

A Study on the Perception of Cultural Tourism Destination Image Based on Network Text Analysis: A Case Study of the Temple of Heaven

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Abstract: Developing cultural tourism is a vital approach to promoting traditional culture, enhancing cultural confidence, and fostering economic development. This study focuses on the Temple of Heaven as its research subject, utilizing valid tourist reviews collected from the travel website "Trip.com Group". Based on the "cognition-emotion" model, the study employs text analysis and comparative analysis to conduct an image analysis of tourists' cognition and emotions, determining the overall image and analyzing the revisit intention. The findings reveal that: firstly, the "cognition-emotion" model is highly applicable to the study of perception of cultural tourism destination image; secondly, in the construction of image perception of cultural tourism destination image, emphasis is placed on the attraction of the scenic area's culture to tourists; thirdly, there is a lack of awareness of the cultural resources at the Temple of Heaven, along with inadequate facilities and insufficient quantity.

Keywords: Text Analysis; Temple of Heaven Scenic Area; Tourist Perceived Image

1. Introduction

In the development of the tourism industry, it is essential to adhere to the principle of shaping tourism through culture and highlighting culture through tourism, promoting the deep integration and development of culture and tourism. Therefore, it is necessary to facilitate the deep integration of culture and tourism, and turn the cultural tourism industry into a pillar industry. Throughout the millennia of history, numerous cultural museums, historical sites, and artifacts

have been preserved. In this context, the key to further developing scenic spots lies in how to deeply exploit and utilize the cultural resources preserved in China's millennia-long history, promote excellent traditional culture, inherit historical characteristics, turn cultural venues into well-known cultural tourism destinations, enhance cultural confidence, and drive local economic development. With the advancement of technology, information has more channels for exchange through the Internet, and more users are gradually transforming from information receivers to information providers. This process has led to the emergence of a vast information exchange community, with comments imbued with genuine emotions and opinions. Therefore, research on the image perception of tourism destination image has become an important way to deeply utilize their cultural value and historical characteristics, and has increased the channels for disseminating the image of scenic spots. This thesis, based on tourist comments about the Temple of Heaven Scenic Area on "Trip.com Group", conducts research on the image perception of cultural tourism destinations, with the aim of improving tourist satisfaction with scenic facilities, spreading excellent traditional culture more extensively, and promoting the development of China's cultural tourism industry.

2. Literature Review

The perception of tourism destination image originated in the 1970s, primarily examining how people's impressions, views, and beliefs about a destination influence travelers' thoughts, behaviors, and decisions. The tourism destination serves as the starting point for analyzing the entire travel activity. However, there has been limited research on the perception of cultural tourism destination

image in previous literature. Therefore, this paper summarizes the research on the perception of other types of tourism destination image. Research on tourism destinations primarily focuses on three aspects:

Firstly, the development of the concept of tourism destination image was first proposed by foreign scholar Hunt [1], referring to the comprehensive feelings of travelers' beliefs, thoughts, and expectations about a destination, representing their impression of the travel destination. Since then, an increasing number of scholars at home and abroad have begun to focus on the study of tourism destination images. With the "cognition-emotion" model proposed by scholars Baloglu and McCleary [2], the concept of tourism destination image has been further refined. This model consists of emotional image, cognitive image, and overall image. Currently, research on tourism destination image is primarily based on the "cognition-emotion" model for analysis.

Secondly, regarding the research methods for tourism destination images, previous studies mainly adopted unstructured and structured methods, which could also be combined for research [3]. With the development of computer science, deep learning can be used to analyze image content. Therefore, research methods can include data analysis based on tourist review texts. In studies on the perception of cultural tourism destination image, the focus is primarily on the cultural resources of the destination.

Finally, in terms of the types of tourism destinations, a review of the literature reveals that there is limited research on the perception of cultural tourism destination images both domestically and internationally. Among the few studies that use text to analyze cultural tourism destinations, Zhang et al. [4] used Nanjing City Wall as a data sample and employed content analysis methods, including word frequency analysis, semantic network analysis, and sentiment analysis, to evaluate and predict the impact of the ecological environment on the image of cultural heritage. Zhu and Han [5] utilized user-generated content (UGC) and employed Python and ROST CM6 software for high-frequency word analysis, social semantic network analysis, and sentiment analysis, concluding that in the tourism development of Quanzhou's World

Heritage Sites, cultural heritage should be fully utilized and promotional efforts should be intensified.

