International Journal for Housing Science and Its Applications
Publish August 10, 2025. Volume 46, Issue 4 Pages 6350-6364

https://doi.org/10.70517/ijhsa464539

The structure characteristics and evaluation of night tourism experience elements based on Web Travelogue —— Take Nanchang city as an example

Shanmei Xiong[1], Kei Wei Chia[2], Hui Wang[1,*], Rahmat.hashim[3] and Zhenwei Liao[4]

[1] School of Economics and Management, Nanchang Institute of Science and Technology, Nanchang, Jiangxi, 301080, China
[2] School of Hospitality, Tourism, & Events, Faculty of Social Sciences & Leisure Management, Taylor's University, Subang Jaya, 47500, Malaysia
[3] School of Hospitality, Tourism & Events management/CRiT, Faculty of Social Sciences & Leisure Management, Taylor's University Malaysia, Subang Jaya, 47500, Malaysia
[4] Wenzhou Medical University, Wenzhou, Zhejiang, 325035, China

Corresponding authors: (e-mail: 1776045319@qq.com).

Abstract Based on the text data of mafengwo travel notes, the content analysis method, social network analysis (SNA), and importance-Performance analysis (IPA) are adopted to explore the development of night tourism in Nanchang from the perspective of the tourist experience. The results show that the experience elements of night tourism in Nanchang include 22 elements such as cultural landscape, food and catering experience, tourism consumption experience, and tourism transportation experience. The element structure of the night tourism experience in Nanchang is characterized by multi-core and high density, among which cultural landscape, cultural landmarks, and food and catering experience are the most core experience elements, and tourists have the lowest perception of local characteristic products and natural landscape features. The tourists represented by the sub-group composed of food and catering experience and cultural landmarks are the main source of night tourism in Nanchang. IPA found that the overall tourism experience quality of tourists is high, the cultural landscape and cultural landmarks have the highest satisfaction, and the satisfaction of weather and climate perception and experience and queuing experience is low. Based on the research conclusion, this paper puts forward corresponding countermeasures and suggestions for the sustainable development of night tourism in Nanchang.

Index Terms network travel notes, Nanchang city night travel experience, social network analysis, IPA analysis

I. Introduction

With the progress and development of society, economy, science and technology, and civilization, it means that people's ideas and work and rest time have changed significantly, among which the mode of "going to work and sleeping during the day, recreation and entertaining at night" has become a norm among the contemporary youth group. In addition, with the rapid development of modern cities and the continuous improvement of transportation, lighting decoration, and urban products, the possibility of people going out at night and tourism arises at night [1], [2]. Night tourism is an important form of tourism, which can increase the time content of tourism and let tourists feel the different scenery of the city during the day [3]. It plays a very important role in stimulating the urban night economy and improving urban tourism function [4]. Nanchang City is the capital city of Jiangxi Province and a famous historical and cultural city. It is the only central city in China adjacent to the Yangtze River Delta, the Pearl River Delta, and the Golden Triangle of Southern Fujian. It has unique advantages in developing night tourism. In recent years, night tourism in Nanchang has had a good momentum of development, which is loved by the majority of residents and tourists from around the world. It has effectively promoted the linkage development of related industries in Nanchang and become an important support for the night economy of Nanchang. In the context of the prosperous development of the night economy and the upgrading of people's consumption demand, it is an important research topic to understand the structural characteristics and experience quality of tourists and promote the sustainable development of night tourism.

Therefore, this study adopts an integrated approach to qualitatively analyze the dimensions of night tourism experience and assess the strengths and weaknesses of night tourism development in Nanchang, China. It provides theoretical support and decision-making reference for the city to optimize the development pattern of the night economy and create a more dynamic night tourism.

II. Literature review

II. A.Night tourism

Night tourism is defined as any kind of travel activity that occurs between 6 pm and 6 am [5]. The traditional night travel paradigm includes travel activities that extend from day to night. For example, the extended opening hours of galleries, museums, theaters, and art centers [6]. The late-night or 24-hour opening of recreational facilities and tourist attractions has diluted the traditional division between day and night and promoted the development of a "24-hour city" [7]. Recently, scholars have argued that night tourism is not just a travel activity occurring at night, nor is it a simple extension of daytime tourism patterns [8]. Instead, the tourism resources of the night and the hosts are the core of the way night tourism is planned, managed, and experienced [9].

The review of night tourism shows that the existing results mainly focus on the following aspects: First, the study on the impact of night tourism, According to Olt et al., night tourism is the factor most directly related to the economic growth of urban night consumption [10] .Roberts et al., point out that many European cities are keen to achieve commercialization by developing the "night economy", with government authorities, tourism and hotel industries positioning night cities as destinations for entertainment and escape (work pressure) [11]. Night astronomy travel is believed to improve people's mental health and well-being [12]. Some scholars pay attention to the spatial ownership and middle class caused by the development of urban night tourism from a social perspective [10], [13]. The second is the study of the night tourism landscape. The unique charm of "night" has shaped the unique landscape of urban night tours. Orange Analyzed the attractive elements of the Japanese night factory landscape, including factory building landscape, cruise ship sightseeing, factory photography, etc. [14]. Chuang et al. (2014) point out that Taiwan, China night market has the dual attributes of retail service and tourist city, and the food culture and its landscape form are the attraction and the most important part of Taiwan night tourism [15]. At the same time, the establishment of dark parks and the development of astronomical tourism such as night stargazing can also bring ecological benefits [12]. Night performance has a strong attraction and promotion effect on the tourism market [16]. Night ritual activities in religious tourism reserves become a powerful asset for the promotion of new cultural night tourism [17]. In addition to the tourists, the community residents themselves, as the creators of the community night experiences, are also eager to obtain various experiences and community facilities during the night. Third, the research on the motivation and behavior of night tourists. Dumbraveanu et al. used a questionnaire survey and semi-structured interview to study the motivation and behavioral characteristics of night visitors in the Bucharest Museum [18]. Chou explored the influence of Taiwan, China's night travel image, and tourists' consumption experience on their satisfaction and willingness to revisit [19]. Fourth, research on night travel stakeholders. The management of nighttime leisure activities involves issues of inclusion and exclusion, including conflict in race, class, and intergenerational relations [20], [21]. Travel and hospitality workers still face challenges such as night commuting, and city managers and transportation planners still have much work to do to promote night work and leisure travel activities [22].

II. B.Tourism experience

In the era of the experience economy, the quality of the tourist experience is crucial. And the importance of understanding the travel experience is twofold: it can improve tourists satisfaction, have the potential to get recommendations, and may bring positive improvements to tourists' lives. [23], [24]. The travel experience can refer to the tourist environment (e.g., tourist attractions, locals, culture) and the interaction between destination service providers (tourism enterprises, facilities) [25]-[27]. It also occurs through the participation, involvement, perception, and participation of events, activities, or tourist attractions [25]. When visiting a destination, several destination attributes or characteristics may create a tourist travel experience at the destination [28].The study of travel experience includes the definition and interpretation of its concepts [29], [30].Quality evaluation of tourism experience [31], [32], the structure and classification of tourism experience [28], [33], Significance of tourism experience [34], the relationship between travel experience and other variables, such as engagement and cultural contact; satisfaction and loyalty; authenticity [35]-[38]. However, there is no structured direction in the dimension of the tourism experience [39], especially in the night travel experience [40].

