

A Comparative Study on Market Characteristics of Mount Huangshan and Mount Tai Scenic Spots

WEI Yakun

(Key Research Base of Humanities and Social Sciences of the Ministry Education, Institute of Marine Sustainable Development, Liaoning Normal University, Dalian, Liaoning 116029, China)

Abstract China's tourism market is becoming increasingly competitive, with prominent trends of market stratification, cross-border integration and consumption upgrading, bringing both opportunities and challenges for mountain-type scenic areas. As representative world heritage mountain scenic spots, Mount Huangshan and Mount Tai differ significantly in resource endowments and core attractions, yet face similar market changes. Taking Mount Huangshan and Mount Tai as research objects, based on field investigation, official statistics and online big data, this paper uses Social Network Analysis (SNA) and sentiment analysis to compare market characteristics from four dimensions: tourist source structure, consumption characteristics, economic driving effect and tourist perception. The results show that Mount Huangshan focuses on high-end eco-tourism relying on world-class natural landscapes, with strong consumption power and high overnight rate, but limited by environmental carrying capacity; Mount Tai focuses on mass cultural tourism based on historical and cultural IP, achieving comprehensive benefits through large-scale passenger flow and industrial linkage. The study indicates that resource endowments determine the development paths of mountain scenic areas: natural scenic areas should strengthen international brands, while cultural scenic areas need to deepen experience transformation, providing reference for cultural-tourism integration and sustainable development of mountain-type scenic areas.

Keywords Mount Huangshan, Mount Tai, Mountain-type scenic areas, Market characteristics, Social Network Analysis, Cultural-tourism integration

DOI 10.16785/j.issn 1943-989x.2026.1-2.007

With the vitality of China's tourism market continuing to be unleashed, characteristics such as market segmentation, cross-sector integration, industry iteration, and intensified competition have become increasingly prominent, which brings new opportunities and challenges to the development of scenic spots. Mount Huangshan and Mount Tai, as representative mountain-type tourism resources in China, have distinct development paths and significant differences in core attractions, yet they face similar changes in the market environment. Tourism consumption is becoming increasingly diversified and upgrading in quality, which requires scenic spots to continue to innovate and improve service quality, while also creating favorable conditions for well-known scenic spots such as Mount Huangshan and Mount Tai to expand their development space. Therefore, a comparative analysis of the market characteristics of the two places not only helps reveal their differentiated development paths but also provides theoretical basis and practical reference for the sustainable development of similar mountain scenic spots^[1].

Currently, domestic research primarily focuses on the resource evaluation and protection strategies of Mount Huangshan and Mount Tai, providing methodological references for market analysis. However, systematic comparisons of

market characteristics are still relatively weak. Early research on mountain scenic spots abroad emphasized resource value assessment and tourist behavior analysis, with quantitative methods such as principal component analysis and analytic hierarchy process gradually being applied to resource development evaluation. In recent years, research has increasingly shifted towards sustainable development and community participation. However, existing research outcomes are mostly single case studies, and comparative studies across regions and types still need to be further developed^[2-8].

This study takes Mount Huangshan and Mount Tai as case studies, breaking through the paradigm of single scenic spot research. It combines quantitative data such as tourist volume and income structure, as well as qualitative characteristics such as cultural IP and ecological protection, to conduct a systematic comparison from the dimensions of market positioning, product development, and management mode. Subsequently, based on field research and literature review, a comprehensive evaluation system covering resource endowment, tourist behavior, and economic efficiency will be constructed to provide theoretical support for the differentiated development of mountain scenic spots in China.

1 Research data and methods

1.1 Research data source

The data analyzed in this study primarily originates from the official websites of Mount Huangshan and Mount Tai scenic areas, the tourism statistical yearbooks of Huangshan City and Tai'an City, the official websites of the data statistics bureaus and tourism bureaus of Huangshan City and Tai'an City, relevant academic papers, government policy documents, news media reports, the official website of Ctrip, and big data statistics. Additionally, field investigations were conducted at Mount Huangshan and Mount Tai, including interviewing experts, scholars, and scenic area staff to obtain first-hand data and information.

1.2 Research method

This paper adopts a combination of literature review and field investigation. In the module of tourist sentiment analysis, it primarily utilizes methods such as semantic network analysis of online texts and sentiment expression analysis^[9-11]. It mainly relies on Octopus web crawler and ROST CM 6 to collect and analyze the review information of users on the Ctrip travel website regarding the scenic spots of Mount Huangshan and Mount Tai from January 2024 to March 2025.