In summary, research on the perception of cultural tourism destination image is limited and has not received the attention it deserves. Moreover, previous data collection methods have resulted in small sample sizes and significantly limited survey scope and perspectives [6]. Therefore, the "cognition-emotion" model for cultural tourism destinations cannot be fully constructed. In the current era of rapid computer development, tourists can both post their comments on tourism destinations and refer to others' comments. In this process, tourists' travel intentions and decisions are influenced. Therefore, using tourist comments and performing text analysis with ROST CM6 has become a basic method for studying the perception of tourism destination images, providing a good research idea for this paper.

3. Theoretical Analysis Based on Scenic Spot Image Perception

In environmental psychology, the "cognition-emotion" theory posits that after people come into the contact with objects or actions in specific situations, they will generate corresponding emotions. Therefore, emotions are based on cognition and further extended from it. The "cognition-emotion" model, proposed by scholars Baloglu and McCleary (1999), consists of emotional image, cognitive image, and overall image. The cognitive image refers to the objective cognition and evaluation of a tourism destination's image, which serves as the basis for the data source in the early stage of this paper. The emotional image is the emotional evaluation generated based on objective cognition, and this paper analyzes positive and negative emotions based on this. The overall image is the result of the interconnection between the two. The image of a tourism destination is primarily composed of cognitive image, emotional image, and overall image, which together influence the intention to revisit. Based on this theory, this paper conducts research on the Temple of Heaven scenic spot, facilitating the smooth progress of tourism image research.

The main reasons for selecting the Temple of Heaven scenic spot as the case study in this

paper are as follows: Firstly, the scenic spot has research value. The Temple of Heaven is not only a World Cultural Heritage site but also a protected unit of national key cultural relics, possessing rich cultural resources and profound historical heritage. The foundation and content of its research are diverse and abundant. Secondly, the scenic spot has a high visitor turnout and a vast amount of review data. There are the large number of effective and authentic evaluations of the Temple of Heaven on well-known domestic tourism websites, which not only provide high-quality and reliable data for research on the Temple of Heaven itself but also serve as a reference for research on other cultural tourism destinations.

4. The Research Process

4.1 Data Collection

This paper selects the Temple of Heaven scenic spot as the case study for the research on the perception of cultural tourism destination image. After determining "Trip.com Group" as the website for collecting tourist comments and in order to ensure the timeliness and validity of the data, we ultimately decided to collect tourist comments from the period of January 18, 2021, to January 18, 2024. After initial manual screening, we removed duplicate and meaningless evaluations, leaving a total of 334 valuable comments with a total of 21,116 characters.

This paper utilizes ROST CM6 software to analyze high-frequency words, conduct image perception analysis, determine the overall image, and analyze the intention to revisit.

4.2 High-frequency Word Analysis of the Temple of Heaven Scenic Spot

The more frequently a word is repeated by the public, the more it indicates that this word truly reflects a certain aspect of the scenic spot's image or popularity. Therefore, ROST CM6 software was used to identify the top 100 high-frequency words (e.g., Table 1. Top 100 High-Frequency Words in Tourist Comments on the Temple of Heaven Scenic Spot). Firstly, from the perspective of part of speech, the top 100 high-frequency words are categorized into three types: nouns, verbs, and adjectives. Nouns account for 61%, verbs for 23%, and

adjectives for 16%. Nouns mainly include vocabulary related to "scenic area" "attraction", and "historical""culture"; verbs are associated with tourist behaviors, such as "reservation" "visit" etc.; adjectives are related to inner feeling, such as "shocking" "beautiful" etc., and are mostly positive.