Through combing the literature, it is found that the current research on night tourism mainly focuses on qualitative theoretical research, with relatively few empirical studies. Moreover, few scholars use online travel data to study the elements and structure characteristics of the night experience from the perspective of tourists, With the rapid development of Internet technology and online social networking platforms in recent years, Tourists writing online reviews and travel notes have become important data sources [41]-[43].These network texts are real and extensive and play an important role in shaping the image of a tourist destination and providing a reference for tourists [44]. Managers of tourism-related organizations (such as tourism bureaus) have realized the importance of analyzing social media data to understand tourists' views [45]. More and more scholars are starting to use online text data to

study the tourist experience [46]. Therefore, this study plans to start from the perspective of tourists, take Nanchang city as the case to climb the tourist travel notes on the Hornet's nest website, construct the element structure table of Nanchang night tourism experience based on reference to relevant literature, and analyze the structure characteristics of the elements. Through IPA, the quality of tourists' night tourism experience and the satisfaction of various elements were evaluated, the development of night tourism in Nanchang was measured from the perspective of tourists, the advantages and existing problems of the development of night tourism in Nanchang were analyzed, and countermeasures and suggestions were put forward for the deficiencies.

III. Study design

III. A. Case site overview

Nanchang is the capital of Jiangxi Province and the political, economic and cultural centre of the province. Nanchang is a moderate distance from cities such as Wuhan, Changsha and Fuzhou, with convenient access to high-speed railways. As the capitals and centre cities of various provinces, these cities have a large number of young consumers.Nanchang is rich in natural and cultural landscapes, with 1 national 5A scenic spot and 194A scenic spots. In recent years, Nanchang, based on its geographical advantages, cultural characteristics, and tourism resources, has vigorously developed tourism and made remarkable achievements. Among them, night tourism is just popular and has become a new "web celebrity" tourism city.

Going to the night market, eating mixed powder and jar soup, and all kinds of snacks, drinking Jiangxi crock milk tea, riding retro trolley cars, watching music fountains, and watching the night scenery on both sides of the Ganjiang River have become attractive "city tourism cards" of Nanchang and attracted the attention of many young people. As shown in Figure 1:

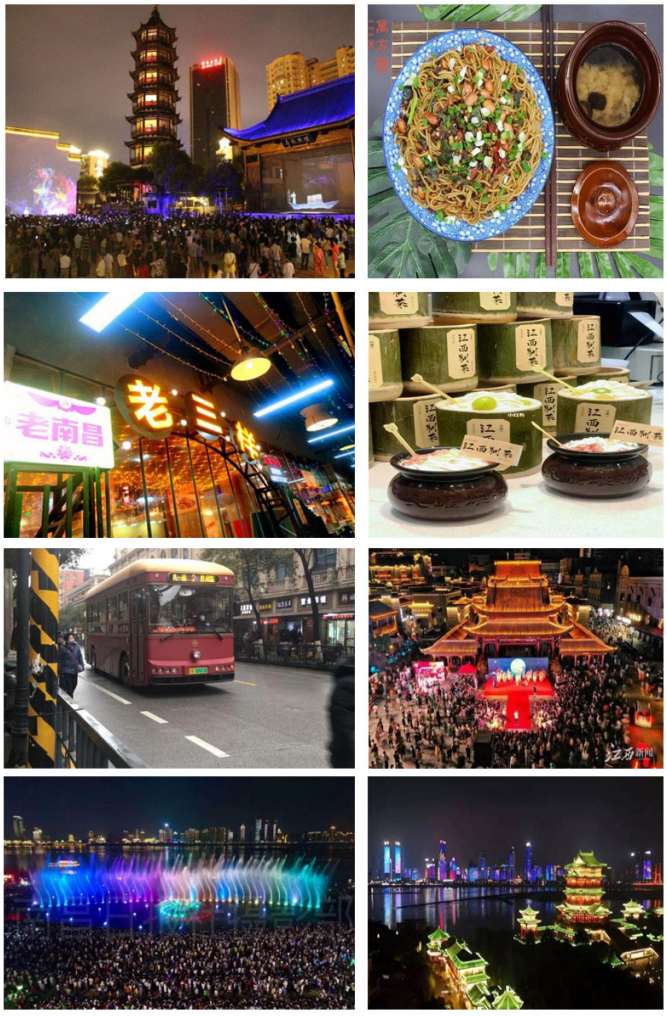

Figure 1: Nanchang Night travel card

III. B. Data source and processing

Mafengwo travel network is a well-known tourism service platform in China, with a large number of users and rich content to share and comment' on travel notes [47]. This study with "Nanchang, night" as the keyword, using crawler software took the hornet's nest website on January 1, 2017, to February 2023,6 years about Nanchang night travel notes, to ensure the quality of the text data and conform to the theme of the study, according to the following principles: (1) eliminate repeat, only pictures no text content or only individual description on the way of travel notes. (2) Delete obvious irrelevant and have obvious advertising, strategy nature, and other travel notes. (3) There are clear paragraphs in the selected content that record the travel activities of tourists in Nanchang at night, and the specific description content is more than 250 words. After screening, 196 effective travel notes of Nanchang night travel were finally obtained, with a total of 225,774 words. The statistical characteristics are shown in Table 1.

Table 1: Travel information of Nanchang city tourists based on 196 online travel notes

	siding-to-siding block	percentage (%)		siding-to-siding block	percentage (%)
go on a tour time	January-February	6.86% (average)	Stay time	A day tour	11.26%
	In May	15.71%		2-3 Days	56.76%
	July-August	11.6% (average)		4-5 Days	18.47%
	In October	21.17%		More than 5 days	13.51%
	Other months	4.36% (average)			
of the same trade or occupation personnel	Look after children	5.86%	consumption per person	More than 1500	21.62%
	friends (classmates)	33.38%		1000-1500	16.67%
	Family travel	11.61%		500-1000	31.53%
	Couples / husband and wife	15.51%		500 And below	30.18%
	one	31.42%			
	else	2.22%			

In terms of travel time, it is found that October and May are the peak periods of tourism in Nanchang city, followed by July-August, indicating that the travel time of tourists is closely related to the summer vacation and legal holidays, in terms of peers. Travel with friends and classmates, alone, couples/couples travel relatively more; in terms of travel duration, short-term travel of 2~3 days accounts for 56.76%. In terms of per capita consumption, tourists below 1,000 yuan accounted for 61.7%. The overall consumption level of tourists is average.

