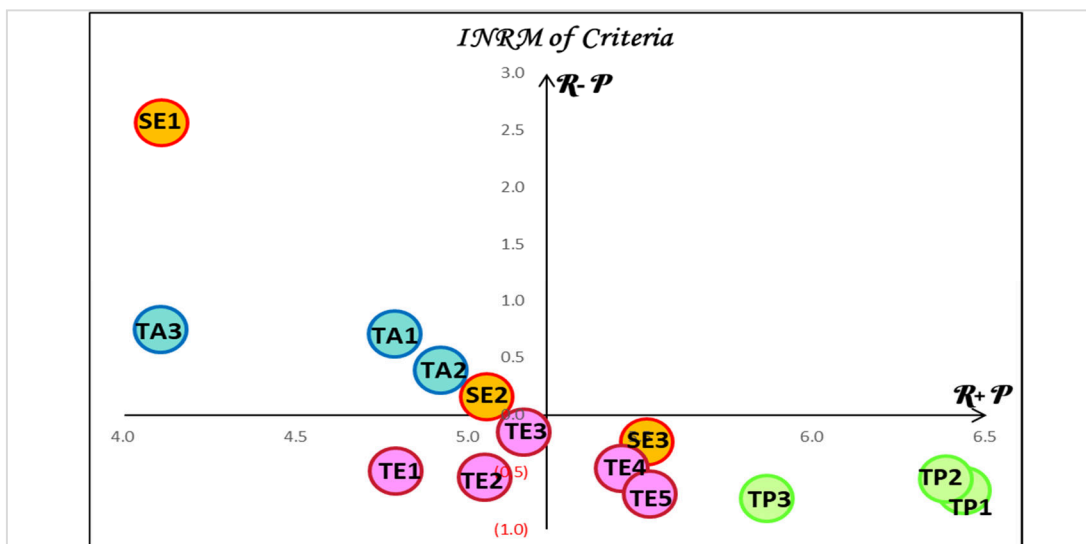


Figure 5. Influential network-relationship map within criteria(b)

Table 4. Initial influence relation matrix of criteria

<i>Acriteria</i>	SE1	SE2	SE3	TA1	TA2	TA3	TE1	TE2	TE3	TE4	TE5	TP1	TP2	TP3
SE1	0.000	3.504	3.126	3.252	3.188	2.588	3.188	3.125	3.504	3.063	2.937	3.378	3.496	3.750
SE2	2.622	0.000	2.937	1.937	1.588	0.748	2.125	2.315	3.252	1.750	3.125	3.504	3.188	3.063
SE3	1.063	2.244	0.000	1.750	1.937	2.437	1.937	2.625	3.063	3.300	2.937	3.315	3.315	3.188
TA1	1.063	2.252	3.063	0.000	2.558	3.125	1.750	2.370	2.063	3.252	2.437	3.500	3.504	3.378
TA2	0.000	2.433	3.063	1.622	0.000	3.882	1.748	2.245	2.125	3.252	2.625	3.504	3.441	3.504
TA3	0.000	1.063	3.882	2.063	2.693	0.000	2.315	1.937	0.937	3.126	2.625	3.378	3.252	3.063
TE1	0.000	1.748	1.750	1.063	1.433	1.307	0.000	2.433	1.937	1.748	3.441	3.441	3.378	3.125
TE2	0.000	2.106	2.063	1.244	1.558	0.837	2.813	0.000	2.688	2.126	3.504	3.378	3.378	2.496
TE3	1.373	2.748	2.622	1.688	1.625	0.433	2.126	2.750	0.000	2.630	3.378	3.378	3.496	2.873
TE4	0.000	1.874	2.438	1.748	2.307	1.188	2.525	2.625	2.750	0.000	3.504	3.441	3.378	3.504
TE5	0.000	1.748	2.125	1.525	1.688	1.252	3.378	3.188	2.567	3.188	0.000	3.441	3.315	3.063
TP1	1.063	2.813	3.315	2.748	2.937	1.063	3.125	3.378	2.748	3.378	3.126	0.000	3.441	3.378
TP2	1.874	2.745	3.252	2.558	2.813	1.630	3.063	3.063	2.688	3.125	2.441	3.818	0.000	3.504
TP3	0.000	3.126	2.813	2.307	2.126	1.252	2.505	2.525	2.622	3.126	2.873	3.504	3.504	0.000