2 Mount Huangshan and Mount Tai

Located in Huangshan City, southern Anhui Province, Mount Huangshan covers an area of approximately 1,200 km², with a core tourist area of 160.6 km². As a World Heritage Site for both cultural and natural values, a global geopark, and a national 5A scenic spot, this mountain-type scenic spot, ranked among China's top ten historical sites, is renowned for its five unique landscapes: peculiar pines, bizarre rocks, sea of clouds, hot springs, and winter snow, and is hailed as "the most extraordinary mountain under heaven." Its geographical space is divided into multiple distinctive areas, including the Four Unique Scenic Area, Yuping Scenic Area, Baiyun Scenic Area, Beihai Scenic Area, and Xihai Scenic Area. The Ming Dynasty geographer Xu Xiake once famously summarized the status of Mount Huangshan in mountain landscapes with the classic comment, "After returning from the Five Mountains, no other mountains are worth seeing; after returning from Mount Huangshan, no other mountains are worth returning to."^[12]

Mount Tai spans three cities in Shandong Province, China: Tai'an, Jinan, and Zibo. Geographically, it borders the Bohai Sea to the east and the Yellow River to the west, stretching 200 km from east to west and 50 km from north to south, covering a total area of 426 km². As the leader of the Five Great Mountains and the easternmost one, this scenic area not only holds multiple identities such as a World Geological Park and a National Scenic Spot, but it is also China's first World Heritage Site for both cultural and natural values, recognized by UNESCO in 1987. Mount Tai combines magnificent natural landscapes with profound cultural heritage. Its title as the First Mountain Under Heaven stems not only from its majestic mountain form but also carries cultural symbolic significance, embodying thousands of years of Chinese civilization through imperial rituals and literati inscriptions^[13].

3 Analysis of research results

3.1 Origin of tourists in Mount Huangshan scenic spot and Mount Tai scenic spot

Since there is no detailed data on domestic tourists to Mount Huangshan scenic spot in 2024 disclosed from Huangshan City Tourism Bureau, the general structure of the domestic tourist market of Mount Huangshan scenic spot in 2024 was inferred based on the tourist structure data of Huangshan City from 2015 to 2019, 2023, and the first half of 2024, which has

been publicly disclosed by Huangshan Municipal People's Government, after excluding the data from 2021 and 2022 affected by the pandemic (Fig.1). According to the domestic tourist source market structure of Huangshan City published in recent years, the Yangtze River Delta region is the core tourist source area for Mount Huangshan, with Jiangsu, Zhejiang, Shanghai, and Anhui as the absolute main tourist groups. Currently, over 70% of tourists to Huangshan City come from the three provinces and one city in the Yangtze River Delta. Moreover, the proportion of tourists from the Yangtze River Delta region has remained basically stable at around 50%. The advancement of infrastructure construction such as high-speed rail has continuously promoted the integration of tourism in the Yangtze River Delta. For example, the opening and operation of the Hangzhou-Huangshan high-speed rail has led to a significant increase in the number of tourists transported to Mount Huangshan scenic spot from Huangshan North Station from 2015 to 2019^[14]. At the same time, the number of tourists from medium- and long-distance regions is on the rise, reflecting the increasing influence of the Mount Huangshan tourism brand nationwide. According to statistics from the Anhui Provincial Department of Culture and Tourism, as of August 2024, 52,000 overseas tourists had visited Mount Huangshan, representing a year-on-year increase of over 230%, highlighting the influence and significant recovery momentum of Mount Huangshan in the global tourism market.

According to the data from Tai'an City Bureau of Culture and Tourism in 2024 (Fig.2), the tourist source of Mount Tai is centered around North China, covering Beijing, Tianjin, Hebei, and surrounding provinces, with the short-distance market dominating. Among the top ten provinces for domestic tourists, Shandong, Henan, Hebei, and Jiangsu account for the highest proportion. Among them, tourists from Shandong Province rank first, with obvious geographical advantages; Henan, Hebei, and Jiangsu, with their proximity, convenient transportation, and similar cultures, are stable short-distance tourist sources. The long-distance market is gradually expanding, and provinces such as Liaoning, Shanxi, Heilongjiang, Sichuan, and Jilin have also entered the top ten. Although their proportion is not high, it shows that tourists from outside the province have shown increasing attachment to Mount Tai. With improved transportation and promotional efforts, the tourist source is radiating from within the province to the outside, and the national

influence is continuously increasing.

In summary, Mount Huangshan relies on the tourist source and high-speed rail advantages of the Yangtze River Delta to form a "high-speed rail + cultural tourism" model; Mount Tai, based in North China, is consolidating its local market and expanding overseas through historical culture and brand marketing. Both destinations rely on transportation to extend their tourist source radius: Mount Huangshan has a more diversified and rapidly internationalizing tourist source, highly concentrated in the Yangtze River Delta, with a strong presence in the south and a weaker one in the north; Mount Tai, with the Bohai Rim as its core, mainly attracts tourists from northern provinces. The Hangzhou-Huangshan high-speed rail has shortened the travel time from Shanghai to Mount Huangshan to 2.5 h, with the proportion of high-speed rail tourists exceeding 60% in 2023, and supporting connecting services have improved accessibility; Mount Tai relies on the Beijing-Shanghai high-speed rail, with the number of passengers at Tai'an station increasing by 161.3% year-on-year in 2024, and Beijing, Shanghai, and other cities are within a 4-h reach. In terms of aviation, Mount Huangshan has opened routes to Guangzhou and Shenzhen; Mount Tai relies on transfers at Jinan and Qingdao airports, continuously optimizing its long-distance accessibility.

