Research on Tourism Image Perception of Mount Tai Scenic Area by Inbound Tourists: An Analysis Based on TripAdvisor Review Texts

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Abstract: *Based on the review texts of inbound tourists on the Tripadvisor platform, this study uses content analysis and the "cognitive-emotion" model to explore the perception characteristics of inbound tourists towards the tourism image of Mount Tai Scenic Area. The results show that: (1) The cognitive image presents a multi-dimensional structure, and tourists pay the highest attention to mountain climbing activities, transportation facilities and natural landscapes; (2) The emotional image is mainly characterized by positive emotions, but negative emotions are expressed quite strongly. (3) The overall image presents a four-layer diffusion feature of "core - edge", with the mountain climbing experience as the core and gradually extending to the cultural connotation. Based on this, suggestions such as optimizing cultural expression and improving facilities and services are put forward to enhance the international appeal of Mount Tai Scenic Area.*

Keywords: *Web Text; Inbound Tourists; Image Perception; Mount Tai Scenic Area*

1. Introduction

Tourism image is a key factor in the development of a tourist destination. It not only affects tourists' travel choices but also relates to their subsequent evaluations and willingness to revisit. This research began in the 1970s when Hunt first introduced the concept of image into the tourism field, revealing its dual impact on destination development [1]. In the 1990s, Baloglu defined destination image as an individual's understanding, emotion and impression of a tourist destination, and proposed the "cognitive-emotion" model, dividing destination image into three dimensions: cognition, emotion and the whole [2]. Later, Beerli (2004) verified through path analysis that cognitive image influences emotional image, and the two jointly act on the overall image [3].
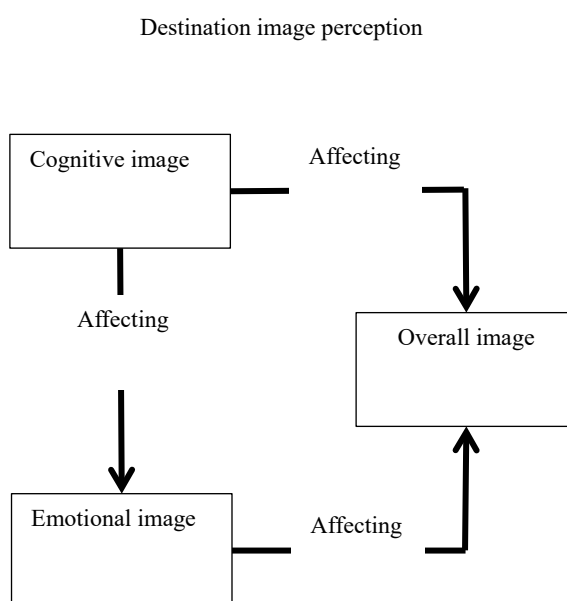
Destination image perception

Figure 1 The "cognitive-emotional" model of destination image

The research on the image of domestic tourist destinations emerged in the 1990s. Scholars mainly adopted empirical methods to focus on cases of cities and scenic spots. Liu Peilin et al. (2021) systematically analyzed the tourism image characteristics of Dalian City based on OTA platform travelogues using the "cognitive-emotion" model [4]; Xu Min et al. (2025) employed Python data mining technology to reveal the evolution pattern of the tourism image of Yancheng Yellow Sea Wetland before and after its application for World Heritage status [5]; Jiang Lei et al. (2025) innovatively combined natural language processing technology with IPA methods to conduct a multi-dimensional assessment of the perceived image of tourists in Baishuiyang Scenic Area [6].

In recent years, China's inbound tourism has continuously received strong support from national policies. By the end of 2024, China has implemented visa-free policies for 63 countries. In 2024, the number of inbound tourists reached 132 million, an increase of 61% year-on-year. However, most of the existing research on the Mount Tai scenic area focuses on domestic tourists. This study innovatively adopts the review texts of foreign tourists, combines the "cognitively emotional" model (Figure 1) and content analysis method, systematically analyzes the image perception characteristics of the Mount Tai Scenic Area by inbound tourists, provides decision-making basis for the international development of the scenic area, and helps enhance its international appeal.