III. C. Research methods

III. C. 1) Content analysis method

This paper uses network text data to encode the elements of the Nanchang night experience [48]. The specific process is as follows: (1) By sorting out and reading the relevant literature on the night travel experience, we have a more comprehensive understanding of the elements of the night travel experience [3], [4], [37]. It provides a theoretical basis for the screening of tourist experience elements and indicators. (2) At the same time, ask two tourism management teachers to read the descriptive sentences in the travel notes one by one, dismantle the code, and refine them. Until the two coders agree on all the content. In addition, scholars in the field of tourism are invited to evaluate the coding elements and to check whether the concept of the elements is clear and easy to understand and whether the content of travel notes is accurately covered. Finally, 22-night travel experience element indicators were obtained. The results are shown in Table 2;

Table 2: Index of night tourism experience elements in Nanchang City

number	essential factor	Example he corresponding travel note text
1	Natural Landscape Scenery	The sparkling river is beautiful, windy, and the view is so comfortable; the blurred night view; the broad Ganjiang River; the sunset.
2	Human Landscape Landscape	pavilions; old buildings;fountains; antique buildings; bronze bells; ancient towers, black and white cat sculptures.
3	Gourmet Dining Experience	Sugar cake, although it is a dessert, but sweet but not greasy; mixed powder; milk tea. Chicken feet, “we want a little spicy, but the feeling is still very spicy, but super delicious”.
4	Travel and Transport Experience	Traffic is not convenient; Nanchang District traffic is really poor; crossing the street, the signal light has no seconds, there are cars in all directions.
5	Local specialty brands	Lao San yang, Wei Fu Ji, Wan Fangyuan, JiJi Hong chain hot pot, play tea master. “Tan Shisan,Lao San yang, Long Laowu are more famous shops. I went to Tan Shisan for a barbecue”.
6	Tourism consumption perception	“I have to say that the price of Nanchang is still very cheap, mixed powder only five yuan a bowl, meat pie soup only five yuan a share. Taste ah, really good”.
7	Cultural Landmarks	Wanshou Palace; Tengwang Pavilion; ShengjingTower; Bayi Square; People's Monument.
8	Cultural imprint	More than 10,000 pieces (sets) of treasures; the passage of the reign of King Teng; modern and ancient charm; blue and white porcelain charm; through time and space. he Tengwangge Preface; the revolutionary years like blood and fire; as if travelling back in time and space.
9	Featured Tourism Products	Pink Tengwangge ice cream, Jiangxi rice noodles, huang shang huang specialty.
10	Leisure and Recreation Experience	KTV; pedicure; outdoor performance; “The bistro really has a lot of character”.
11	Travel Service Experience	The driver is local and lovely;The owner is very nice; warm and polite;The service is just mediocre.
12	Accessibility and convenience	Nanchang scenic spots are close, bus or walking or cycling; walk more than 20 minutes to get there.
13	Infrastructure completeness	Ehi car rental APP, tour guide APP, official public account, travel card, "Ganjingtong" small program .
14	Queuing Experience	31 tables ahead; queuing for 40 minutes to get it, standing on numb feet;There was a full 1.5 hour queue at the door.
15	Photo experience	Suitable for silhouette;If you shoot in the evening, the LED screen will have "INC" and other words, more beautiful; Friends with a camera, click, click, hardly stopped.
16	Weather and climate perception	Nanchang is still as hot as a steamer. I want to take eight baths a day and take air conditioning with me. The rain is very heavy;Wet and cold, windy and rainy, crisp autumn.
17	Degree of agglomeration of tourist activity sites	Tengwang Pavilion, Shengli Road and Bayi Pavilion are close to what you want to eat, surrounding commercial streets, snack bars, shops and vegetable markets.
18	Night Travel Safety and Health	Motor vehicles and motorcycles crash; it is clean everywhere; pedestrians running red lights;they look messy;” the station is chaotic, or give up”.
19	Popularity Perception Experience	There are so many people, People inside and outside the house;This popular tourist attraction is all about the crowds.
20	Human environment atmosphere	Shopping around and eating is very convenient; blocked and cracked washbasin, leaky bathroom, poor roomservice.The room is neat; it is small and dirty.
21	Tourist Accommodation Experience	The local felt friendly; the passers-by were smiling; an old man touched me; A lady, who bought my ticket;But the aunt was very nice and it was nice to have a chat..
22	Social interaction during travel	The leisurely market life of old Nanchang; full of thick fireworks; street culture; strong life; and retains the original appearance of the old city human fireworks.

III. C. 2) Social network analysis

Social network analysis (SNA) is a quantitative analysis method to reveal the internal connections between elements [49]. As an emerging scientific paradigm, social network research has begun to attract attention in tourism research [50]-[52]. According to SNS, actors are nodes in the whole network, and society is a network composed of mutual relations between actors. Through the analysis of actors and their relations, the characteristics of the whole network structure are revealed [53]. In this paper, by using the SNA is method, based on the Mafengwo travelogue

about night tourism in Nanchang, analyzes the node structures and over all structures of the 22 elements of the nighttime tourism experience, in which the node structure is evaluated by node centrality; the overall network structure is evaluated from the network density, core-periphery model and cohesive subgroups.

The Ucinet software is a common tool for calculating the network structure density, centrality, and subgroup analysis. It can reveal the intrinsic characteristics of the element structure and has a strong matrix analysis function [54] In this study, Ucinet 6.5 was used to analyze the social network structure of night tourism elements in Nanchang.

(1) Network density

The network density reflects the closeness of the entire network and is a useful guide to the overall structure of the network. It is derived by dividing the number of actual connections between network nodes by the number of theoretical connections. The result lies between [0,1]. The closer the value is to 1, the greater the network density and the greater the influence of the network on each node; the closer the value is to 0, the lower the network density [40] The formula is as follows:

$$D = \frac{\sum_{j=1}^{n}\sum_{i=1}^{n} d_{ji}}{n(n-1)} \tag{1}$$

where, D represents the network density; and d_{ji} refers to the connection path between the actual network nodes i and j.

(2) Centrality analysis

Network centrality measures the extent to which a node is at the centre of the network. In the network of night tourism experience elements, each experience element is considered as a role. By analyzing its centrality degree, the power and position of different experience elements in the network can be obtained. Currently, commonly used centrality metrics include: degree centrality, proximity centrality and inter-degree centrality.

Degree centrality reflects the communication ability of tourism experience element nodes with other nodes in the network, which is the simplest and most intuitive indicator to evaluate centrality [40]. The calculation formula is as follows:

$$C_{RD(i)} = \frac{C_{AD(i)}}{n-1} \tag{2}$$

where, $C_{RD(i)}$ is the relative degree centrality of node i; and $C_{AD(i)}$ is the absolute degree centrality of node i, that is, the number of nodes connected to the node.

(3) Cohesive subgroups

Cohesive subgroup analysis is a study of the structure and characteristics of an entire network. It divides the nodes in the network into a number of discrete subgroups according to certain criteria, with nodes in each subgroup having relatively strong, direct, and tight correlations. These subgroups are called "blocks". The analysis of the cohesive subgroups can reveal the structural characteristics of the internal subgroups. In this paper, the CONCOR algorithm is applied to analyse the network of nighttime tourism experience elements, and the 22 elements in the network of nighttime tourism experience elements are divided into subgroups.