Table 6. Total influence relation matrix of criteria

<i>Teriteria</i>	SE1	SE2	SE3	TA1	TA2	TA3	TE1	TE2	TE3	TE4	TE5	TP1	TP2	TP3
SE1	0.053	0.238	0.258	0.205	0.218	0.167	0.244	0.253	0.252	0.263	0.271	0.309	0.306	0.299
SE2	0.097	0.130	0.212	0.149	0.153	0.104	0.185	0.197	0.209	0.193	0.229	0.259	0.249	0.237
SE3	0.064	0.178	0.153	0.146	0.162	0.139	0.183	0.205	0.205	0.226	0.227	0.258	0.254	0.242
TA1	0.065	0.183	0.224	0.113	0.180	0.158	0.184	0.205	0.190	0.232	0.223	0.269	0.264	0.252
TA2	0.042	0.181	0.219	0.144	0.121	0.169	0.179	0.197	0.186	0.227	0.221	0.263	0.257	0.249
TA3	0.037	0.142	0.221	0.143	0.167	0.083	0.178	0.178	0.150	0.211	0.207	0.244	0.237	0.225
TE1	0.034	0.143	0.161	0.111	0.128	0.098	0.116	0.173	0.157	0.166	0.206	0.225	0.220	0.207
TE2	0.036	0.156	0.173	0.119	0.135	0.092	0.180	0.128	0.177	0.179	0.214	0.231	0.227	0.202
TE3	0.069	0.182	0.199	0.139	0.149	0.093	0.180	0.200	0.136	0.204	0.228	0.249	0.247	0.226
TE4	0.039	0.163	0.194	0.139	0.161	0.108	0.186	0.196	0.191	0.149	0.229	0.249	0.244	0.237
TE5	0.038	0.156	0.184	0.131	0.145	0.106	0.199	0.203	0.183	0.210	0.152	0.244	0.238	0.224
TP1	0.068	0.201	0.235	0.175	0.192	0.120	0.219	0.233	0.213	0.242	0.247	0.207	0.273	0.262
TP2	0.085	0.202	0.236	0.173	0.191	0.133	0.219	0.228	0.213	0.239	0.235	0.287	0.204	0.266
TP3	0.042	0.192	0.207	0.154	0.161	0.112	0.190	0.198	0.193	0.218	0.222	0.256	0.252	0.170

Note: The threshold value $\alpha = 0.187$. Values greater than the threshold are shown in bold

Results and discussion

This study applies causal network analysis to classify the indicators in [figure 3](#) into four quadrants based on the average value of $R + P$ (5.223) in [table 7](#) and to examine their managerial implications. No indicators appear in the core quadrant (Quadrant I), indicating that Wuyishan National Park has not yet developed a highly integrated structural core. Enhancing cross-dimensional coordination could therefore boost systemic resilience and improve overall management effectiveness.

Driving indicators (Quadrant II) including SE1, SE2, TA1, TA2, and TA3 exert a strong causal influence and form the spatial and cultural foundation of tourism experiences. Infrastructure conditions such as accessibility and transportation significantly shape tourists' willingness to visit and their travel planning ([Sun et al. 2024](#); [Virkar and Mallya 2018](#)). Natural attractions and landscapes encourage participation in recreational activities and evoke restorative emotional responses ([Li and Liu 2024](#); [Obradović et al. 2022](#)), while diverse accommodation systems

contribute to sustainable tourism development ([Paliska and Sedmak 2025](#)). Cultural resources further strengthen tourists' emotional and cognitive connections through symbolic narratives and historical heritage ([Seyfi, Hall, and Rasoolimanesh 2020](#); [Rasoolimanesh et al. 2021](#)). Cultural elements such as tea heritage and Zhuzi philosophy enrich experiential meaning and bolster positive evaluations, which increase recommendation and revisit intentions when perceived value exceeds costs ([Elshaer et al. 2025](#); [H. Zhang, Wu, and Buhalis 2018](#)).

