Research on Tourist Destination Image Perception Through Web Text Mining

-- Taking the Chang'an Twelve-Hour Scenic Spot as an Example

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Abstract: This paper employs the Internet text mining analysis approach and ROST CM-6 software to extract tourists' genuine perception of the scenic spot in Chang'an from many Internet comments, and undertakes in-depth research on their perception of the tourist destination image. In contrast to traditional research methods, this constitutes an innovative research approach. It can grasp tourists' sentiments and the trend of social public opinion more comprehensively and in a real-time manner. The results reveal that: (1) 78.99% of the tourists hold a positive attitude towards the scenic spot, particularly highlighting the considerable contribution of cultural performances and immersive experiences to the appeal of the scenic spot; (2) The congestion and queuing issues within the scenic spot have also elicited negative feedback from 10.14% of tourists, suggesting that there is scope for improvement in management; (3) By establishing a tourism image perception evaluation system, subdivide tourists' perception factors, conducting a comprehensive analysis of the characteristics and differences of tourists' image perception in all aspects of the scenic spot, and proposing targeted improvement suggestions to assist in optimizing the perceived image of the tourism destination.

Keywords: Chang 'a Twelve-Hours scenic spot, web text, tourism image perception.

1. Introduction

Tourism destination image refers to the overall perception and expectation that tourists hold towards the tourism site, and it is also the centralized manifestation of tourism resources at the tourism location. Briefly, the tourism destination image is an abstract state of the actuality of the tourism site [1]. For a considerable period, the research on the image of tourism destinations has been a research hotspot for scholars both domestically and internationally [2]. The perceived image of a tourist destination will, to a significant extent, influence the travel decisions and travel behaviours of potential tourists, and even have an impact on the selection of tourist destinations [3]. The more favourable the tourist's perceived image of the destination is, the higher the possibility for it to become the destination of the tourist [4], and the greater the disparity between the perceived image of the destination and the tourist's expectation, the lower the likelihood of being chosen [5].

In the early 1970s, Hunt's doctoral thesis "Image as a Factor in Tourism Development" at Colorado State University in the United States initially mentioned the term "tourism destination image", which is regarded as the earliest literature on tourism image research [6]. Since then, Chinese and Western scholars have increasingly focused on research regarding the image of tourist destinations and achieved fruitful research outcomes [7]. Through empirical research, Crompton defines tourism destination image as a conglomeration of people's beliefs, opinions, and impressions about the destination [8]. Regarding the classification of tourist destination image, Gunn suggested that tourist destination image could be divided into organic image and induced image [9], while Baloglu and McCleary classified tourist destination image into three parts, namely cognitive image, affective image and overall image [10]. Domestic scholars Zhang Qi, Chen Ke and Ma Fawang analyzed and evaluated tourist destination images from three aspects: cognitive image, emotional image and recommendation intention [11]. Based on Seyhmus Baloglu's "cognitive-emotion" model, this paper considers that tourist destination image perception consists of cognitive impressions, emotional impressions and overall impressions; thus, it will be analyzed in detail from these three aspects.

With the swift advancement of Internet technology and the extensive prevalence of mobile devices, information assumes an ever-growing significance in people's lives. The conventional forms of the travel industry have been gradually supplanted by online travel platforms (OTAs). For contemporary tourists, they are more inclined to obtain information, share information, and express opinions via online travel platforms. During the process of sharing their travel perceptions, tourists have virtually constructed an immense information network with a substantial number of genuine online comments, travel notes, and other web texts, which not only furnish the foundation for potential tourists to select tourist destinations but also offer a novel research perspective and large-scale data support for domestic and foreign scholars to investigate the image perception of tourist destinations. Regarding foreign research, Choi, Lehto, and Morrison examined the perceived image of Macau as a tourist destination by using the text from travel websites belonging to Google and Yahoo as research objects [12]. Stepchenkova and Morrison acquired the perceived image of Russian tourism destinations by analyzing the content of the tourism websites of the United States and Russia [13]. William investigated the perceived image of the Seoul tourist destination by comparing the disparity between Internet information and traditional media [14]. In terms of domestic research, Gao Jing, Zhang Yonggang, and Zhuang Dongguan carried out a study on the perceived image of four coastal tourism cities in China through text analysis and correspondence analysis based on the comments of netizens on Ctrip and Tongcheng [15]. Based on online text data, Wu Baoqing, Wu Jinfeng, Wu Yujuan, et al. analyzed Xi 'an's tourism image perception by employing content analysis and correspondence analysis [16]. Song Binghua, Ma Yaofeng, and Gao Nan used text analysis to sort out and summarize online travel notes and comments and extract the tourism image perception of Pingyao Ancient City [17]. Ao Changlin, Li Fengjiao, Xu Lishan, et al. took Harbin City as an example and analyzed the cognitive image, emotional image, and overall image perception of six ice and snow tourist attractions in Harbin based on the online review data of several OTA platforms, such as Baidu Travel, Ctrip, and Hornet's Nest[18].