III. C. 3) IPA

Tourists' evaluation of the perceived travel experience elements is very important. IPA can divide the experience elements into four quadrants: advantage area, retention area, opportunity area, and repair area [55], [56]. It helps to understand the advantages and disadvantages of the development of night tourism in Nanchang. After obtaining 22 experience element indicators, the order is arranged from 1, and then the coders will score them separately according to the tourist evaluation.1 to 5 points mean " very poor, poor, neutral, good, very good. Are indicated by the letter "A~E". Elements that do not appear are considered neutral. The example is as follows: "The scenic spots in the city are not too far away, the choice of shared motorcycles is the first choice, it is cheap and convenient, no taxi and bus," the coding results are: 6D and 12D. Among them, "6D" means element 6 (tourism consumption perception), D corresponds to the text "cheap"; 12 means (accessibility and convenience), D corresponds to the text "scenic spots in the city are not far, choose shared motorcycles, no taxi or bus". After scoring all the travel notes, the coder cross-checks until it is consistent.

$$P_n = \frac{\sum_1^n S_i}{m} \quad (3)$$

$$I_n = \frac{m}{T} \quad (4)$$

P_n represents the average score for each experience element, which is the visitor's satisfaction score for each element. m represents the total number of times element i appears in the travelogue, and Si represents the score for element i.

I_n represents the importance of an experience element, and T represents the number of total travelogues. Table 3 shows the results of all the elements IPA calculation.

Table 3: The IPA table of night tourism experience elements

order number	Elements name	importance	Degree of satisfaction
1	Natural Landscape Scenery	0.15	3.13
2	Human Landscape Landscape	0.91	3.80
3	Gourmet Dining Experience	0.62	3.48
4	Travel and Transport Experience	0.43	2.88
5	Local specialty brands	0.32	3.30
6	Tourism consumption perception	0.64	3.37
7	Cultural Landmarks	0.87	3.80
8	Cultural imprint	0.37	3.33
9	Featured Tourism Products	0.15	3.15
10	Leisure and Recreation Experience	0.24	3.14
11	Travel Service Experience	0.36	3.08
12	Accessibility and convenience	0.49	3.24
13	Infrastructure completeness	0.49	3.45
14	Queuing Experience	0.32	2.64
15	Photo experience	0.30	3.24
16	Weather and climate perception	0.45	2.58
17	Degree of agglomeration of tourist activity sites	0.27	3.21
18	Night Travel Safety and Health	0.24	2.96
19	Popularity Perception Experience	0.52	2.73
20	Human environment atmosphere	0.52	3.40
21	Tourist Accommodation Experience	0.49	3.36
22	Social interaction during travel	0.20	3.15
	mean	0.43	3.20

IV. Study results and analysis

IV. A. Analysis of the structural characteristics of the night tourism experience elements in Nanchang city

IV. A. 1) Basic characteristics of the element structure of night tourism experience

The results show that the overall density of the factor structure is 0.703. Figure 2 is a visual map of the element structure relationship. The blue node symbols reflect the importance of different elements in the overall network structure. Larger means more important, and smaller means less important. As can be seen from Figure 2, there are multiple core nodes in the structural network, such as food and beverage experience, cultural landscape style, tourism consumption perception, tourism accommodation experience, and cultural landmarks, etc. It shows that these elements are very important for the tourists. There are also multiple edge nodes in the network. Such as travel social communication, night travel safety and health, characteristic tourism products, cultural imprint, and accessibility and convenience, the importance of these elements is low, the network embodies the gap between night tourism and daytime tourism, night tourism products is given priority to with cultural landscape, urban night architecture, light show, night, performances, night market, bars, commercial consumption, etc., in short, Nanchang night travel experience element structure has the characteristics of more core, high density.

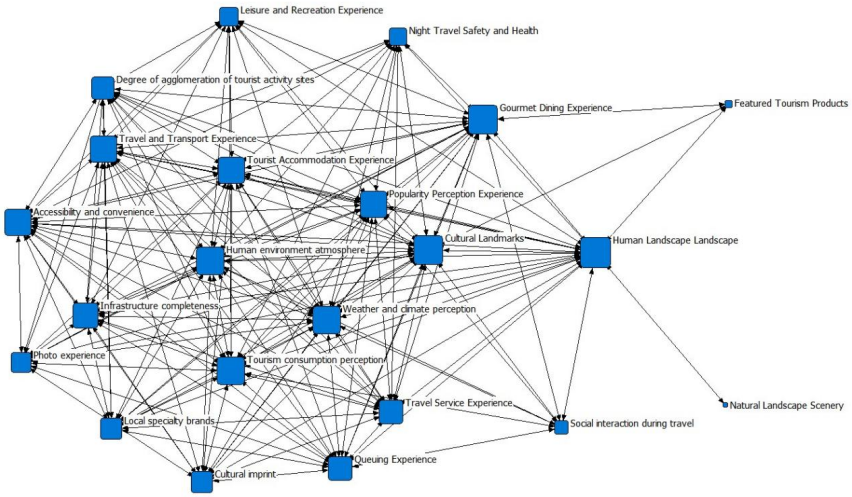

Figure 2: Structure network of night tourism experience elements in Nanchang city

IV. A. 2) Centrality analysis of night tourism experience elements

Eigenvector centrality emphasizes not only the number of node neighbors but also its quality. Nodes can enhance their importance by connecting many other important nodes, so eigenvector centrality can reflect the importance of elements in the structure [40]. The greater the eigenvector centrality value of an element, the higher its importance in the structure, and the lower the importance [57]. In this study, the eigenvalue centrality of night travel experience elements was calculated through Ucinet software.

The results are shown in Table 4. Tourists have the strongest perception of the cultural landscape, food and catering, and cultural landmarks. Secondly, the perception of tourism consumption, weather, climate, cultural environment, and the perception of the natural landscape is the weakest. There is also less attention to characteristic tourism products, travel and social communication, leisure, and entertainment. Research by the World Food Association shows that looking for local dishes has become an important mainstream trend. Nanchang food culture is very rich, with pot simmer soup, powder, sugar cake, crayfish, fried, barbecue, and other flavor snacks countless. Attracted a large number of tourists, Nanchang people love to eat spicy, strong taste, salty, fresh, and spicy. The ingredients and quality are rich, even known as the "ninth largest cuisine". It is an important attraction of Jiangxi tourism. Nanchang cuisine has many brands, each has its own characteristics, common are Lao Sanyang, Tan shisan, Weifuji, Lao Min Tianluo house, Zhou Zhenzhen, Wan Fangyuan, and Long Lao Wu. Tasting Jiangxi cuisine is also an essential link for tourists to travel to Nanchang. In addition to Jiangxi cuisine brands, Nanchang also has various web celebrity catering brands such as tea drinks, baking, and cultural catering. For example, along the "Nanchang" route, crock milk tea has become a web celebrity in the local milk tea industry. With the packaging design of bamboo tube and crock, the selection of Jiangxi characteristic tea Gougunao, full of tea fragrance, very Nanchang characteristics. Visitors shuttle gathered on toad street, jewelry street, Zhongshan Road, and the Shengjin tower food court, such as iconic places, in addition to food, the Tengwang pavilion, ganjiang on both sides of the light show, Qiuahui square fountain, Nanchang star, twin towers and full of Nanchang well cultural characteristics of Wanshou palace and Shengjin tower historical and cultural blocks and Nanchang unique tourism card. Therefore, tourists to Nanchang mainly punch in as cultural landmarks and taste delicious food. Most of the night tourism places in Nanchang are concentrated in the city center, and the lights are bright. The relevant government departments intend to refine the convenience services, such as setting up multiple night service centers, reasonable public toilets (web celebrity toilets in Wanshou Palace), street electric charging bank, etc. It provides a more safe and convenient night consumption environment for tourists.