Service-related indicators (Quadrant III), such as TE1, TE2, and TE3, exhibit relatively weak causal influence, suggesting that their effectiveness depends heavily on the destination's underlying attractiveness and accessibility. Destination features such as location, natural landscapes, and cultural resources are key factors shaping tourists' expectations and evaluations ([Sun et al. 2024](#); [Virkar and Mallya 2018](#); [H. Zhang, Wu, and Buhalis 2018](#); [Elshaer et al. 2025](#)). Food experiences and local cuisine strongly influence recommendation behavior ([Promsivapallop and Kannaovakun 2020](#); [Zhu,](#)

Zhu, and Weng 2024), while accommodation quality influences length of stay and destination reputation (Paliska and Sedmak 2025). Transportation accessibility and infrastructure connectivity also influence tourist mobility and itinerary planning (Russo et al. 2025; Sánchez-Rivero et al. 2024). Outcome indicators (Quadrant IV) including SE3, TE4, TE5, TP1, TP2, and TP3 represent experiential and behavioral outcomes within the tourism system. Nearby attractions enhance tourism experiences and encourage local spending (Fu and Zhou 2024), while participation in activities and consumption experiences influence perceived value and engagement (Prayag et al. 2017; Sthapit, Björk, and Coudounaris 2022). Positive reviews generate word-of-mouth effects (Litvin, Goldsmith, and Pan 2008), and recommendations and revisit intentions help grow tourism markets and drive service improvements and product innovation (Marpaung, Syaifuddin, and Toni 2024; Elshaer et al. 2025; Sthapit, Björk, and Coudounaris 2022).

Overall, the findings highlight the importance of strengthening accessibility, natural and cultural attractions, and experiential activities to enhance tourist satisfaction and behavioral outcomes. Improving transportation systems, spatial coordination, and cultural storytelling will therefore be essential for enhancing destination competitiveness and supporting sustainable tourism development.

Conclusions

This study created a structured framework to assess visitor satisfaction in national parks using user-generated content and Dematel analysis, with Wuyishan National Park as the case example. The approach tackles limitations in traditional satisfaction studies by pinpointing multidimensional factors and clarifying their causal links, offering both theoretical insights and practical guidance for destination management. Fourteen satisfaction indicators were identified through semantic analysis of online reviews, including transportation, landscapes, food, lodging, entertainment, and overall visitor perceptions. The results reveal that geographic location, external transportation, natural landscapes, cultural landscapes, and cultural connotations serve as primary causal factors

within the tourism experience system. Conversely, service-related aspects such as dining and lodging are more influenced by these foundational factors, while outcome indicators such as nearby attractions, recreational activities, and revisit intentions represent the overall experiential results within the system. Based on these findings, several managerial implications arise. Destination managers should focus on improving transportation accessibility and implementing smart navigation systems to make travel easier. Incorporating natural and cultural resources through storytelling and immersive experiences can boost visitors' emotional connection. Service quality can be further enhanced by including local cultural elements and sustainable lodging practices. Additionally, cross-sector collaboration and intelligent management systems are crucial for coordinating tourism services and responding effectively to visitor needs. Promoting positive word-of-mouth and offering revisit incentives can also strengthen visitor loyalty and destination branding.

Despite these contributions, several limitations still exist. Relying on online reviews might cause sampling bias, and future studies could include surveys and interviews to improve representativeness. Expert-based causal evaluation could also involve subjective judgment; therefore, future research might explore data-driven causal inference methods or fuzzy Delphi techniques. Lastly, since this study focuses on a single national park, the findings may not be widely applicable. Future research could examine other types of destinations and incorporate visitor characteristics such as motivation, cultural background, and demographic factors using methods like SEM or HLM to further refine satisfaction models and promote sustainable destination management.