3.2 Tourist consumption characteristics

Tourist consumption at Mount Huangshan is predominantly driven by its natural landscapes, characterized by a higher tier of spending but subject to seasonal fluctuations and a relatively homogenized business format. According to the 2025 annual report of Huangshan Tourism, the company achieved a total annual revenue of 21.09 billion RMB. Its revenue structure successfully transitioned from a reliance on ticket sales to being dominated by cableway and comprehensive services. Specifically, cableway and ropeway operations accounted for 39.92% of total revenue, serving as the primary source of income, followed by hotel operations at 23.33%, tourism services at 25.22%, and Huizhou cuisine at 11.62%. The scenic area exhibits distinct high value-added consumption traits: to witness the sunrise and sea of clouds, the majority of first-time visitors opt for overnight stays on the mountain. During peak seasons, standard rooms at summit hotels are generally priced between 800 and 1,500 RMB per night, with prices surging 2 to 3 times during public holidays. The tourist demographic is primarily composed of long-haul, cross-provincial visitors. Tourists from the Yangtze River Delta region account for

approximately 50%, and when combined with those from the Pearl River Delta and Beijing-Tianjin-Hebei regions, cross-provincial visitors constitute over 60% of the total. Furthermore, tourists frequently combine their Huangshan visit with excursions to neighboring ancient villages, such as Hongcun and Xidi.

On the other hand, tourist consumption at Mount Tai is culturally driven, characterized by low entry barriers and short visitation cycles, with ticket sales and basic services dominating the revenue mix and insufficient penetration of high-end consumption. In 2024, ticket revenue accounted for 40% to 45% of the its total income. Although preferential policies (e.g., free admission for students and teachers) have lowered the average per capita ticket expenditure, the massive tourist base continues to generate stable ticket revenue. Secondary consumption accounts for approximately 30%, primarily comprising cableways, scenic area shuttle buses, dining, and blessing-themed cultural and creative products. The average per capita expenditure at Mount Tai ranges from 500 to 800 RMB, with official statistics indicating a per capita daily expenditure of 639 RMB in 2023. The tourism model is predominantly centered on one-day trips and night climbs; night-time arrivals account for 42%, with these tourists typically summiting at dawn for sunrise and descending on the same day, forming a “one-day closed-loop” consumption pattern. Overnight tourists primarily stay in budget hotels at the foot of the mountain, with average nightly rates between 150 and 300 RMB, reflecting a flattened overall consumption structure. Although the average length of stay for tourists in Tai’an

City has increased to 2.12 days, with 67.5% of tourists staying for 2 to 3 days, the incremental consumption is mainly generated by urban supporting facilities rather than the Mount Tai scenic area itself.

3.3 Comparison of economic driving effects of Mount Huangshan and Mount Tai scenic spots

To evaluate the economic driving effects of the two scenic areas on their respective regions, this study selected data from the most recent three years unaffected by the severe impacts of the COVID-19 pandemic (2019, 2023, and 2024) (Table 1). The comparative analysis yields the following conclusions: First, the continuous and significant year-on-year growth in tourist volume at Huangshan reflects the enhanced attractiveness of its eco-tourism. In contrast, Mount Tai possesses a large tourist base but exhibits slowing growth, with a mere 0.1% increase in 2024, potentially constrained by scenic area capacity or market saturation. Second, the steady increase in total tourism revenue in Huangshan City, which is synchronized with the growth in tourist volume, indicates either a higher spending power among its visitors or an enhancement in the added value of tourism. The revenue in Tai’an City has fluctuated significantly: in 2023, despite a substantial surge in tourists, the overall revenue declined, possibly due to lower per capita consumption, low-ticket pricing strategies and insufficient industrial linkage, while in 2024, the revenue rebounded, benefiting from the expansion of diversified consumption scenarios such as cultural and creative industries and health and wellness tourism. Overall, Mount Huangshan follows a high-quality, high-

consumption eco-tourism path, achieving concurrent growth in both tourist numbers and revenue, thereby demonstrating robust economic performance. Conversely, Mount Tai relies heavily on large-scale tourist flows, and needs to optimize its revenue structure and increase the proportion of secondary consumption to avoid the risk of quantity increase but price decrease.