Table 4: Central indicators of night tourism experience elements in Nanchang City

essential factor	Eigenvector centrality	The degree of importance
Natural Landscape Scenery	0.015	22
Human Landscape Landscape	0.253	1
Gourmet Dining Experience	0.253	1
Travel and Transport Experience	0.243	7
Local specialty brands	0.202	15
Tourism consumption perception	0.250	4

Cultural Landmarks	0.253	1
Cultural imprint	0.201	16
Featured Tourism Products	0.046	21
Leisure and Recreation Experience	0.176	18
Travel Service Experience	0.223	12
Accessibility and convenience	0.243	7
Infrastructure completeness	0.234	11
Queuing Experience	0.219	13
Photo experience	0.186	17
Weather and climate perception	0.250	4
Degree of agglomeration of tourist activity sites	0.210	14
Night Travel Safety and Health	0.162	19
Popularity Perception Experience	0.239	10
Human environment atmosphere	0.250	4
Tourist Accommodation Experience	0.243	7
Social interaction during travel	0.118	20

IV. A. 3) Analysis of subgroups of night tourism experience elements

The cohesin subgroup analysis reveals how many closely related subgroups exist in the entire network. Closely related subgroups exist throughout the network, between different subgroups, and between participants within subgroups. This paper uses CONCOR to cluster the structure of the night travel experience [40]. Four condensed subgroups are obtained, and the results are shown in Figure 3, and the density of each subgroup is calculated as shown in Table 5. As can be seen from Figure 3, subgroup 1 includes the natural landscape features and human landscape features. Subgroup 2 includes four experience elements: characteristic tourism products, leisure and entertainment activities, night travel safety and health, and travel social communication. Subgroup 3 includes nine experience elements: food and catering experience, popularity perception experience, tourism and transportation experience, weather and climate perception, tourism consumption perception, accessibility and convenience, cultural landmarks, tourism accommodation experience, and cultural environment atmosphere. Sub-group 4 includes seven experience elements: queuing experience, agglomeration degree of tourism activity places, degree of infrastructure improvement, cultural imprint, photo experience, local characteristic brand, and tourism service experience.

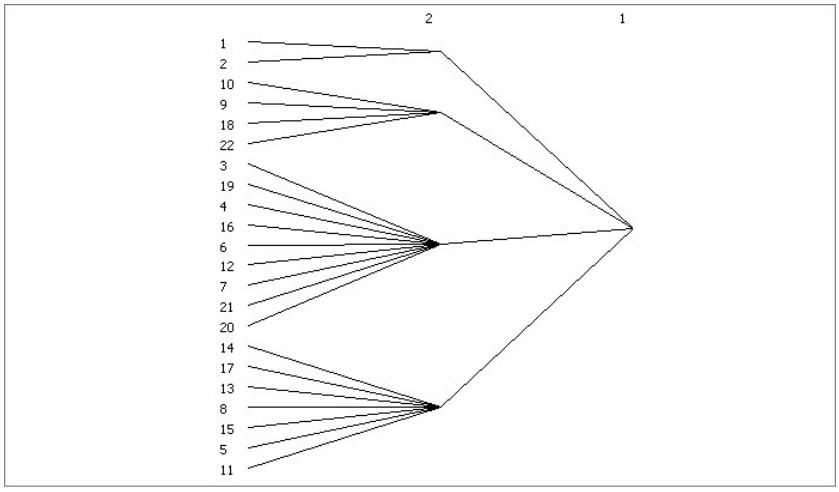

Figure 3: Analysis of night tourism experience elements in Nanchang

As can be seen from Table 5, the connection of night tourism experience elements within subgroup 2 (density value is 0.000) is relatively weak, lower than the average density of the network, and there is no statistical difference. Internal elements of subgroup 3 are very closely related (the density value is 1). And this subgroup is also closely related to the other three subgroups, For example, in subgroup 3, When the tourists mention gourmet food and dining, It often mentions tourism consumption perception, tourism accommodation experience, accessibility, and convenience, popularity perception experience and cultural landmarks, in other words, Elements

within this subgroup often appear in the same travel text, With some variability in the statistics, When it comes to food, it is affordable, delicious and cheap, For example, " Tan shisan crayfish: crayfish fans can have a try, because the shrimp have good meat, the taste is pretty good, too, the price is also very cheap ". Popular perception experience and cultural landmarks also often appear together, such as " I went to the Shengjin tower at the last stop in the evening. The night view is very beautiful, there are food street and temple fair, beautiful human, is also a sea of people ". The tourists represented by subgroup 3 pay more attention to the elements of food, catering, and cultural landmarks. And the importance of these elements is the top three, indicating that the tourists represented by this sub-group are the main source of night tourism in Nanchang. Subgroup 1 has a density value of 1. The internal elements are closely related, which is the same as the other three subgroups. The tourists represented by subgroup 1 mainly pay attention to the experience of natural landscape style and cultural landscape style. The density value of subgroup 4 is 0.714. The internal elements are closely related, while the connection with subgroup 2 is weak. The tourists represented by subgroup 4 mainly focus on the experience of the cultural environment, photography, tourism services, local characteristic brands, and other aspects. These two types of tourists are the secondary source of night tourism in Nanchang City.

Table 5: Subgroup density value of night tourism experience elements in Nanchang City

subgroup	density matrix			
	1	2	3	4
1	1.000	0.500	0.500	0.500
2	0.500	0.000	0.694	0.107
3	0.500	0.722	1.000	0.984
4	0.500	0.143	0.968	0.714

IV. B. IPA results of night tourism experience elements in Nanchang city

After the IPA of various elements of the night travel experience of tourists in Nanchang City, the results are shown in Figure 4, and the average satisfaction rate of tourists with night tourism was 3.2 points (more than 3 points). And more than half of the experience elements scored higher than the average. It shows that the overall quality of tourists' night tourism experience in Nanchang is relatively high.