Secondly, from the perspective of word frequency, the higher the frequency, the more it indicates that these words left a deeper impression on tourists. Among the top 10 high-frequency words, eight are related to attractions, and two are related to tour guide explanations, fully reflecting that attractions and their inherent culture are key in cultural tourism destinations. Combined with the analysis of part of speech, it is found that nouns are mostly related to attractions, the culture they embody, and tour guide explanations, while adjectives are mostly positive vocabulary. Therefore, the culture of the scenic spot has a huge attraction for tourists [7-10].

For Example:

Table 1. Top 100 High-frequency Words in Tourist Comments on the Temple of Heaven Scenic Spot

High-Frequency Word	Frequency	High-Frequency Word	Frequency
Temple of Heaven	240	humorous	12
Park	96	heaven and earth	12
Hall of Prayer for Good Harvests	77	tourists	12
Beijing	73	venue	12
Architecture	68	happy	12
Place	66	Ming and Qing dynasties	11
Explanation	61	shocking	11
Attraction	49	bustling	11
Circular Mound Altar	45	service	11
Tour guide	44	ancient architecture	11
History	41	scenery	10
Worthwhile	39	entire	10
Echo Wall	32	id card	10
Ancient times	28	good-looking	10
Culture	28	reservation	10
Sacrifice to Heaven	26	entertaining	10
Photo taking	25	wisdom	9
Scenery	23	witty	9
Emperor	22	located	9

Sacrifice	22	imperial Palace of Fasting	9
Child	21	emperor	9
Chinese Rose	21	detailed	9
Prayer for Good Crops	20	in advance	8
China	20	occupation of land	8
Sightseeing	19	Yongle	8
Willing	19	beautiful	8
Convenient	19	pretty	8
east gate	19	overall	8
time	19	the whole way	8
environment	18	children	8
experience	18	combined ticket	8
south gate	17	initially built	8
ticket	17	inner altar	8
sightseeing	17	area	8
suggestion	17	design	8
suitable	17	ancient trees	8
visit	17	garden	7
ancient people	16	value for money	7
scenic area	16	Wait a moment	7
knowledge	16	technology	7
weather	15	learned	7
experience	15	patience	7
spectacular	14	queue	7
tourism	14	south	7
entry	14	square meters	7
grand	13	transportation	7
royal	13	travel	7
hour	13	inside the garden	7
tour guide	13	super	7

4.3 An Analysis of the Image Perception of the Temple of Heaven Scenic Area

Table 2. Analysis of Tourists' Cognitive Image of the Temple of Heaven Scenic Area

Primary Category	Secondary Category	Mentioned in the top 100 high-frequency words
Tourism Resource (828)	Natural Resources (141)	Architecture (68) ancient architecture (11) Scenery (10) Scenery (23) Chinese Rose (21) ancient trees (8)
	Human Resources (687)	Temple of Heaven (240) Park (96) Hall of Prayer for Good Harvests (77) Beijing (73) Attraction (49) Circular Mound Altar (45) Echo Wall (32) Prayer for Good Crops (20) Imperial Palace of Fasting (9) Yongle (8) inner altar (8) garden (7) Scenic Area (16) Inside the garden (7)
Tourist Attraction Facilities (57)	Cuisine (7)	Value for money (7)
	Accommodation and Transportation (50)	Bustling (11) ID card (10) weather (15) transportation (7) Travel (7)
Tourism Management and Services (589)	Tourism Management (267)	Tourists (12) venue (12) place (66) reservation (10) Sightseeing (19) in advance (8) time (19) environment (18) combined Ticket (8) ticket (17) sightseeing (17) visit (17) area (8) design (8) tourism (14) technology (7) square meters (7)
	Tourism Services (322)	Humorous (12) Explanation (61) Tour guide (44) service (11) photo taking (25) entertaining (10) witty (9) child (21) detailed (9) children (8)