The regional economic driving effects of Mount Huangshan and Mount Tai exhibit differentiated development paths, shaped not only by their respective resource endowments and historical heritage but also by the underlying logic of their development strategies. In terms of direct economic benefits, Mount Huangshan achieves high value-added output through a “high-end consumption chain.” In 2023, revenue from cableways and hotels accounted for 60% of Huangshan’s total tourism revenue, while ticket revenue dropped to below 14%. Relying on high value-added business formats such as summit accommodations, the per capita tourist expenditure reached 800 to 1,200 RMB. In contrast, Mount Tai primarily relies on a “traffic scale model.” According to data released by the Mount Tai scenic spot, although the per capita expenditure was only 500 to 800 RMB in 2023, the area achieved a stable revenue structure of “tickets + transportation + blessing-related consumption” driven by a record-high tourist volume of 8.62 million visits, with ticket revenue accounting for 40% to 45% of the total income of the scenic spot.

Regarding employment stimulation, the entire cultural tourism industry chain in Mount Huangshan supports approximately 100,000 practitioners in the Huizhou region. Conversely,

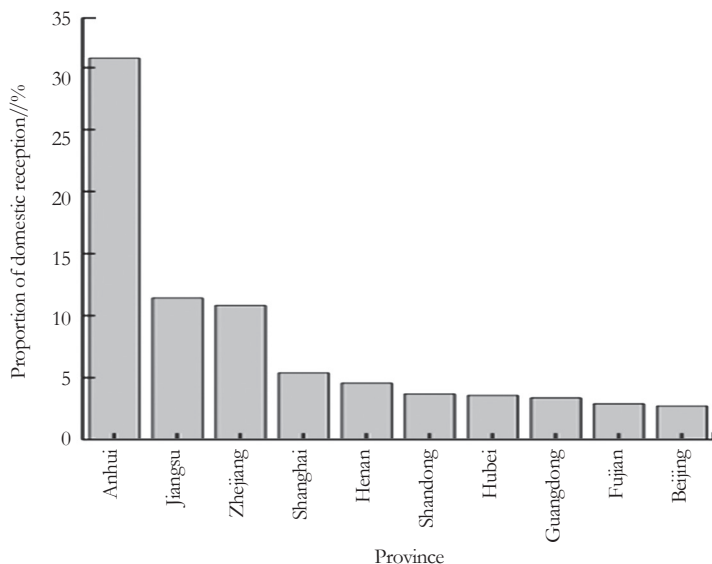


Fig.1 Domestic tourist source market structure of Mount Huangshan scenic spot in 2024 (Estimated result)

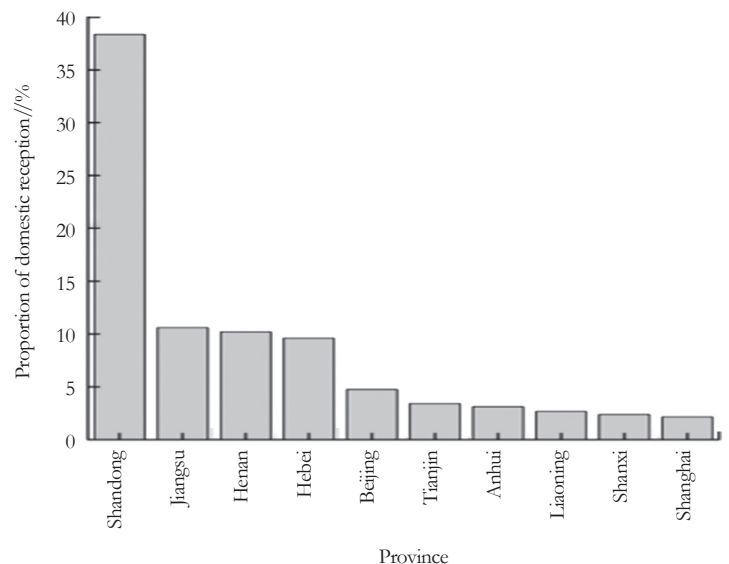


Fig.2 Domestic tourist source market structure of Mount Tai-shan scenic spot in 2024

due to a more integrated “mountain-city integration” model, Mount Tai has generated over 150,000 employment opportunities across Tai’an City. In the dimension of industrial chain extension, Mount Huangshan demonstrates a stronger cultural spillover effect. The Huizhou cultural ecosystem has transformed tourism dividends into momentum for physical industries, driving price premiums for geographical indication agricultural products such as Huangshan Maofeng tea and Qimen black tea. Meanwhile, the Sanjiangkou night-time economy belt has formed a consumption closed-loop of “mountain viewing by day and city appreciation by night.” Mount Tai, on the other hand, focuses on the “industrialization of cultural IPs.” Peace-related symbols, such as “Taishan Shigandang,” have spawned a rapidly growing cultural and creative market. Furthermore, through the “One Mountain, One Water, One Sage” cultural tourism triangle, it has established a joint-ticket system with the Three Confucian Sites in Qufu and the Baotu Spring in Jinan, though the development of night-time consumption scenarios remains relatively lagging. At the level of regional synergy, Mount Huangshan has constructed a cross-provincial cultural tourism corridor. As a core node of the Hangzhou-Huangshan World Heritage Corridor, Mount Huangshan has formed a golden tourism route in the Yangtze River Delta with Hangzhou’s West Lake and Qiandao Lake. Together with Huizhou ancient villages like Hongcun and Xidi, these attractions contribute approximately 30% to 40% of the comprehensive tourism revenue of Huangshan City. Mount Tai leverages the annual transport capacity of 4.45 million passengers at the Tai’an Station on the Beijing-Shanghai High-Speed Railway to channel tourists to cities such as Jinan and Zibo. By utilizing the theme of Peace Culture\ to form differentiated complementarity with surrounding cultural resources, Mount Tai continues to inject new momentum into regional economic development.