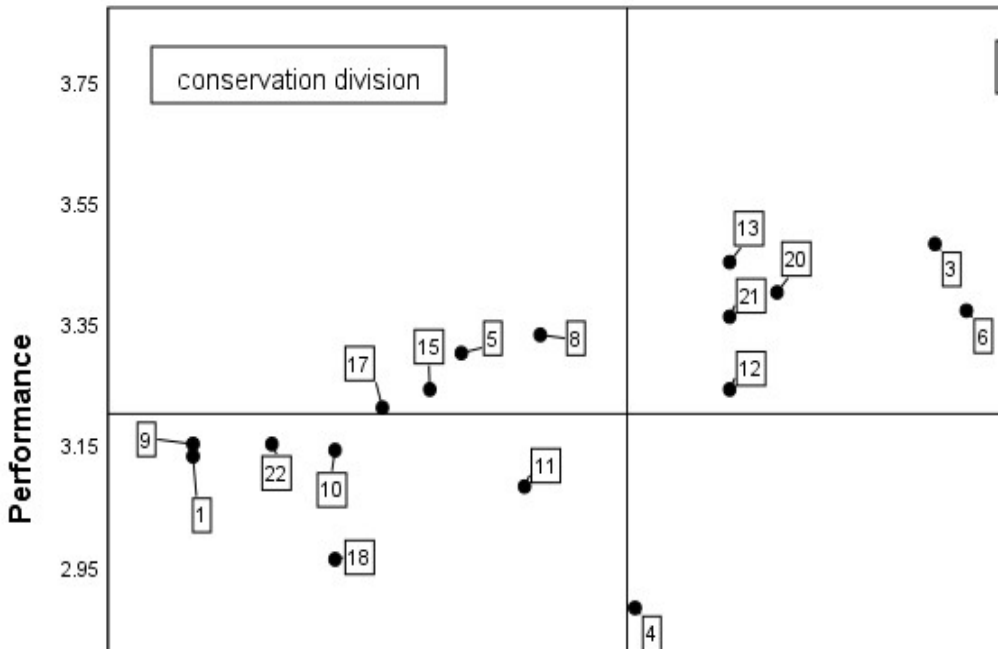

Figure 4: IPA of night tourism experience elements in Nanchang City

Specifically, fall in the first quadrant of the elements of the cultural landscape, cultural landmarks, food catering experience, tourism consumption perception, tourism accommodation experience and cultural environment atmosphere, accessibility, and convenience and infrastructure improvement, shows that tourists in the process of tourism to the eight elements and the satisfaction is higher, that Nanchang can provide quality for night tourists

delicious, affordable, food, reasonable price accommodation facilities and the humanities has a long history of the landscape. The cultural landscape of Nanchang is highly ornamental, and the cultural landmarks are worth punching in. The elements of the second quadrant include four elements: local characteristic brand, cultural imprint, photo experience, and agglomeration degree of tourism activity place. It shows that although these elements are mentioned relatively little, the satisfaction of tourists is relatively high. The elements of entering the third quadrant include seven elements: natural landscape style, characteristic tourism products, leisure and entertainment activities, tourism service experience, queuing experience, night tourism safety, health, and travel social communication. Suggesting that fewer visitors mentioned these elements, and that visitor satisfaction was relatively low. For example, in the travel notes of tourists, tourists mentioned the hotel environment is not clean, the sound insulation effect is not good and other problems. There are also some tourists to the Nanchang taxi charging fees, ripping off customers and motorcycles, battery car rampage phenomenon feel unsafe and afraid. For the queuing experience, some tourists mentioned "queuing for 40 minutes to buy, my feet are numb"; "my queue for 1.5 hours at the door". The fourth quadrant has the least elements, namely tourism traffic experience, weather and climate perception, and sentiment perception experience. Nanchang has a large flow of people at night, serious traffic jams, and a sea of people everywhere, which makes many tourists feel crowded and the quality of play decreases. For example, "I suggest that the fountain of Qiushui Square should still stand on the sightseeing floor because it is not possible to squeeze into the scene". Some tourists reflect the local characteristic of restaurants too many people, such as "Laosanyang has two stores, we went to the ship road shop, around 5 PM, unexpectedly no seat, the door of the number of people mountain people, finally choose to pack, packaging also have to queue to order food, order and wait for more than 40 minutes to get the food". Nanchang is the four major furnaces in China, the summer weather is hot, and the winter is humid and cold, such as "Nanchang heat is not the general heat, I went to Nanchang at the hottest time, I suggest you choose the cooler time in spring and autumn". Since July and August and winter vacation are the peak periods of tourism, some tourists affect their travel experience due to the weather.

V. Conclusions and discussion

V. A. Conclusion

(1) This study climbs, screens, and codes the content of tourists' travel notes.22 indicators of night travel experience elements of Nanchang tourists were obtained, and the tourist evaluation was scored according to the principles formulated above. The factor structure table of Nanchang city tourists' night travel experience is constructed.

(2) The overall network density analysis, eigenvector centrality analysis, and condensed subgroup analysis of the constructed experience element structure were conducted by using UCINET software. The results show that the structure density of the experience element is relatively high. It has the characteristics of multiple cores. Among the 22 elements, tourists have the strongest perception of the cultural landscape, cultural landmarks, and tourism consumption. It has the weakest perception of the natural landscape and pays less attention to the social communication, characteristic tourism products, and the safety and health of night tourism.

(3) The SPSS software was used to analyze the night travel experience of tourists and found that the number of advantage areas, holding areas, opportunity areas, and repair areas was 8,4,7 and 3 respectively. The overall experience quality score was 3.2 points (greater than 3 points). It shows that the experience quality of the night tour in Nanchang is high, with the highest score of the cultural landscape and cultural landmarks among the 22 indicators (3.8 Points). Weather and climate perception (2.58 points) and queuing experience (2.64) are far below the average. In terms of importance, there are also great differences. Cultural landscape features and cultural landmarks are the most concerned and mentioned the most. Natural landscape features and characteristic tourism products are two elements of tourists less mentioned.

Compare the results of important statistics of eigenvalue centrality analysis and IPA, due to the different computational principles of the two methods. The former refers to the importance of elements in the overall network structure, two elements appear in a travel book. Emphasize the co-occurrence times of the two elements. IPA, as described in the analysis. A single element is mentioned once in a travel note. The number of travel notes emphasizes the proportion of all travel notes. Social network analysis is able to obtain the positional relationship of each element in the overall network structure. The IPA can determine whether tourists are satisfied with each element of the night travel experience.

V. B. Discussion

(1) Grasp the core experience elements and enhance the tourism attraction of the core elements. The research shows that cultural landscape, food and catering experience, and cultural landmarks are in the core position in the overall network structure. It is also an aspect that tourists pay more attention to. In this regard, Nanchang needs to

give full play to the core attraction role of the cultural landscape, cultural landmarks, and "food" in the process of night tourism. Actively innovate and do a good job in detail, create a good dining environment, enrich the brand's cultural connotation, and actively promote the local characteristic brand communication. Improve visibility and reputation. Strengthen the protection and restoration of scenic spots, cultural landscapes, and so on, to realize the benign development of night tourism in Nanchang.

(2) Constantly optimize the edge experience elements to promote overall coordinated development. Social travel safety and health, leisure, and entertainment experience are rarely mentioned by tourists, but they must not be ignored. The improvement of the overall experience structure cannot be separated from the coordination of core elements and boundary elements. This part of the experience element is the opportunity factor for the further development of night tourism in Nanchang. Relevant departments need to strengthen supervision, strengthen night tourism patrol, and public security management, strengthen the supervision and management of hotel health and safety, and improve the hardware facilities of hotels. Innovate the content and form of night leisure and entertainment activities, create interesting night fun experience projects, enhance the interaction between tourists and tourists, and between tourists and residents, and promote the comprehensive and coordinated development of night tourism in Nanchang [58].