To conclude, the "cognitive-emotion" model has been fundamentally acknowledged by the academic community within the domain of researching the image of tourism destinations. Moreover, user-generated content (UGC), such as online remarks and travel diaries, serving as network data, possesses an extensive scale for investigation. Thus, this paper will gather the tourism review data on the Twelfth Hour of Xi'an Chang'an Scenic Spot on Ctrip and analyze the network text analysis approach, thereby comprehending the tourists' cognitive image and emotional inclination of the scenic spot, summarizing the characteristics of the perceived image of the tourist destination, and offering suggestions for the moulding of the tourist image of the scenic spot.

2. Research summary

2.1. Comprehensive description of the study area

Chang'an 12 Hours is the very first immersive Tang-style street living block in China, situated in Mandi Square, east of Datang Sleepless City, Qujiang New District, Xi'an, Shaanxi Province, possessing a total area of 24,000 square meters. The entire block integrates the IP of the TV series "Twelve-Hours of Chang'an" and the cultural essence of the Tang-style market. Crafting the aesthetic style of Chang'an City of the Tang Dynasty, it is adored and pursued by tourism enthusiasts and attracts tourists from all corners of the world to come to Xi'an to experience and perceive the cultural charm of the ancient capital [19]. Chang'an Twelve-Hours was designed by the art director Yang Zhijia of the film and television drama "Chang'an Twelve-Hours" and the original art design. The project consists of three floors, featuring a total of 24,000 square meters of three-dimensional commercial space as the medium, encompassing Chang'an snacks, theme cultural creations, distinctive performing arts, immersive games, cultural private rooms, scene experiences, and other diversified "original Tang" formats. The 12 Hours of Chang'an infused the IP of the TV series "Twelve-Hours of Chang'an" and the cultural context of the Tang Feng market, combined with the traits of the original drama. With the themes of "Saving Stars and Moon · Enjoy Chang'an", "The Beauty of Harmony · Elegant Chang'an", and "The Calyce Phase Hui · Evening Banquet Chang'an", it creates the original Tang city life experience space, the Tang-style theme of mutual entertainment and leisure space, and the theme of cultural banquet experience space. Moreover, with the "Tang food, eat, dress up, Tang-style elegant set, miniature Chang'an, scene performance, cultural feast" six immersive fields as the core, enabling visitors to be transported to the Tang Dynasty in Chang'an 12 Hours in an instant and relish the Tang style and Tang allure. Chang'an 12 Hours theme block was included in the first batch of the national smart tourism immersive experience new space cultivation pilot list and is the sole selected project in Shaanxi Province [20].

2.2. Data origin

As a prominent online travel service provider in China, Ctrip has effectively integrated the high-tech industry with the traditional tourism sector, adopted an operational mode combining the Internet and traditional tourism, and enjoys significant customer advantages. It is a model for the development of Chinese online tourism enterprises, particularly comprehensive online tourism enterprises [21]. In contrast to Long, Tongcheng and other OTA platforms, it is discovered that Ctrip has the largest number of online comments on the theme block of Chang 'an 12 Hours, with abundant and unrestricted content, a vast amount of data, the most enriched comment content, the highest quality, and more genuine and credible opinions, which can be investigated throughout the year [22]. Hence, it is reliable to select Ctrip as the data source. This paper utilizes crawler technology to capture the text of visitors' online evaluation of Chang'an 12 hours on Ctrip from May 1, 2022, to May 9, 2024. After eliminating invalid comments, a total of 2092 valid network evaluation texts were acquired, and the collected network texts were investigated and analyzed.

2.3. Research Methodology

In this paper, ROST CM-6 software is employed as a tool for web text analysis, and the collected web text data is analyzed systematically in terms of high-frequency word frequency analysis, keyword analysis, tourist emotion analysis, semantic network analysis, etc.