3.4 Semantic network and sentiment analysis

This study utilized the Octopus web crawler to collect user reviews of the Mount Huangshan and Mount Tai scenic spots from the Ctrip travel

website between January 2024 and March 2025. Through data crawling, a total of 3,474 online reviews for Mount Huangshan and 3,297 for Mount Tai were obtained, with a cumulative text volume of 3.746 million words. After removing duplicate content, advertisements, and other invalid texts, a research dataset with 1.252 million valid text words was ultimately formed. Then ROST CM 6 was employed to conduct semantic network and sentiment analysis on the valid reviews (2,992 for Mount Huangshan and 2,990 for Mount Tai)^[11,15-16].

3.4.1 Semantic network analysis. In the analysis process, ROST CM 6 was employed to perform word segmentation on valid review texts. By extracting high-frequency words and filtering out meaningless words, a feature word list was constructed. Subsequently, co-occurrence analysis was conducted to obtain a VNA file. This file was then imported into Netdraw and adjusted for parameters, ultimately forming a semantic network diagram^[15].

The semantic network diagram of Mount Huangshan takes “Mount Huangshan” as the core node, presenting a network structure that combines radial divergence with circular agglomeration (Fig.3). As shown in Fig.3, visitors’ high recognition of Mount Huangshan’s magnificent natural landscapes such as peculiar pines, seas of clouds, sunrise and sunset, especially their focus on the summit experience and iconic attractions are fully reflected through the core layer nodes (“Mount Huangshan”, “Sea of Clouds”, “Welcoming Pine”, and “scenery”), the sub-core layer node (“Guangmingding”) and the transition layer nodes (“sunset”, “strange rocks”, and “peculiar pines”). The high frequency of words such as “cableway”, “time”, “ascend the mountain”, and “descend the mountain” in the sub-core layer reveals the reality that cableways serve as the main transportation carrier for tourists to travel up and down the mountain. This phenomenon indirectly reflects that the supporting transportation facilities in the scenic area continue to be a focus of tourists’ attention. In view of this, in the management practice during peak tourist seasons, it is necessary to strengthen safety control measures for transportation facilities such as cableways and

cable cars to ensure the standardization and safety of the tourist transportation process. The semantic co-occurrence of words such as “hotel” and “scenic spot” in the edge layer implies that the accommodation conditions and overall spatial planning system in the scenic spot have developed to a relatively mature stage, effectively meeting tourists’ basic needs in terms of food and accommodation. The co-occurrence of words such as “queuing” and “afternoon” reflects the phenomenon of long waiting times during the cableway ride and visits to popular attractions. The combination of words such as “physical strength” and “back mountain” may indicate that some hiking routes have high requirements for tourists’ physical reserves, thus requiring optimization and design for such routes, such as adding rest areas within a reasonable range to enhance the convenience and comfort of hiking tours. The high frequency of co-occurrence between words such as “weather” and “watching sunrise” or “sunset” demonstrates the significant impact of weather conditions on tourists’ viewing experience. Based on this characteristic, it is recommended that the scenic spot management department strengthen real-time weather forecast prompt services or formulate more flexible ticket adjustment policies to cope with the impact of weather changes on tourist activities. The presence of words with positive emotional tendencies such as “worth”, “beautiful scenery”, and “next time” in the edge layer provides evidence for tourists’ overall positive evaluation of their tourism experience at Mount Huangshan. The comprehensive semantic network analysis results indicate that Mount Huangshan has formed a relatively good image as a tourist destination in tourists’ cognitive structure, and the recommendation willingness of the tourist group generally presents a high level.