References

- Ali, Twil, Bencharef Omar, and Kaloun Soulaïmane. 2022. "Analyzing Tourism Reviews Using an LDA Topic-Based Sentiment Analysis Approach." *MethodsX* 9:101894.
<https://doi.org/10.1016/j.mex.2022.101894>.
- Alqahtani, Ammar Y., and Anas A. Makki. 2023. "A DEMATEL-ISM Integrated Modeling Approach of Influencing Factors Shaping

- Destination Image in the Tourism Industry.” *Administrative Sciences* 13 (9): 201. <https://doi.org/10.3390/admsci13090201>.
- Björk, Peter, and Hannele Kauppinen-Räsänen. 2016. “Local Food: A Source for Destination Attraction.” *International Journal of Contemporary Hospitality Management* 28 (1): 177–94. <https://doi.org/10.1108/IJCHM-05-2014-0214>.
- Braga, Irina F.B., Fernando A.F. Ferreira, João J.M. Ferreira, Ricardo J.C. Correia, Leandro F. Pereira, and Pedro F. Falcão. 2021. “A DEMATEL Analysis of Smart City Determinants.” *Technology in Society* 66 (August):101687. <https://doi.org/10.1016/j.techsoc.2021.101687>.
- Chan, Chung-Shing, Kwo Fung Shek, Yuyin Lu, and Shing Yan Wong. 2025. “Narratives Come Alive: Enhancing Cultural Heritage Experiences through Sensorial Narrative-Based Guiding Tours.” *Journal of Heritage Tourism* 20 (4): 487–507. <https://doi.org/10.1080/1743873X.2025.2478837>.
- Chen, Xu, Jun Li, Wenxin Han, and Shudong Liu. 2021. “Urban Tourism Destination Image Perception Based on LDA Integrating Social Network and Emotion Analysis: The Example of Wuhan.” *Sustainability* 14 (1): 12. <https://doi.org/10.3390/su14010012>.
- Cheng, Yingyi, Bing Zhao, Siqi Peng, Kai Li, Yue Yin, and Jinguang Zhang. 2024. “Effects of Cultural Landscape Service Features in National Forest Parks on Visitors’ Sentiments: A Nationwide Social Media-Based Analysis in China.” *Ecosystem Services* 67 (June):101614. <https://doi.org/10.1016/j.ecoser.2024.101614>.
- Chung, Jin Young, Gerard T. Kyle, James F. Petrick, and James D. Absher. 2011. “Fairness of Prices, User Fee Policy and Willingness to Pay among Visitors to a National Forest.” *Tourism Management* 32 (5): 1038–46. <https://doi.org/10.1016/j.tourman.2010.08.016>.
- Dimoulas, Charalampos A. 2022. “Cultural Heritage Storytelling, Engagement and Management in the Era of Big Data and the Semantic Web.” *Sustainability* 14 (2): 812. <https://doi.org/10.3390/su14020812>.