(3) Strengthen the management of operators and tourists to improve the satisfaction of tourists. Combined with the results of social network analysis and IPA analysis, the traffic experience, queuing experience, and popularity perception experience receive more attention from tourists, but the satisfaction is low, which has a negative impact on the tourist experience. In this regard, first of all, the relevant government departments should strengthen the management of traffic and the special management of the taxi industry, strengthen the construction and planning of traffic infrastructure, appropriately extend the bus operation time, facilitate tourists to travel at night, and put forward specific measures such as optimizing the management of street parking Spaces and temporary parking at night. Strictly crack down on drivers' cheating, ripping off passengers, refusing to carry, and other behaviors. Secondly, strengthen the prediction and monitoring of passenger flow, guide, and control tourists, avoid streets and traffic congestion, and ensure the safety and quality of play. Then, the scenic spot needs to increase the capacity of the scenic spot under the premise of avoiding excessive development. Reasonably plan the distance between tourism routes and offline stores of featured brands, improve the service facilities, and provide the measures of queuing overtime discount to alleviate the problem of long queuing and anxiety of tourists. Finally, in order to ensure the safety and comfort of public places and scenic spots in summer, adequate heatstroke prevention and cooling measures should be provided.

VI. Contribution and limitations of the study

VI. A. Theoretical Significance

Provides some theoretical contributions that can be summarized in two aspects. First of all, the experience elements of night tourism are grasped from the perspective of tourists' experience, and various analysis methods are adopted to obtain the dimensions and relationships of the night travel experience, which provides new knowledge for night tourism and tourism experience. In addition, the data collection method uses online travel notes written by tourists, and on the basis of the unconventional questionnaire survey methods, the content is more authentic to ensure the scientificity and accuracy of the research.

VI. B. Practical Significance

Research results; First, in the process of developing the night tourism industry, strengthen the attraction of core elements and enhance the reputation and popularity of night tourism. Second, continuously optimize the edge experience elements to improve tourist satisfaction, which is conducive to improving the overall night tourism competitiveness of the destination. Thirdly, the research results provide a decision-making basis for the planning and construction of a tourism transportation system and tourism-supporting facilities.

VI. C. Limitations and for future studies

This study also has shortcomings: first, the research data is derived from the tourists' network comments, and the data is limited. Second, online reviews may also ignore the opinions of most elderly tourists who are not accustomed to using the Internet. Third, there is a lack of evaluation from local citizens, because the night travel group includes tourists and local residents. In the follow-up research, combining online big data analysis and face-to-face in-depth interviews can be considered, in order to more comprehensively refine the perception of urban night tourism experience elements, and ensure the reliability of the research.

Finding

This research was funded by Jiangxi Province Higher Education Humanities and Social Sciences Research Project 2024., Grant Number JC24111.

References

[1] Giordano, E. (2018). Outdoor lighting design as a tool for tourist development: the case of Valladolid. European Planning Studies, 26(1), 55-74.

[2] Giordano, E., & Ong, C. E. (2017). Light festivals, policy mobilities and urban tourism. Tourism Geographies, 19(5), 699-716.

[3] Huang, W. J., & Wang, P. (2018). “All that's best of dark and bright”: Day and night perceptions of Hong Kong cityscape. Tourism Management, 66, 274-286.J11(3), 436-454.

[4] Jiang, Y., & Hong, F. (2023). Examining the relationship between customer-perceived value of night-time tourism and destination attachment among Generation Z tourists in China. Tourism Recreation Research, 48(2), 220-233.

[5] Song, H., Kim, M., & Park, C. (2020). Temporal distribution as a solution for over-tourism in night tourism: The case of Suwon Hwaseong in South Korea. Sustainability, 12(6), 2182.

[6] Evans, G. (2012). Hold back the night: Nuit Blanche and all-night events in capital cities. Current Issues in Tourism, 15(1-2), 35–49. https://doi.org/10.1080/13683500.2011.634893.

[7] Jiwa, S., Andres Coca-Stefaniak, J., Blackwell, M., & Rahman, T. (2009). Light Night: an “enlightening” place marketing experience. Journal of place Management and Development, 2(2), 154-166.

[8] Eldridge, A., & Smith, A. (2019). Tourism and the night: Towards a broader understanding of nocturnal city destinations. Journal of Policy Research in Tourism, Leisure and Events, 11(3), 371–https://doi.org/10.1080/19407963.2019.1631519.

[9] Edensor, T. (2015). The gloomy city: Rethinking the relationship between light and dark. Urban studies, 52(3), 422-438.

[10] Olt, G., Smith, M. K., Csizmady, A., & Sziva, I. (2019). Gentrification, tourism and the night-time economy in Budapest's district VII–the role of regulation in a post-socialist context. Journal of Policy Research in Tourism, Leisure and Events, 11(3), 394-406.

[11] Roberts, M., & Eldridge, A. (2007). Quieter, safer, cheaper: Planning for a more inclusive evening and night-time economy. Planning, Practice & Research, 22(2), 253-266.

[12] Bjelajac, D., Đerčan, B., & Kovačić, S. (2021). Dark skies and dark screens as a precondition for astronomy tourism and general well-being. Information Technology & Tourism, 23(1), 19-43.

[13] Eldridge, A. (2019). Strangers in the night: nightlife studies and new urban tourism. Journal of Policy Research in Tourism, Leisure and Events, 11(3), 422-435.

[14] Orange, H. (2017). Flaming smokestacks: Kojo Moe and night-time factory tourism in Japan. Journal of Contemporary Archaeology, 4(1), 59-72.

[15] Chuang, Y. F., Hwang, S. N., Wong, J. Y., & Chen, C. D. (2014). The attractiveness of tourist night markets in Taiwan–a supply-side view. International Journal of Culture, Tourism and Hospitality Research, 8(3), 333-344.

[16] Giovanardi, M., Lucarelli, A., & Decosta, P. L. E. (2014). Co-performing tourism places: The “Pink Night” festival. Annals of Tourism Research, 44, 102-115.

[17] Chevrier, M. H. (2019). Nocturnal ritual activities in tourist development of pilgrimage cities. Journal of Policy Research in Tourism, Leisure and Events, 11(3), 436-454.

[18] Dumbrăveanu, D., Tudoricu, A., & Crăciun, A. (2014). The Night of Museums-a boost factor for the cultural dimension of tourism in Bucharest. Human Geographies--Journal of Studies & Research in Human Geography, 8(1).

[19] Chou, H. J. (2013). The effect of the visitor’s consumption experience and tourism image on tourist satisfaction and revisit intention of Taiwan’s night markets. GSTF Journal on Business Review (GBR), 3, 1-6.

[20] Hadfield, P. (2008). Regulating the Night: Race, Culture and Exclusion in the Making of the Night-Time Economy. By Deborah Talbot (Aldershot: Ashgate, 2007, 164pp.£ 50.00 hb).

[21] Aramayona, B., & García-Sánchez, R. (2019). Decoding middle-class protest against low-cost nocturnal tourism in Madrid. Journal of Policy Research in Tourism, Leisure and Events, 11(3), 380-393, DOI: 10.1080/19407963.2019.1584627

[22] Plyushteva, A. (2019). Commuting and the urban night: nocturnal mobilities in tourism and hospitality work. Journal of Policy Research in Tourism, Leisure and Events, 11(3), 407-421.