2. Overview of the research area and research design

2.1 Overview of the Research Area

Mount Tai is China's first World Natural and Cultural Heritage Site, located in the central part of Shandong Province. It covers a total area of 24,200 hectares, with its main peak reaching an altitude of 1,532.7 meters. It is renowned as the "Supreme of the Five Great Mountains" and is famous for its four wonders: sunrise, sea of clouds, sunset glow and the Golden Belt of the Yellow River. The scenic area features 29 ancient architectural complexes, 128 historical sites and over 2,000 inscriptions. It was selected as a World Geopark in 2006. There are currently four mountain climbing routes, two sightseeing bus lines and three cable car systems, making it the core scenic area of the "Welcome to Shandong" tourism brand. This sacred mountain, symbolizing "national peace and people's well-being", continuously attracts tourists from all over the world with its unique natural and cultural charm.

2.2 Data acquisition

This study, through a comprehensive comparison of user reviews on various online travel platforms, ultimately selected TripAdvisor, a globally leading travel website, as the data source. This platform has registered users from all over the world and can provide genuine and reliable data on international tourists' reviews. From February 10th to 20th, 2025, the research team used Octopus data collection software to collect data with "Mount Tai" as the keyword. After screening, a total of 149 valid comments were obtained, with a total content of over 40,000 words.

2.3 Research methods

This study adopts the content analysis method and quantitatively analyzes the comment texts of inbound tourists through the ROST CM6 text analysis platform. This method originated from the field of journalism and communication [7] and has now been widely applied in social science research. The research is specifically carried out through three analytical dimensions. High-frequency word statistics are used to reveal the cognitive characteristics of tourists, sentiment analysis is used to grasp the emotional tendency, and semantic network analysis is used to construct the overall image structure, thereby objectively and systematically interpreting the image perception characteristics of inbound tourists towards the Mount Tai Scenic Area.

3. Analysis of Inbound Tourists' Perception of the Tourism Image of Mount Tai Scenic Area

3.1 Cognitive image perception analysis based on high-frequency words

After importing the collected comment texts into the ROST CM6 text analysis software, the software automatically generates the high-frequency words of the top 100 bits of the text and their word frequency statistics results (Table 1).

Table 1 High-frequency vocabulary list of cognitive images

Serial number	High-frequency words	Frequency	Serial number	High-frequency words	Frequency	Serial number	High-frequency words	Frequency
1	summit	165	35	Worth it	26	69	Station	14
2	Cable car	142	36	Along the way	25	70	Culture	14
3	Mount Tai	141	37	Go up	24	71	Leave	14
4	Steps	126	38	Amazement	24	72	Spent	14
5	Hour	99	39	morning	24	73	Entrance	13
6	Hiking	98	40	Come down	23	74	Heaven	13
7	China	93	41	Emperor	23	75	Tianwai Village	13
8	Mountain climbing	83	42	On the road	23	76	Early morning	12
9	Climb	78	43	Interesting	23	77	Feet	12
10	Bus	67	44	Go up	23	78	In the middle	12
11	Ride	66	45	South Heaven Gate	23	79	friend	12
12	Sunrise	60	46	Crowded	22	80	Half	12
13	Time	57	47	Food	21	81	Found	11
14	Scenery	54	48	Tourist	21	82	Nature	11
15	Hotel	52	49	Rest	20	83	Strong	11
16	Zhongtianmen	47	50	Shop	20	84	Souvenir	11
17	Temple	46	51	History	20	85	Walking stick	11
18	Red Gate	37	52	Taxi	19	86	Unbelievable	11
19	Weather	35	53	Scenic spot	19	87	Tourism	11
20	Choose	34	54	Along	19	88	Reach the summit	11
21	Beautiful	32	55	Attention	19	89	Yuhuangding	11
22	Scenery	32	56	Ticket	19	90	Crowd	11
23	Suggestion	32	57	Experience	18	91	Altitude	11
24	Top	31	58	One-way trip	17	92	All the way	11
25	Route	31	59	The Five Mountains	17	93	Bottom	11
26	Tai 'an	30	60	On the mountain	17	94	Height	11
27	Minutes	30	61	Steep	17	95	Beijing	11
28	Experience	28	62	Go down	17	96	Challenge	11
29	Visit	27	63	Dai Temple	16	97	Above	11
30	Set off	27	64	Enjoy	16	98	Toilet	11
31	Appreciation	27	65	Mountain peak	16	99	Explore	11
32	Chinese	27	66	Local people	15	100	Help	10
33	Bus	27	67	Spectacular	15			
34	Evening	26	68	Prepare	15			