- Do, Thi Hai Ninh, and Wurong Shih. 2016. “Destination Decision-Making Process Based on a Hybrid MCDM Model Combining DEMATEL and ANP: The Case of Vietnam as a Destination.” *Modern Economy* 07 (09): 966–83. <https://doi.org/10.4236/me.2016.79099>.
- Elshaer, Ibrahim A., Alaa M. S. Azazz, Sameh Fayyad, Abdulaziz Aljoghaiman, Eslam Ahmed Fathy, and Amr Mohamed Fouad. 2025. “From Asymmetry to Satisfaction: The Dynamic Role of Perceived Value and Trust to Boost Customer Satisfaction in the Tourism Industry.” *Tourism and Hospitality* 6 (2): 68. <https://doi.org/10.3390/tourhosp6020068>.
- Fan, Xinyue, Zhenhua Zang, Jun Tang, Lei Zhao, Weihua Xu, and Zhiyun Ouyang. 2025. “Ecological Integrity Assessment System for Wuyishan National Park.” *Ecological Indicators* 178 (September):113910. <https://doi.org/10.1016/j.ecolind.2025.113910>.
- Friman, Margareta, Katrin Lättman, and Lars E. Olsson. 2020. “Public Transport Quality, Safety, and Perceived Accessibility.” *Sustainability* 12 (9): 3563. <https://doi.org/10.3390/su12093563>.
- Fu, Wei, and Bin Zhou. 2024. “Theme Exploration and Sentiment Analysis of Online Reviews of Wuyishan National Park.” *Land* 13 (5): 629. <https://doi.org/10.3390/land13050629>.
- Geng, Dehui Christina, Howard W. Harshaw, Christopher Gaston, Wanli Wu, and Guangyu Wang. 2025. “Tourism Management in National Parks: Development, Aspects, and Conceptual Framework.” *Forests* 16 (6): 970. <https://doi.org/10.3390/fl6060970>.
- Guo, Yue, Stuart J. Barnes, and Qiong Jia. 2017. “Mining Meaning from Online Ratings and Reviews: Tourist Satisfaction Analysis Using Latent Dirichlet Allocation.” *Tourism Management* 59 (April):467–83. <https://doi.org/10.1016/j.tourman.2016.09.009>.
- Hanine, Mohamed, Omar Boutkhoul, Fatima El Barakaz, Mohamed Lachgar, Nouredine Assad, Furqan Rustam, and Imran Ashraf. 2021. “An Intuitionistic Fuzzy Approach for Smart City Development Evaluation for Developing Countries: Moroccan Context.” *Mathematics* 9 (21): 2668. <https://doi.org/10.3390/math9212668>.
- Hu, Zongwei, Jian Ming Luo, Christina Geng-Qing Chi, and Dogan Gursoy. 2024. “Examination of Experience Attributes of Parks in Urban Tourist Destinations and Their