In the constructed framework of the Mount Tai semantic network, “Mount Tai” is explicitly set as the core hub node, presenting a network structure that combines radial divergence with layered agglomeration (Fig.4). As shown in Fig.4, keywords such as “the leader of the Five Mountains,” “culture,” and “history” are evident, reflecting tourists’ strong identification with Mount Tai’s cultural status as “the number one mountain under heaven.” Its profound historical accumulation, such as the imperial worship culture and the Shigandang culture, are core factors attracting tourists. Terms such as “night climbing,” “watching the sunrise,” “Yuhuangding” “Nantianmen,” and “Shibapan” appear frequently, indicating that tourists have

Table 1 Comparison of the number of tourists in Mount Huangshan and Mount Tai scenic spots and the tourism revenue of the corresponding cities

Year	Number of tourists in Mount Huangshan scenic spot/10 ⁴	Number of tourists in Mount Tai scenic spot 10 ⁴	Total tourism revenue of Huangshan City 10 ⁸ Yuan	Total tourism revenue of Tai’an City 10 ⁸ Yuan
2019	350.10	567.90	659.45	894.40
2023	457.46	861.97	743.10	793.10
2024	492.24	862.90	841.80	902.66

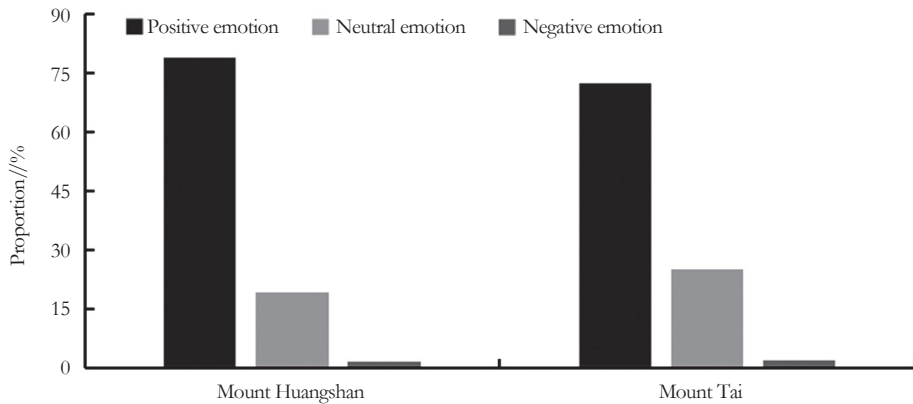


Fig.5 Comparison on the sentiment expressions of Mount Huangshan and Mount Tai scenic spots

a pattern of “dominance in short-distance markets and breakthrough in long-distance markets”. Both destinations have expanded their market radius through the optimization of transportation infrastructure, but Mount Huangshan’s tourist sources are more diversified, while Mount Tai relies on geographical advantages and cultural attraction.

(2) Consumption characteristics and income structure differentiation. Mount Huangshan focuses on high-end eco-tourism, with tourists spending an average of 800–1,200 yuan per person, an overnight rate of 70%, and secondary consumption such as cableway and high-end accommodation accounting for over 60%. However, due to the limited capacity of the scenic spot, there is a bottleneck in income growth. Mount Tai is oriented towards mass cultural tourism, with an average consumption of 500–800 yuan per person and a one-day tour accounting for 70%. It relies heavily on ticket revenue, but achieves comprehensive income through large-scale passenger flow (receiving 8.619 7 million person-times in 2023) and linkage with surrounding industries. In terms of technology application, Mount Huangshan focuses on optimizing ecological experiences (such as meteorological services and AR guided tours), while Mount Tai focuses on age-friendly services (such as convenient transportation and rest facilities), reflecting differentiated service strategies.

(3) Different economic driving paths. Mount Huangshan drives the cultural industry (intangible cultural heritage, premium agricultural products) and night economy in Huizhou through the “natural landscape+high-end consumption” model, forming an “all-for-one tourism” industry chain. Mount Tai relies on “cultural IP+large-scale tourist flow” to link Qufu and Jinan to build a “mountain, water, and sage” tourism route, promoting employment

and cultural and creative industries in the central Shandong economic circle. Both spots have significantly driven regional economic growth, but Mount Huangshan focuses more on quality-oriented growth, while Mount Tai relies on scale effects. The former sees a simultaneous increase in total revenue and tourist volume, while the latter faces the pressure of “quantity increase with stable prices”.

(4) Differentiation in tourists’ emotional cognition. Semantic network analysis reveals that tourists to Mount Huangshan focus on natural landscapes such as “sea of clouds” and “Welcoming Pine” as well as cableway transportation, with negative comments often related to weather affecting the viewing experience; tourists to Mount Tai are more concerned with cultural and challenging experiences such as “night climbing” and “Shibapan”, with pain points lying in physical exertion and accommodation conditions at the mountain top. In terms of emotional scoring, Mount Huangshan has slightly higher positive emotions than Mount Tai, with an overall better evaluation. However, both destinations need to optimize the tourist experience in response to force majeure factors (such as weather) and facility services (such as accommodation and transportation).