2.4. Text processing routine

During the text processing procedure, the collected 2,092 comments were transformed into plain text format and imported into the software. After redefining the word segmentation list and the word segmentation filter list, the word segmentation operation was conducted, and the pure comment text after word segmentation was achieved, totalling 85,294 words. Firstly, the word frequency analysis was implemented. Firstly, the word frequency statistics filter glossary was redefined, some irrelevant or meaningless words were filtered out, and some unique words were added. Then, the pure comment text after word segmentation was imported into the software for word frequency analysis, and the high-frequency glossary was obtained. Secondly, based on the obtained pure review text and high-frequency word list, the emotion analysis of tourists was carried out to obtain the statistical results of emotion distribution, and the frequency and importance of words were visually represented through visual views. Subsequently, the social semantic network analysis was conducted to obtain the semantic text feature words and lexical-semantic network visualization. Finally, the image perception evaluation system of Chang'an's 12 Hours Scenic Spot was summarized to clarify the overall image perception of tourist destinations.

3. Web text analytics

3.1. Analysis of high-frequency lexical items

By employing the word frequency analysis functionality of ROST CM-6 software, high-frequency words were extracted from the purely commented text after word segmentation, enabling the acquisition of tourists' overall image perception of the destination. Take the top 100 high-frequency words in the collected online comment text as an example for analysis.

Table 1: Glossary of High-frequency Online Comments Regarding Chang'an for 12 Hours.

High-frequency word	Word Frequency	High-frequency word	Word Frequency	High-frequency word	Word Frequency	High-frequency word	Word Frequency
Performance	567	Sense of experience	105	Chang'an	57	completely	39
photograph	500	like	103	minute	56	Immersive experience	38
Not bad	384	Lots of people	95	characteristic	55	Immersive	37
inside	376	sian	93	everyone	53	delicious	36
perform	333	Attractions	93	atmosphere	53	convenient	36
place	246	In advance	92	feel	53	Makeup	36
No	226	The Twelve Hours of Chang'an	91	once	52	Not recommended	35
worth	211	serve	88	felt	51	best	35
program	197	personnel	88	commerce	51	tourism	35
A lot	193	child	87	Wonderful	51	overall	34
experience	189	recommend	86	actor	50	delicacies	33
feel	185	mall	82	fare	50	culture	32

Table 1: (continued).

Hanfu	185	No	80	Neon feather coat	50	abundant	32
Tickets	178	Tang costume	78	visitor	49	attitude	31
line up	176	environment	77	The Tang Dynasty is a prosperous	48	consume	30
fit	175	block	73	Myself	48	People are crowded	30
Clock	159	playful	70	Datang never sleeps	48	makeup	30
Get in	152	Out of the film	70	super	47	scenery	28
hour	131	Datang	68	Tang dynasty	46	Twelve-Hours	27
So so	127	Scenic spot	68	collectivity	45	Spring Festival	26
suggestion	123	Play	67	The same	43	Afternoon	25
snack	116	indoors	66	Pretty	42	photograph	25
pretty	113	Costume	66	clothes	41	Arrangement	25
Worth	113	Price	65	outside	40	choose	25
Time	113	Through	65	interaction	39	commercialization	24

Through the analysis of 100 high-frequency words in the table, it can be observed that words such as "performance", "performance" and "program" occur frequently, signifying that the 12 Shi Chen Scenic Area of Chang 'an is characterized by cultural performances; The frequent appearance of words like "12 hours of Chang 'an" and "nishangyuyi" highlights the immersive experience and cultural representation features of the 12 hours of Chang 'an scenic area; Verbs like "take a picture", "punch a card" and "take a picture" reflect tourist behaviours within the scenic spot, demonstrating the visual allure of the 12 hours of Chang 'an Scenic Spot and the attributes of being an Internet-famous photography spot. Words such as "Chang 'an", "Datang Flourishing era" and "Datang never Night City" indicate that the 12 hours of Chang 'an Scenic Spot possess a profound Tang cultural heritage. Moreover, words like "Hanfu" and "Tang suit" reflect tourists' particular interest in the immersive experience of Tang culture and the environment. Words including "convenience", "service", "attitude", "cost performance", etc. describe the tourism facilities and high-quality tourism services of the 12 hours of Chang 'an Scenic Spot. Words like "crowded", "queued" and "crowded" reveal the congestion issue of the 12 hours of Chang 'an Scenic Spot during the tourist peak period.