- Influence on Visitor Satisfaction: A Topic Modelling Approach.” *Leisure Studies*, March, 1–16. <https://doi.org/10.1080/02614367.2024.2392583>.
- Huang, Weilun, Chin-Yu Chen, and Yan-Kai Fu. 2022. “The Sustainable Island Tourism Evaluation Model Using the FDM-DEMATEL-ANP Method.” *Sustainability* 14 (12): 7244. <https://doi.org/10.3390/su14127244>.
- Huang, Xiaoxu, and Shankar Chelliah. 2024. “Attributes Influencing Tourist Satisfaction: Sentiment Analysis and Topic Modeling of Online Reviews.” *Journal of China Tourism Research*, September, 1–20. <https://doi.org/10.1080/19388160.2024.2440323>.
- Jeuring, Jelmer Hendrik Gerard. 2017. “Weather Perceptions, Holiday Satisfaction and Perceived Attractiveness of Domestic Vacationing in The Netherlands.” *Tourism Management* 61 (August):70–81. <https://doi.org/10.1016/j.tourman.2017.01.018>.
- Kaymaz, Çağlar Kıvanç, Çağlar Çakır, Salih Birinci, and Yusuf Kızılkın. 2021. “GIS-Fuzzy DEMATEL MCDA Model in the Evaluation of the Areas for Ecotourism Development: A Case Study of ‘Uzundere’, Erzurum-Turkey.” *Applied Geography* 136 (November):102577. <https://doi.org/10.1016/j.apgeog.2021.102577>.
- Khan, Asfandiyar, Javeria Ashfaq, Muhammad Bilal, Muhammad Hashim Khan, and Fazaila Shad. 2021. “Destination Image Formation through User Generated Content (UGC). An Updated Literature Review.” *Indian Journal of Economics and Business* 21 (2): 1223–38. <http://www.ashwinanokha.com/IJEB.php>.
- Li, Wenbo, and Yang Liu. 2024. “The Influence of Visual and Auditory Environments in Parks on Visitors’ Landscape Preference, Emotional State, and Perceived Restorativeness.” *Humanities and Social Sciences Communications* 11 (1): 1491. <https://doi.org/10.1057/s41599-024-04064-4>.
- Lin, Kaimiao, Yuqi Huang, Baohui Huang, ChengRu Wu, Xiaoxia Wu, XueJiao Wang, and Yvbin Lin. 2025. “Recreation Comforting Degree Identification and Assessment in National Parks by Integrating Text Mining Technology and Fuzzy DEMATEL-Based ANP Method.” *Scientific Reports* 15 (1): 30970. <https://doi.org/10.1038/s41598-025-14107-8>.
- Litvin, Stephen W., Ronald E. Goldsmith, and Bing Pan. 2008. “Electronic Word-of-Mouth in Hospitality and Tourism Management.” *Tourism Management* 29 (3): 458–68. <https://doi.org/10.1016/j.tourman.2007.05.011>.
- Lojo, Aureli, Mimi Li, and Honggang Xu. 2020. “Online Tourism Destination Image: Components, Information Sources, and Incongruence.” *Journal of Travel & Tourism Marketing* 37 (4): 495–509. <https://doi.org/10.1080/10548408.2020.1785370>.
- Luo, Yuyan, Tao Tong, Xiaoxu Zhang, Zheng Yang, and Ling Li. 2021. “Exploring Destination Image through Online Reviews: An Augmented Mining Model Using Latent Dirichlet Allocation Combined with Probabilistic Hesitant Fuzzy Algorithm.” *Kybernetes* 52 (3): 874–97. <https://doi.org/10.1108/K-07-2021-0584>.
- Ly, Dong, Shukun Qin, Rui Sun, Xuxin Jiang, Ruxia Cheng, and Weimin Sun. 2025. “The Impact of Natural and Cultural Landscape Quality on Attachment to Place and the Intention to Recommend Tourism in a UNESCO World Heritage City.” *Land* 14 (7): 1405. <https://doi.org/10.3390/land14071405>.
- Maiurro, Michelle, and Filipa Brandão. 2025. “Motivations, Needs, and Perceived Risks of Middle-Aged and Senior Solo Travelling Women: A Study of Brazilian Female Travellers.” *Journal of Population Ageing* 18 (2): 273–92. <https://doi.org/10.1007/s12062-024-09450-z>.
- Marpaung, Halimatu Saddiah, Syaifuddin Syaifuddin, and Nagian Toni. 2024. “Impact of Price Fairness, Service Quality, and Destination Image on Tourist Loyalty and Satisfaction: A Case Study of Lake Toba, North Sumatra.” *International Journal of ADVANCED AND APPLIED SCIENCES* 11 (5): 1–11. <https://doi.org/10.21833/ijaas.2024.05.001>.
- McKercher, Bob, and Bruce Prideaux. 2020. *Tourism Theories, Concepts and Models*. Goodfellow Publishers. <https://doi.org/10.23912/9781911635352-4280>.
- Mehdizadeh, Milad, and Maarten Kroesen. 2025. “Does Perceived Accessibility Affect Travel