4.2 Development suggestions

Based on the strategic perspective of coordinated regional tourism development, a high-quality development path for mountain-type world heritage sites can be constructed from four dimensions: First is the upgrading and construction of differentiated positioning strategies. Mount Huangshan should leverage its unique endowments as a world natural heritage site to continuously strengthen its international brand image centered around the concept of “global ecological landmark”. By participating in world heritage forums, publishing English

sightseeing guides, and other initiatives, it can enhance its recognition in the international tourism market. Mount Tai, on the other hand, needs to deeply explore the core value connotation of “Chinese cultural spiritual identity”, discover contemporary interpretation paths for the culture of imperial worship and Confucianism, and create cultural and tourism IPs with national cultural recognition, thus forming a dislocation development pattern based on resource endowment differences and avoiding the trap of homogenization competition.

Second comes the diversified exploration of innovative paths for cultural and tourism products. Targeting the emerging tourism development needs, the Mount Huangshan scenic spot can promote the development of experiential products such as astronomical observation on high mountains and biodiversity research, which can transform natural landscape resources into deep experience projects that tourists can participate in and interact with. Focusing on the innovative inheritance of cultural heritage, the Mount Tai scenic spot can create immersive theater products such as “digital imperial sacrificial rites to heaven and earth (Fengshan)” and Confucian classics study tours, restore ancient Fengshan rituals through AR technology, develop innovative forms such as situational classrooms for the Analects, and realize the modern translation of historical and cultural resources.

Next is the in-depth construction of the regional collaborative development mechanism. It is suggested that the two regions break through administrative division constraints and jointly create a spatial carrier for the Mount Huang-Tai Cultural Tourism Corridor. Through institutional innovations such as establishing a cross-regional tourism development committee and formulating collaborative development plans, resource integration and market co-construction can be promoted. Specific implementation paths include: jointly applying for the extension of the Chinese Mountain Civilization World Heritage route to systematically present the symbiotic relationship between the two mountains in terms of natural evolution and cultural accumulation; constructing a cross-scenic spot ticket system and transportation connection network to achieve an integrated design of tourist itineraries and reduce the time and decision-making costs of cross-regional tourism. This collaborative development model can not only amplify the brand effect of individual scenic spots but also form a “1+1>2” regional tourism competitiveness through resource coupling.

Last is the innovative empowerment of the intelligent management system in scenic spots.

Addressing the management pain points of mountain-type scenic spots, a multi-dimensional big data monitoring platform covering ecology, tourist flow, and services can be established. Technically, Mount Huangshan and Mount Tai can jointly pilot an AI-based tourist flow distribution system, which can optimize the distribution of tourist flow on cableways and footpaths in real time through dynamic algorithms. Carbon footprint tracking technology can be introduced to quantitatively assess the environmental impact of tourist activities, providing data support for the construction of low-carbon scenic spots. An ecological monitoring IoT system can be established to integrate drone inspections and sensor data, enabling real-time protection of ancient and famous trees, as well as geological landscapes.