To deeply analyze the cognitive characteristics of inbound tourists towards the Mount Tai Scenic Area, based on the statistical results of high-frequency words, and referring to similar studies [8-9] and the actual situation of Mount Tai, this study classifies high-frequency words into seven dimensions. By calculating the proportion of word frequency in each dimension (Table 2), the core concerns of inbound tourists are revealed.

Table 2 A list of cognitive image dimensions

Cognitive dimension	Cognitive dimension keywords (frequency)	Frequency	Proportion
Mountain climbing activities and experiences	Hiking 98 Mountain Climbing 83 Ascent 78 Choice 34 Departure 27 Appreciation 27 Up the Mountain 24 Down 23 Up 23 Rest 20 Along 19 Down the Mountain 17 Prepare 15 Leave 14 Spent 14 Found 11 Summit 11 Explore 11 Beauty 32 Experience 28 Worth 26 Amazement 24 Fun 23 Crowded 22 Experience 18 Steep 17 Enjoy 16 Spectacular 15 Intense 11 Unbelievable 11 Challenging 11 Middle 12 Half 12 All the Way 11 Bottom 11	833	23.6%
Transportation and infrastructure	Cable Car 142 Steps 126 Bus 67 Hotel 52 Route 31 Bus 27 Taxi 19 One-way 17 Stations 14 Food 21 Store 20 Ticket 19 Souvenir 11 Walking Stick 11 Toilet 11	675	19.1%
Natural landscapes and geographical features	Peak 165, Mount Tai 141, Sunrise 60, Scenery 54, weather 35, Scenic 32, Mountain 17, Peak 16, altitude 11, natural 11, Jade Emperor Peak 11 feet 12, height 11	504	14.3%
Cultural and historical heritage	Zhongtianmen 47 Temples 46 Red Gate 37 South Heaven Gate 23 Emperors 23 History 20 Five Great Mountains 17 Dai Temple 16 Culture 14 Tianwai Village 13 Heaven 13	287	8.1%
Time and itinerary management	Hours 99 time 57 minutes 30 p.m. 26 a.m. 24 a.m. 12	248	7.0%
Region and Culture	Chinese 93, Tai 'an 30, Beijing 11, Chinese 27, tourists 21, locals 15, friends 12, people 11	220	6.2%
Suggestions and service management	Suggestion 32 Pay attention 19 Help 10	61	1.7%

As can be seen from the above table, the perception of Mount Tai Scenic Area by inbound tourists

presents multi-dimensional characteristics, among which mountain climbing activities and experiences, transportation and infrastructure, and natural landscapes and geographical features constitute the core cognitive dimensions. Specifically, during mountain climbing activities, tourists focus on sports such as "hiking and climbing" and interactive behaviors like "exploration and experience". In terms of transportation, great attention is paid to the convenience of infrastructure such as cable cars and steps. In terms of natural landscapes, the focus is on iconic attractions such as "mountain peaks and sunrise", as well as environmental elements like "weather and altitude". This cognitive feature, which prioritizes mountain climbing experience and transportation convenience, followed by landscape appreciation and cultural connotations, indicates that international tourists are more inclined to position Mount Tai as an outdoor sports experience site rather than merely a cultural pilgrimage site.