- Behavior or Vice Versa? Alternative Theories Testing Bidirectional Effects and (in)Consistency over Time.” *Transportation Research Part A: Policy and Practice* 191 (January):104318.
<https://doi.org/10.1016/j.tra.2024.104318>.
- Obradović, Sanja, Vladimir Stojanović, Aleksandra Tešin, Ivan Šećerov, Milana Pantelić, and Dragan Dolinaj. 2022. “Memorable Tourist Experiences in National Parks: Impacts on Future Intentions and Environmentally Responsible Behavior.” *Sustainability* 15 (1): 547.
<https://doi.org/10.3390/su15010547>.
- Oviedo-García, M. Ángeles, Manuela Vega-Vázquez, Mario Castellanos-Verdugo, and Francisco Orgaz-Agüera. 2019. “Tourism in Protected Areas and the Impact of Servicescape on Tourist Satisfaction, Key in Sustainability.” *Journal of Destination Marketing & Management* 12 (June):74–83.
<https://doi.org/10.1016/j.jdmm.2019.02.005>.
- Paliska, Dejan, and Gorazd Sedmak. 2025. “Tourist Accommodation Choices in Nature-Based Destinations: The Case of Geotourism Destination Kras/Carso.” *Tourism and Hospitality* 6 (2): 52.
<https://doi.org/10.3390/tourhosp6020052>.
- Parenté, F. J., and J. K. Anderson-Parenté. 1987. “Delphi Inquiry Systems.” In *Judgmental Forecasting*, edited by G. Wright and P. Ayton, 129–56. New York: John Wiley & Sons.
- Peng, Lei-Yi, Jia Lu, Jian-Ji Luo, and Yu-Xuan Wang. 2022. “A Combination of FDM, DEMATEL, and DANP for Disclosing the Interrelationship of Influencing Factors in Rural Homestay Business: Empirical Evidence from China.” *Sustainability* 14 (16): 10341. <https://doi.org/10.3390/su141610341>.
- Prayag, Girish, Sameer Hosany, Birgit Muskat, and Giacomo Del Chiappa. 2017. “Understanding the Relationships between Tourists’ Emotional Experiences, Perceived Overall Image, Satisfaction, and Intention to Recommend.” *Journal of Travel Research* 56 (1): 41–54.
<https://doi.org/10.1177/0047287515620567>.
- Promsivapallop, Pornpisanu, and Prathana Kannaovakun. 2020. “Factors Influencing Tourists’ Destination Food Consumption and Satisfaction: A Cross-Cultural Analysis.” *Asia-Pacific Social Science Review* 20 (2).
<https://doi.org/10.59588/2350-8329.1304>.
- Putri, IR, and R Kusumaningrum. 2017. “Latent Dirichlet Allocation (LDA) for Sentiment Analysis Toward Tourism Review in Indonesia.” *Journal of Physics: Conference Series* 801 (January):012073.
<https://doi.org/10.1088/1742-6596/801/1/012073>.
- Qiu, Nengjie, Haibo Li, Chen Pan, Jiawei Wu, and Jiaming Guo. 2024. “The Study on the Relationship between Perceived Value, Satisfaction, and Tourist Loyalty at Industrial Heritage Sites.” *Heliyon* 10 (17): e37184.
<https://doi.org/10.1016/j.heliyon.2024.e37184>.
- Rasoolimanesh, S. Mostafa, Siamak Seyfi, C. Michael Hall, and Pezhman Hatamifar. 2021. “Understanding Memorable Tourism Experiences and Behavioural Intentions of Heritage Tourists.” *Journal of Destination Marketing & Management* 21 (September):100621.
<https://doi.org/10.1016/j.jdmm.2021.100621>.
- Russo, Antonio Paolo, Chiara Rabbiosi, Wilbert den Hoed, and Isabel Paulino. 2025. “Beyond Destination Accessibility: Tourism Infrastructure across Mobilities, Technologies and Embodiments.” *Applied Mobilities* 10 (2): 99–110.
<https://doi.org/10.1080/23800127.2025.2510124>.
- Sánchez-Rivero, Marcelino, Vanessa Miguel-Barrado, María Cristina Rodríguez-Rangel, and Esteban Pérez-Calderón. 2024. “Evolution of Transport, Accessibility and Tourism Competitiveness in Extremadura (Spain): A Benchmarking Analysis.” *European Transport Research Review* 16 (1): 66.
<https://doi.org/10.1186/s12544-024-00687-5>.
- Seyfi, Siamak, C. Michael Hall, and S. Mostafa Rasoolimanesh. 2020. “Exploring Memorable Cultural Tourism Experiences.” *Journal of Heritage Tourism* 15 (3): 341–57.
<https://doi.org/10.1080/1743873X.2019.1639717>.
- Sharma, Jyoti, Subhalaxmi Mohapatra, and Subhadip Roy. 2022. “Memorable Tourism Experiences (MTE): Integrating Antecedents, Consequences and Moderating Factor.”