References

- [1] Li, J. L., Wang, H. T. (2023). Research on tourism image perception of China's mountain world heritage sites. *Resource Development & Market*, 39(5), 629-634.
- [2] Yang, X. Z., Yu, H. Y. & Yin, C. Q., et al. (2023). Conflict and coordination mechanism of stakeholders' cognition on multifunctional spaces in rural tourism destinations: a case study of Shancha Village in Mount Huangshan Scenic Area. *Acta Geographica Sinica*, 78(6), 1530-1552.
- [3] Yu, X. (2025). Research on the development strategy of tourism products in the Tai'an District under the integration of culture and tourism. *Tourism Overview*, (1), 34-36.
- [4] Xu, J., Wang, Q. (2024). Relationship between eco-emotions and environmental responsibility behaviors of tourists in natural tourist destinations: A case study of Mount Huangshan Scenic Area. *China Ecotourism*, 14(2), 359-374.
- [5] Ma, Z. (2010). *Evaluation research on sustainable development of urban ecotourism in Tai'an* (Master's thesis). Retrieved from China National Knowledge Infrastructure.
- [6] Xu Chunxia. (2007). *Research on ecotourism evaluation and planning of mountain tourist destinations* (Master's thesis). Retrieved from China National Knowledge Infrastructure.
- [7] Huang, C. H., Wang, Q. (2024). Research on the impact of environmental perception of tourism community residents on environmental responsible behavior based on environmental justice: A case study of the gateway community in Mount Huangshan scenic spot. *Journal of Anhui Normal University (Natural Sciences)*, 47(4), 351-362.
- [8] Lu, X. Y., Jiang, N. & Hu, L. J. (2018). Study on the carrying capacity tourism environment in Huangshan scenic spot. *Journal of Henan University of Engineering (Social Sciences)*, 33(1), 25-28.
- [9] Yang, H. K., Long, H. L. & Qian, X. Y., et al. (2024). Research on perception of tourism image in Mount Huangshan Scenic Area based on web text analysis. *China Circulation Economy*, (18), 149-152.
- [10] Wu, M. M., Li, W. B. & Li, W. (2022). Research on perception of mountain tourism destination based on web text analysis. *Journal of Hunan Institute of Science and Technology (Natural Sciences)*, 35(4), 67-72.
- [11] Wang, Q.A., Zhang, L. H. & Cao, M. X. (2023). Tourists' emotional expression and image perception in mountain 5A scenic spots: A case study of Anhui Province. *Journal of Southwest Petroleum University (Social Sciences)*, 25(6), 40-51.
- [12] Wang, Z., Zhou, Z. Y. (2024). No mountains are worth seeing after visiting Mount Huangshan. *Zhejiang Forestry*, (4), 42-43.
- [13] Lv, J. X., Wang, Y. W. (2011). Mount Taishan, a gem of world heritage. *Democracy*, (1), 43-46, 58.
- [14] Zhang, L. L. (2017). Analysis of the impact of high-speed rail corridor tourism mobility on tourism destinations. *Economic Research Guide*, (8), 79-81.
- [15] Luo, J. S., Zhao, D. P. & Han, X., et al. (2023). Image perception and emotional expression of mountain world heritage tourism destinations: A case study of Mount Tai, Mount Huangshan, Mount Emei, and Mount Wuyi. *Ningxia Engineering Technology*, 22(4), 337-344.
- [16] Lin, Y., Wang, B. (2023). A study on the perception of mountain tourism destination image based on web text analysis: A case study of Qingxiu Mountain, Nanning Province. *Journal of Green Science and Technology*, 25(20), 170-175, 235.
- [17] Zhang, M., Liu, X. L. & Peng, Y. S., et al. (2022). A research on tourism destination image perception of Mount Tai scenic spot based on the technology of network text analysis. *Journal of Taishan University*, 44(4), 85-96.
- [18] Zheng, D. L., Yuan, J. H. (2009). SWOT analysis and development suggestions for tourism industry of Mount Tai. *Journal of Shandong Institute of Business and Technology*, 23(1), 34-38.
- [19] Tian, Y. X. (2025). *Research on the spatial-temporal characteristics and influencing factors of online attention to China's Five Sacred Mountains Tourism* (Master's thesis). Retrieved from China National Knowledge Infrastructure.
- [20] Wu, K. J., Song, Q & Sun, Y. X., et al. (2019). Construction of an evaluation system for healthy tourism development index of ecological mountains in China. *Journal of Leshan Normal University*, 34(1), 61-67.
- [21] Zhao, C. L. (2015). *Research on evaluation of ecotourism resources in Mount Tai scenic area* (Master's thesis). Retrieved from China National Knowledge Infrastructure.
- [22] Ju, Y. Y. (2016). Sustainable development of mountain tourist attractions. *Tourism Overview (Second Half)*, (2), 44-45.
- [23] Guo, X. Y. (2020). Tourist environment and its research and development of mountain tourism destinations. *Journal of Green Science and Technology*, (5), 194-195.
- [24] Lu, L., Jiao H. F. (1996). Study on perceived behavior of mountain tourists: An empirical analysis of Mount Huangshan and Mount Lu. *Journal of Peking University (Philosophy and Social Sciences)*, (3): 41-46
- [25] Zhang, Y.L., Zhang, Z. W. & Li, Y.L., et al. (2024). Analysis of consensus maps of tourism image perception in mountain scenic spots: A case study of Mount Huangshan scenic area. *Tourism Research*, 16(2), 57-69.
- [26] Tan, S. (2021). *Evaluation and strategy research on the transformation and development level of mountain scenic spots tourism: A case study of Yulong snow mountain scenic spot* (Master's thesis). Retrieved from China National Knowledge Infrastructure.
- [27] Yang, H. (2020). *Construction and empirical analysis of the evaluation indicator system for holistic tourism development: A case study of Lushan County* (Master's thesis). Retrieved from China National Knowledge Infrastructure.
- [28] Liu, S. Y. (2023). *Research on the interpretation of Huizhou cultural tourism value and transformation of tourism products from the perspective of tourist perception* (Master's thesis). Retrieved from China National Knowledge Infrastructure.
- [29] Yue, J. Y., Lu J. Y. & Fan, L. Z., et al. (2022). GIS-based ecological sensitivity assessment and protection research of Mount Tai scenic area. *Jiangxi Science*, 40(1), 117-124.
- [30] Wang, Y. R. (2022). *Research on red tourism experience evaluation based on web text analysis: A case study of Yaojiashan in Jinggangshan* (Master's thesis). Retrieved from China National Knowledge Infrastructure.
- [31] Wang, R. M., Liang, Y. G. (2024). Research on the transformation and upgrading of Mount Tai tourism based on the life cycle of tourist destinations. *Tourism Overview*, (14), 18-20.
- [32] Cheng, X. R. (2024). "Five-year achievement, Ten-year scale" construction of "Great Mount Huangshan" in Anhui. *New Urbanization*, (6), 20-22.
- [33] Chen, M. (2014). *Research on the competitiveness of tourism industry in Anhui Province* (Master's thesis). Retrieved from China National Knowledge Infrastructure.