4.3.1 Cognitive image analysis

This paper analyzes data from 334 tourist reviews to establish nine secondary categories: "Natural Resources" "Human Resources" "Cuisine" "Accommodation and Transportation" "Tourism Management" "Tourism Services" "Geographical Location" "Culture" and "Comprehensive Impression". These nine secondary categories are further summarized into four primary categories: "Tourism Resources" "Tourist Attraction Facilities" "Tourism Management and Services" and "Scenic Area Environment" (e.g., Table 2. Analysis of Tourists' Cognitive Image of the Temple of Heaven Scenic Area). Firstly, the "Tourism Resources" category has the highest frequency, with the term "Temple of Heaven" appearing 240 times, indicating that tourists tend to perceive and describe the entire cultural experience of the Temple of Heaven scenic area. Secondly, the "Tourism Management and Services" category follows, with the term "Explanation" mentioned 61 times, suggesting that cultural explanations during the visit are of considerable importance. Thirdly, in the "Scenic Area Environment" category, the term "culture" is mentioned 276 times, directly reflecting tourists' strong interest in and desire for knowledge about the historical and cultural aspects of the attraction during their travels. Lastly, the "Tourist Attraction Facilities" category, which includes "Cuisine" and "Accommodation and Transportation" has a frequency of 57 times, indicating that these aspects are not the primary attractions of the scenic area [11].

For Example:

		overall (8) occupation of land (8) suggestion (17) suitable (17) experience (15) Wait a moment (7) patience (7) queue (7) hour (13) tour guide (13)
Scenic Area Environment (570)	Geographic location (103)	Heaven and earth (12) entire (10) located (9) east gate (19) the whole way (8) south gate (17) south (7) entry (14) admission (7)
	Culture (276)	History (41) Ming and Qing dynasties (11) Ancient times (28) culture (28) Sacrifice to Heaven (26) wisdom (9) Emperor (22) Sacrifice (22) China (20) Emperor (9) ancient people (16) initially (8) knowledge (16) learned (7) royal (13)
	Comprehensive Impression (191)	Happy (12) worth it (39) shocking (11) good-looking (10) willing (19) Convenient (19) experience (18) beautiful (8) pretty (8) super (7) crowded (13) spectacular (14) grand (13)

4.3.2 Emotional image analysis

In the process of traveling, the inner feeling and emotional reactions of tourists towards the tourist destination are referred to as the emotional image. This paper utilizes the "Function Analysis - Sentiment Analysis" feature of ROST CM6 software to construct a sentiment analysis table (e.g., Table 3. Sentiment Analysis Table).

Overall, tourists have a high evaluation of the Temple of Heaven, mostly positive. Both neutral and negative evaluations are relatively low. This indicates that there are still a few developmental issues within the Temple of Heaven. The ancient architecture and historical heritage of the site are the true reasons that attract tourists and the main sources of positive emotions. Negative emotions mainly stem from issues related to tourist facilities, such as comments about "too many people" "congestion" and "few water stations". Therefore, the purpose of tourists' visits is to experience the historical heritage of the Temple of Heaven, which the site can generally fulfill and even exceed expectations. However, the tourist experience is not perfect during this process, and improvements to the relevant facilities of the site are necessary. Additionally, as a cultural tourist destination, the educational significance it carries is also a source of positive emotions.

For Example:

Table 3. Sentiment Analysis Table

Emotion	Proportion (%)	Segment	Proportion (%)
Positive Emotion	93.94%	Mild	34.85%
		Neutral	34.85%
		Intense	24.24%
Moderate Emotion	3.03%		3.03%
Negative Emotion	3.03%	Mild	3.03%
		Neutral	0%
		Intense	0%
Total	100%		100%

4.4 Overall Image Analysis of the Temple of Heaven Scenic Area

Based on the social network relationship graph (e.g., Figure 1. Social Network Relationship) composed of tourist comments, following the "center-subcenter" model, "Temple of Heaven" is the center, providing an intuitive understanding of tourists' perception and summary of the Temple of Heaven scenic area. High-frequency subcenter words such as "history" "Explanation" "Architecture" "place" "Sacrifice to Heaven" and "Attraction" are present, extending outwards to other secondary layer words like "culture" "photo taking" "sacrifice" and "worth it" further deepening the public's image of the Temple of Heaven scenic area. At the same time, it also shows that tourists focus on these characteristics of the scenic area, which is fully verified by high-frequency words such as "happy" "shocking" and "worth it" in the emotional image analysis. In summary, the Temple of Heaven scenic area has formed an image perception centered on "Temple of Heaven" with "history" "explanation" "culture" etc. as subcenters, further defining its cultural tourism image. Therefore, it is necessary to focus on its own cultural construction.