- Tourism and Hospitality Management* 28 (1): 29–59. <https://doi.org/10.20867/thm.28.1.2>.
- Sthapit, Eroze, Peter Björk, and Dafnis N. Coudounaris. 2022. “Memorable Nature-Based Tourism Experience, Place Attachment and Tourists’ Environmentally Responsible Behaviour.” *Journal of Ecotourism* 22 (4): 542–65. <https://doi.org/10.1080/14724049.2022.2091581>.
- Štumpf, Petr, Viktor Vojtko, Richard McGrath, Ida Rašovská, Kateřina Ryglová, and Jakub Šácha. 2022. “Destination Satisfaction Comparison Excluding the Weather Effect.” *Current Issues in Tourism* 25 (15): 2404–21. <https://doi.org/10.1080/13683500.2021.1968802>.
- Sun, Fengzhi, Mingzhi Xu, Zihan Li, Wei Zhang, and Yuxin Yang. 2024. “Spatial Distribution, Accessibility, and Influencing Factors of the Tourism and Leisure Industry in Qingdao, China.” *Sustainability* 16 (16): 6961. <https://doi.org/10.3390/su16166961>.
- Tan, Wee-Kheng, and Chia-Yu Kuo. 2014. “Prioritization of Facilitation Strategies of Park and Recreation Agencies Through DEMATEL Analysis.” *Asia Pacific Journal of Tourism Research* 19 (8): 859–75. <https://doi.org/10.1080/10941665.2013.812570>.
- Thirumarpan, Krishnal, and Elizabeth J.Z. Robinson. 2025. “Park Pricing in Theory and Practice and Implications for Ecosystem and Human Health.” *Eco-Environment & Health* 4 (2): 100151. <https://doi.org/10.1016/j.eehl.2025.100151>.
- Tseng, Ming-Lang. 2009. “Using the Extension of DEMATEL to Integrate Hotel Service Quality Perceptions into a Cause–Effect Model in Uncertainty.” *Expert Systems with Applications* 36 (5): 9015–23. <https://doi.org/10.1016/j.eswa.2008.12.052>.
- Virkar, Anjali R., and Prita D. Mallya. 2018. “A Review of Dimensions of Tourism Transport Affecting Tourist Satisfaction.” *Indian Journal of Commerce & Management Studies* 9 (1): 72–80. <https://doi.org/10.18843/ijcms/v9i1/10>.
- Yang, Yu-Ping Ou, Jun-Der Leu, and Gwo-Hshiung Tzeng. 2008. “A Novel Hybrid MCDM Model Combined with DEMATEL and ANP with Applications.” *International Journal of Operational Research* 5 (3): 160–68.
- Yerizal, Yerizal, and Abror Abror. 2019. “The Influence of E-Wom and Image Destination on Revisit Decision Moderated by Trust: A Literature Review.” In *Proceedings of the 2nd Padang International Conference on Education, Economics, Business and Accounting (PICEEBA-2 2018)*, 441–48. Paris, France: Atlantis Press. <https://doi.org/10.2991/piceeba2-18.2019.58>.
- Zhang, Hongmei, Yan Wu, and Dimitrios Buhalis. 2018. “A Model of Perceived Image, Memorable Tourism Experiences and Revisit Intention.” *Journal of Destination Marketing & Management* 8 (June): 326–36. <https://doi.org/10.1016/j.jdmm.2017.06.004>.
- Zhang, Xiaonan, Gaofeng Pan, Fang Meng, and Jijun Tang. 2023. “What Tourists Seek in Peer-to-Peer Tour Experiences? A Topic Modeling Approach of Online Reviews.” *Journal of Vacation Marketing* 31 (1): 206–22. <https://doi.org/10.1177/13567667231191502>.
- Zhao, Guiling, Chris Ryan, Zongji Deng, and Jinhua Gong. 2024. “Creating a Softening Cultural-Landscape to Enhance Tourist Experiencescapes: The Case of Lu Village.” *Tourism Management Perspectives* 53 (September): 101245. <https://doi.org/10.1016/j.tmp.2024.101245>.
- Zhou, Mengzhen, and Xiaofeng Wang. 2024. “An Analysis of the Relationship Linking Immersive Tourism Experiencescape and Emotional Experience to Tourists’ Behavioral Intentions.” *Sustainability* 16 (17): 7598. <https://doi.org/10.3390/su16177598>.
- Zhu, Yijin, Liqun Zhu, and Lisheng Weng. 2024. “How Do Tourists’ Value Perceptions of Food Experiences Influence Their Perceived Destination Image and Revisit Intention? A Moderated Mediation Model.” *Foods* 13 (3): 412. <https://doi.org/10.3390/foods13030412>.
- Zolfaghari, Alireza, and Hwansuk Chris Choi. 2023. “Elevating the Park Experience: Exploring Asymmetric Relationships in Visitor Satisfaction at Canadian National Parks.” *Journal of Outdoor Recreation and Tourism* 43 (September): 100666. <https://doi.org/10.1016/j.jort.2023.100666>.

Author(s) contribution

XiaoXia Wu contributed to the research concepts preparation, methodologies, investigations, data analysis, visualization, articles drafting and revisions.

Suraiyati Rahman contribute to the research concepts preparation and literature reviews,

data analysis, of article drafts preparation and validation.

BaoHui Huang contribute to methodology, supervision, and validation.

ChengRu Wu contribute to methodology, supervision, and validation.

Feng Luo contribute to methodology, supervision, and validation.

This page is intentionally left blank