[23] Prayag, G., Hosany, S., Muskat, B., & Del Chiappa, G. (2017). Understanding the relationships between tourists’ emotional experiences, perceived overall image, satisfaction, and intention to recommend. Journal of travel research, 56(1), 41-54.

[24] Pung, J. M., Yung, R., Khoo-Lattimore, C., & Del Chiappa, G. (2019). Transformative travel experiences and gender: A double duoethnography approach. Current Issues in Tourism, 1–21. https://doi.org/10.1080/13683500.2019.1635091.

[25] Caru, A. and Cova, B. (2007), Consuming experience, Routledge, London

[26] Ekiz, E. H., & Khoo-Lattimore, C. (2014). Destination India: Investigating the impact of Goa's attributes on families' leisure travel experience. Tourism: An International Interdisciplinary Journal, 62(2), 165-180.

[27] Kim, A. K., & Brown, G. (2012). Understanding the relationships between perceived travel experiences, overall satisfaction, and destination loyalty. Anatolia, 23(3), 328-347.

[28] Sangpikul, A. (2018). The effects of travel experience dimensions on tourist satisfaction and destination loyalty: the case of an island destination. International Journal of Culture, Tourism and Hospitality Research, 12(1), 106-123.
[29] Graefe, A. R., & Vaske, J. J. (1987). A framework for managing quality in the tourist experience. Annals of tourism research, 14(3), 390-404.
[30] Sundbo, J., & Dixit, S. K. (2020). Conceptualizations of tourism experience. The Routledge handbook of tourism experience management and marketing, 15-26.
[31] Chang, C. T.-Y., & Horng, S.-C. (2010). Conceptualizing and measuring experience quality: The customer's perspective. The Service Industries Journal, 30(14), 2401–2419.
[32] Godovykh, M., & Tasci, A. D. (2020). Customer experience in tourism: A review of definitions, components, and measurements. Tourism Management Perspectives, 35, 100694.
[33] Packer, J., & Ballantyne, R. (2016). Conceptualizing the visitor experience: A review of literature and development of a multifaceted model. Visitor Studies, 19(2), 128-143.
[34] Chen, C.-C., & Petrick, J. F. (2013). Health and wellness benefits of travel experiences: A literature review. Journal of Travel Research, 52(6), 709–719. https://doi.org/ 10.1177/0047287513496477.
[35] Chen, H., & Rahman, I. (2018). Cultural tourism: An analysis of engagement, cultural contact, memorable tourism experience and destination loyalty. Tourism management perspectives, 26, 153-163.
[36] Cong, L. C. (2016), "A formative model of the relationship between destination quality, tourist satisfaction, and intentional loyalty: An empirical test in Vietnam", Journal of Hospitality and Tourism Management, Vol. 26, pp. 50-62.
[37] Chen, N., Wang, Y., Li, J., Wei, Y., & Yuan, Q. (2020). Examining structural relationships among night tourism experience, lovemarks, brand satisfaction, and brand loyalty on "cultural heritage night" in South Korea. Sustainability, 12(17), 6723.
[38] Domínguez-Quintero, A. M., González-Rodríguez, M. R., & Paddison, B. (2020). The mediating role of experience quality on authenticity and satisfaction in the context of cultural-heritage tourism. Current Issues in Tourism, 23(2), 248-260.
[39] Cetin, G., & Bilgihan, A. (2015). Components of cultural tourists' experiences in destinations. Current Issues in Tourism, 19(2), 137–154. https://doi.org/10.1080/ 13683500.2014.994595.
[40] Li, A., Mou, N., Zhang, L., Yang, T., Liu, W., & Liu, F. (2020). Tourism flow between major cities during China's national day holiday: A social network analysis using Weibo Check-in data. IEEE Access, 8, 225675-225691.
[41] Li, J., Xu, L., Tang, L., Wang, S., & Li, L. (2018). Big data in tourism research: A literature review. Tourism management, 68, 301-323.
[42] Brianna Le Busque, John Mingoia & Carla Litchfield (2022) Slow tourism Camprubí, R., & Coromina, L. (2016). Content analysis in tourism research. Tourism Management Perspectives, 18, 134-140.
[43] Yuan, Z. (2022). Big data recommendation research based on travel consumer sentiment analysis. Frontiers in Psychology, 13, 857292.
[44] Fuchs, M., Höpken, W., & Lexhagen, M. (2014). Big data analytics for knowledge generation in tourism destinations–A case from Sweden. Journal of destination marketing & management, 3(4), 198-209.
[45] Leung, D., Law, R., Van Hoof, H., & Buhalis, D. (2013). Social media in tourism and hospitality: A literature review. Journal of travel & tourism marketing, 30(1-2), 3-22.
[46] Lin, P., Chen, L., & Luo, Z. (2022). Analysis of tourism experience in Haizhu National Wetland Park based on web text. Sustainability, 14(5), 3011.
[47] Riichi, E. N. D. O., Chujun, W. A. N. G., & Tao, S. U. N. (2023). Tourists' experiences and behaviors related to norms: Finding from a survey using the Mafengwo travelogue. Wakayama Tourism Review, 4, 7-9.
[48] Kolbe, R. H., & Burnett, M. S. (1991). Content-analysis research: An examination of applications with directives for improving research reliability and objectivity. Journal of consumer research, 18(2), 243-250.
[49] Scott, J. (2012), Social Network Analysis: A Handbook, Sage Publications, London.Baggio, R.,
[50] Zha, J., Shao, Y., & Li, Z. (2019). Linkage analysis of tourism-related sectors in China: An assessment based on network analysis technique. International Journal of Tourism Research, 21(4), 531-543.
[51] Kang, S., Kim, W. G., & Park, D. (2021). Understanding tourist information search behaviour: the power and insight of social network analysis. Current Issues in Tourism, 24(3), 403-423.
[52] Lee, H., Chung, N., & Nam, Y. (2019). Do online information sources really make tourists visit more diverse places?: Based on the social networking analysis. Information Processing & Management, 56(4), 1376-1390.
[53] Gao, Y., Ye, C., Zhong, X., Wu, L., & Liu, Y. (2019). Extracting spatial patterns of intercity tourist movements from online travel blogs. Sustainability, 11(13), 3526.
[54] Yu, C., Lian, T., Geng, H., & Li, S. (2023). Analyzing the structure of tourism destination network based on digital footprints: taking Guilin, China as a case. Data Technologies and Applications, 57(1), 56-83.
[55] Azzopardi, E., & Nash, R. (2013). A critical evaluation of importance–performance analysis. Tourism management, 35, 222-233.
[56] Junio, M. M. V., Kim, J. H., & Lee, T. J. (2017). Competitiveness attributes of a medical tourism destination: The case of South Korea with importance-performance analysis. Journal of Travel & Tourism Marketing, 34(4), 444-460.
[57] Jin, C., Cheng, J., & Xu, J. (2018). Using user-generated content to explore the temporal heterogeneity in tourist mobility. Journal of Travel Research, 57(6), 779-791.

[58] Jingchun Zhou, Jiaming Sun, Weishi Zhang, Zifan Lin. Multi-view underwater image enhancement method via embedded fusion mechanism. Engineering Applications of Artificial Intelligence, 2023, 121, 105946