3.2 Analysis of emotional image perception

In this study, the sentiment analysis function of ROST CM6 software was utilized to identify the sentiment tendencies and calculate the scores of the comment texts. The sentiment types were classified into three categories: positive, neutral and negative, and segmented statistical analysis was implemented. Finally, the sentiment perception results of inbound tourists towards Mount Tai Scenic Area were obtained (Table 3).

Table 3 Statistical results of emotion classification

Emotion classification		Quantity (pieces)	Percentage %
Positive emotion		730	53.95
Neutral emotion		426	31.49
Negative emotions		197	14.56
Positive emotion	General (0-10)	429	58.77
	Moderate (10-20)	183	25.07
	Height (20 above)	118	16.16
Negative emotions	General (-10-0)	129	65.48
	Moderate(-20- -10)	47	23.86
	Height(-20 below)	21	10.66

Table 3 data shows that the emotional evaluation of inbound tourists towards the Mount Tai Scenic Area is generally positive, with the proportion of positive emotions reaching 53.95%, significantly higher than that of neutral and negative emotions. From the perspective of the detailed dimensions of positive emotions, generally speaking, positive emotions account for the highest proportion, reflecting the widespread recognition of the scenic area by tourists. In terms of negative emotions, it shows a feature of "low frequency and high intensity", among which general negative emotions account for 65.48%, while highly negative emotions, although only in the minority, are particularly prominent in terms of emotional expression intensity. This indicates that tourists generally hold a positive attitude towards the Mount Tai Scenic Area, but their reactions to negative experiences are more sensitive and intense.

3.3 Overall image perception analysis

The ROST CM6 software can extract text feature words and generate co-occurrence matrices through the "Social Network and Semantic Network Analysis" function, calculate the centrality and co-occurrence relationship of high-frequency words, and construct a visual network diagram (Figure 2). The size of the squares in the figure represents the centrality of the vocabulary, and the thickness of the lines reflects the intensity of co-occurrence, presenting the overall image recognition characteristics of the Mount Tai scenic Area by inbound tourists in a direct and intuitive way.

Semantic network analysis clearly presents the core-edge four-layer structural characteristics of inbound tourists' perception of the overall image of Mount Tai Scenic Area. The "summit" node at the core of the network centrally reflects the core focus of tourists. The sub-core layer composed of keywords such as "cable car, hiking, and steps" highlights tourists' high attention to mountain climbing methods and infrastructure. The secondary edge layer, which includes elements such as "sunrise, temples, and the Five Great Mountains", reflects tourists' secondary perception of natural landscapes and religious culture. The outermost edge nodes such as "steepness, culture and weather" reflect tourists' extended perception of the terrain features, historical value and service quality. This hierarchical structure clearly reveals the cognitive pattern of inbound tourists towards the Mount Tai scenic area: starting from the core climbing goals and methods, gradually expanding to natural landscapes and religious buildings, and ultimately extending to broader dimensions such as historical culture and service facilities.
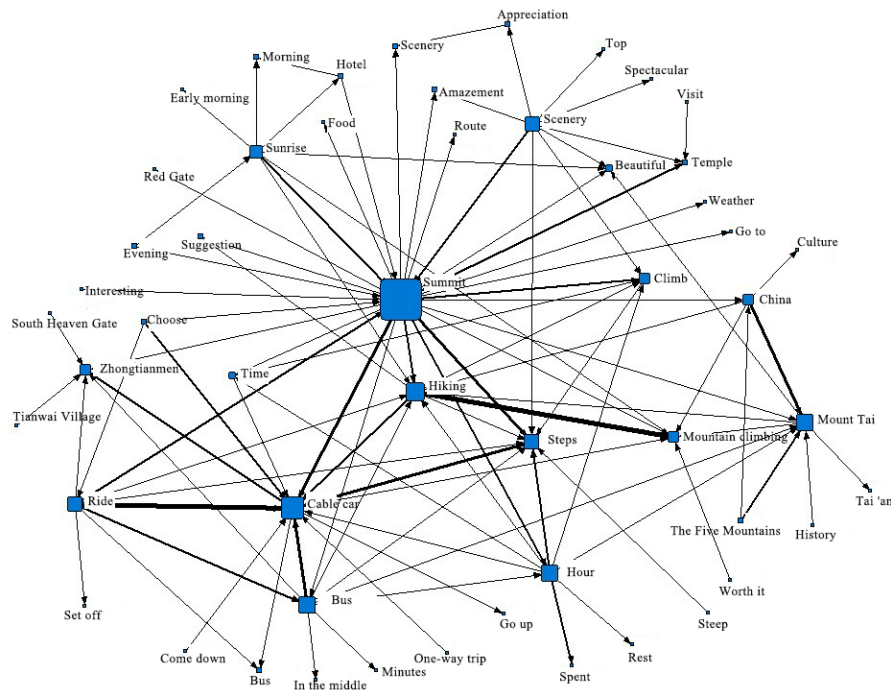
Figure 2 Social network and semantic network graph of inbound tourists