On the other hand, tourists' overall perception of the Temple of Heaven scenic area will first affect their willingness to revisit, which is also an important way for tourists to express their overall perception of the scenic area. Secondly, some underlying psychological factors will influence tourists' choices. We can analyze the degree of tourists' willingness to revisit from many angles. For example, words such as "happy," "shocking" and "convenient" that appear in the top 100 high-frequency feature words positively reflect tourists' satisfaction with their trip, indirectly indicating a high degree of willingness to revisit. This shows

that tourists have a high level of satisfaction with their visit to the Temple of Heaven scenic area [12-14].

For example:

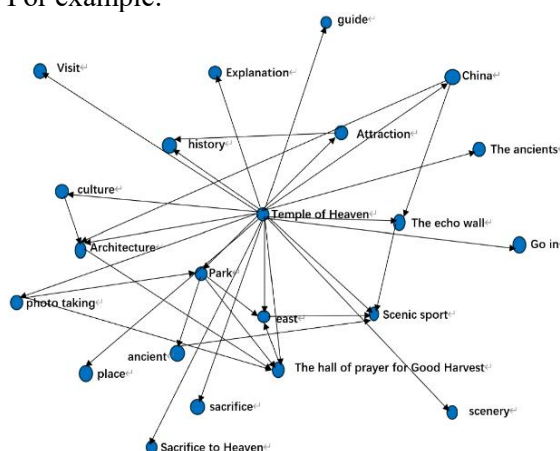


Figure 1. Social Network Relationship4.5 Reliability Test

This study requires a reliability test to ensure the objectivity and accuracy of the research results, and to guarantee that this paper can be used for the study of cultural tourism destination image perception. The chosen reliability test formula is Holsti's formula.

First, two researchers will randomly select 50 comments from the large number of tourist comments for coding, using the formula.

For Example:

$$K=2*m/(m1+m2) \quad (1)$$

Here, K represents the mutual agreement between the two researchers, m is the number of identical codes between them, and m1 and m2 are the number of codes assigned by each researcher, respectively. If a randomly selected comment contains an analysis category listed in Table 2, it is coded as "1"; otherwise, it is coded as "0".

Second, the reliability R is determined based on the K value (mutual agreement between the two researchers), where R is the reliability and is the number of researchers.

For Example:

$$R=(n*k)/[1+(n-1)*k] \quad (2)$$

Thirdly, based on the above, the mutual agreement (K) between the two selected researchers is 0.94, and the reliability (R) is 0.97. This meets the criteria for reliability testing, and the conclusion is feasible.

5. Conclusion and Limitations

5.1 Conclusion and Limitations

This study conducted text analysis and

comparative analysis on the tourist perception image of the Temple of Heaven based on 334 tourist comments from "Trip.com Group". The following conclusions were drawn: 1. Tourists convey their overall image perception of the Temple of Heaven through its human resources, tourism management and services, culture, and positive emotions towards the site, fully validating the applicability of the "cognition-emotion" model in the field of the perception of cultural tourism destination image. 2. In terms of cognitive image, tourists have a high discussion degree on the two secondary categories of human resources and culture, indicating that the culture of the scenic spot is key to attracting tourists. 3. Words related to tour guide and explanation are frequently corresponding to the emotions of happy and worth it in the comprehensive impression. Overall, most tourists express satisfaction. However, there are still a few negative evaluations, such as the lack of restrooms and drinking water stations, which need to be practically addressed.

The aspects that need to be improved in this paper are as follows: Firstly, the research data is only sourced from text comments. In future research, sources such as travel notes and forums can be added to obtain a more in-depth study. Secondly, the research method used in this paper is text analysis, which does not allow for a comprehensive analysis of the issues, resulting in some discussions being not deep enough. In the later stage, it can be combined with field investigations to more comprehensively study the tourist perception image of the Temple of Heaven

5.2 Suggestions

Firstly, emphasize cultural promotion and focus on the unique features of the scenic spot. As indicated by the above analysis, tourists have the strongest perception of the scenic spot's culture, but it needs to be further enhanced. For example, the culture embedded in the attractions can be briefly described through text or paintings to attract children's interest and increase public knowledge. Additionally, guides should receive centralized training to improve their explanation skills, further integrating culture and tourism. Secondly, improve service quality to meet service requirements. Regarding queuing times, information-based management methods can

be adopted to simplify unnecessary steps and reduce waiting times. Furthermore, the issue of a lack of drinking water stations and restrooms should be given equal attention, with an increase in quantity and assurance of quality to provide tourists with a better travel experience. Finally, enhance promotional efforts and shape tourism individuality. Combine online and offline tourism products, starting from the unique features of the attractions, to avoid excessive homogeneity of tourism products and ensure product usability.

References

- [1] Hunt J D. Image as a Factor in Tourism Development. *Journal of Travel Research*, 1975, 13(3): 1-7.
- [2] Baloglu S, McKeary K W. A Model of Destination Image Formation. *Annals of Tourism Research*, 1999, 26(4): 868-897.
- [3] Wang Pengfei, Song Juntong, Xu Ziyang. Research on Brand Building of Red Tourism and Destination Image Perception: Based on Network Text Analysis of Jiaxing South Lake Scenic Area. *Price Theory and Practice*. 2021, (07): 133-136. DOI:10.19851/j.cnki.cn11-1010/f.2021.07.172.
- [4] Zhang Weiya, Tang Shu, Chen Lingling, et al. A Study on Tourist Perception of the Ecological Environment of Cultural Heritage and Its Impact on Heritage Tourism Image Based on Network Text Analysis: A Case Study of Nanjing Ming City Wall. *Ecological Economy*. 2024, 40(06): 135-140+171.
- [5] Zhu Cuilan, Han Ziwei. A Study on the Perception of Quanzhou's World Cultural Heritage Tourism Image Based on User-Generated Content (UGC). *Travel Overview*, 2024, (16): 18-20.
- [6] Lin P, Chen L, Luo Z. Analysis of Tourism Experience in Haizhu National Wetland Park based on Web Text. *Sustainability*, 2022, 14(5): 3011.
- [7] Hong S K, Kim H, Jang H, et al. The Roles of Categorization, Affective Image and Constraints on Destination Choice: An Application of the NMNL Model. *Tourism Management*, 2006, 27(5): 750-761.
- [8] Hausmann A, Toivonen T, Slotow R, et al. Social Media Data Can Be Used to Understand Tourists' Preferences for Nature-based Experiences in Protected Areas. *Conservation Letters*, 2018, 11(1): 1-10.
- [9] Suntikul W, Jachna T. Contestation and negotiation of heritage conservation in Luang Pra-bang, Laos. *Tourism Management*, 2013, 38(2): 57-68.
- [10] Suntikul W, Pratt S, I Kuan, et al. Impacts of Tourism on the Quality of Life of Local Residents in Hue, Vietnam. *Anatolia*, 2016, 27(4): 405-420.
- [11] Mitchell C J A, Shannon M. Are in-migrant Proprietors Driving or Enhancing Cultural Heritage Tourism in Transitioning Resource-dependent Communities? The case of Trinity, Newfoundland and Labrador. *The Canadian Geographer*, 2018, 62(3): 398-413.
- [12] Zhang Jinshan, Liao Bin. Mechanism and Countermeasures for the Deep Integration and Development of Cultural Heritage and Tourism. *Journal of Yunnan Normal University (Philosophy and Social Sciences Edition)*, 2024, 56(05): 123-135.
- [13] Xing Qianqian. A Study on the Perception of Tourism Image of the National Museum of China Scenic Area Based on Network Text Analysis. *Mudanjiang Normal University*, 2023. DOI: 10.27757/d.cnki.gmdjs.2023.000126.
- [14] Xie Dichang, Wu Jiaquan. A Study on Tourist Perception Image of Historic and Cultural Blocks Based on Network Text Analysis: A Case Study of Yongqingfang, Enning Road, Guangzhou. *Modern Urban Research*, 2023, (01): 64-71.