4. Conclusions and Suggestions

4.1 Research Conclusion

Research has found that inbound tourists' perception of the Mount Tai Scenic Area presents a diverse structural feature, with "summit" as the core image. The main cognitive dimensions are the climbing experience, transportation facilities and natural landscapes. Tourists particularly attach importance to the convenience of climbing methods and infrastructure. The overall emotional evaluation is positive. Although there are few negative evaluations, they are strongly expressed regarding congestion and terrain issues. Semantic network analysis further reveals a four-layer diffusion structure of "core-sub-core-sub-edge-edge", starting from the mountaineering goal, successively extending to the mountaineering method, natural landscape, and ultimately expanding to cultural and service elements, forming a composite cognitive model dominated by experience and supplemented by culture.

4.2 Management suggestions

Based on the above findings, this paper proposes the following optimization suggestions from an international perspective:

(1) Strengthening the internationalization of cultural experience and services

We need to develop an AR tour guide system to restore historical scenes such as the Fengshan Ceremony in multiple languages. Adding bilingual interpretation boards at key points like the Red Gate and Zhongtian Gate to systematically display the cultural connotations of stone carvings and ancient buildings, we need to form a volunteer team of "Mount Tai Cultural Envoys" to provide cross-cultural guided Tours and regularly conduct cultural interpretation training. At the same time, we will improve the multilingual intelligent customer service platform, set up foreign language service posts in the tourist center, equip them with professional translation devices, and establish a 24-hour rapid response mechanism to comprehensively enhance the service experience for international tourists.

(2) Optimization facility management and visitor experience

We need to implement a time-slot reservation system for mountain climbing, utilize big data to establish a passenger flow early warning mechanism, focus on controlling peak hours such as sunrise viewing, and dynamically adjust the operation frequency of cable cars. We need to install intelligent lighting systems on dangerous sections such as the Eighteen Bends, using solar power supply technology

to balance safety and ecological protection. We need to regulate the accommodation market on the mountain top, introduce a third-party assessment and price disclosure mechanism, conduct regular hygiene and safety inspections, and upgrade the wayfinding system, tourist toilets and other infrastructure in accordance with international standards, and add barrier-free passages.

(3) Innovative marketing and brand building

For the main source markets, we need to create a dual-theme promotional content of "mountain climbing+culture", highlight the unique experience of Mount Tai, and produce multi-language promotional brochures and short videos. We need to cooperate with international outdoor platforms to hold brand events such as the "Mount Tai International Mountaineering Festival", set up professional and amateur group competitions, and attract mountaineering enthusiasts of different levels. By applying VR technology to develop online experience projects and build virtual mountain climbing scenes, potential tourists can enjoy an immersive preview of the four seasons' scenery of Mount Tai, enhancing the destination's appeal. Additionally, online reservation discount activities are launched as a supporting feature.

Acknowledgement

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