3.2. Sentiment analysis

Text sentiment analysis is a process involving the analysis, processing, induction and reasoning of subjective texts with emotional hues. Owing to the Internet's advancement and the rising number of subjective texts with emotional tints, sentiment analysis has garnered escalating attention from scholars and research institutions. As an emergent research subject, sentiment analysis holds significant research and application value [23]. In this paper, the ROST CM-6 software is adopted to analyze the sentiment of online comment text regarding the Chang'an 12 Shi Chen Scenic Spot.

Table 2: Results of Emotion Analysis of Online Comments on Chang'an 12 Hours.

Emotional category	Occupy a certain proportion(%)	Segmentation category	Occupy a certain proportion(%)
Positive sentiment	78.99	Regular(0—10) Moderate(10—20) Elevation(over 20)	21.01 25.36 32.61
Neutral sentiment	10.87	—	—
Negative sentiment	10.14	Regular(-10—0) Moderate(-20—-10) Elevation(over -20)	4.35 2.90 1.45

As can be observed from the outcomes of emotion analysis, (1) Overall emotional tendency: The majority of the emotional responses are positive, suggesting that the products or services of the 12 scenic spots in Chang 'an have received highly favourable evaluations from tourists. (2) Depth of positive emotions: A significant proportion of highly positive emotions exist, indicating that a large number of positive emotions are extremely positive and provide strong feedback. (3) The presence of neutral emotions: Despite being relatively scarce, the presence of neutral emotions implies that a part of the feedback is neither decidedly positive nor negative, and this portion may contain more prosaic or relevant remarks. (4) Distribution of negative emotions: Although the proportion of negative emotions is the lowest, it is worthy of note that the combined proportion of moderately and highly negative emotions exceeds 4%, suggesting that there are still several challenges for the continuous improvement and optimization of the scenic area. Especially in those crucial areas that have elicited significant dissatisfaction among tourists, this not only involves the precise identification of the existing issues but also a deep understanding of the gap between visitors' expectations and experience. It further encompasses measures on how to effectively address these problems. From the online comments of tourists, the following aspects can be extracted: Firstly, tourists perceive differences in cost performance. Although some tourists praise it highly, others consider the adult ticket price to be overly expensive. In light of this, scenic spots can contemplate providing more levels of ticketing options. Secondly, the perception of service quality varies, and the attitude of some service personnel in the scenic spot is poor. The scenic spot should enhance staff training and daily management to guarantee tourists' travel experiences. Thirdly, there is a difference in the perception of the overall atmosphere of the scenic spot. Some comments pointed out that the commercial atmosphere in the scenic spot is intense, there are numerous shops, and the play space is relatively limited. The scenic spot can adjust the layout appropriately to ensure the balance between cultural display and commercial activities, increase more cultural interactive experience areas, and reduce the congestion caused by commercialization. By ameliorating the existing problems, the Chang 'an 12 Shi Chen Scenic Area can maintain its attractiveness as a popular tourist destination and further enhance tourist satisfaction.

3.3. Semantic network analysis refinement

In this paper, the ROST CM-6 software is employed to conduct semantic network analysis, and the computer is utilized to present and elucidate the word relations [24], thereby obtaining the lexical-semantic network analysis visualization diagram of the tourists' online comments regarding the Twelfth Hour Scenic Spot of Chang'an. Each line is interlinked with related words. The words such as "performance", "performance", "inside" and "taking photos" are situated at the core of the figure, indicating that tourists' comments mainly revolve around these words, and they are also the most crucial image perception of the 12th Hour scenic spot in Chang'an. The sub-core position of words

such as "no", "many", "good", "Hanfu" and "place" represents the further comprehension of core words and the image perception of the majority of tourists to the scenic spot; The words in the outer layer of the graphics are the further elaboration of the core words and sub-core words, which constitutes the image perception state of a few tourists to the scenic spot.

The core words are "performance" and "inside", and the number of straight lines formed between the two constitute the most crucial nodes in the graph. "Good-looking - performance - worthy - recommendation" reveals that tourists acknowledge the performance projects in the scenic area, and also intimates that cultural performance is a highlight of the scenic area; "Inside - suitable - punch a card - take a photo - out of the film" "like - take a photo - suggestion - go in - inside" accentuates the attributes of the 12 hours of Chang 'an scenic spot as a web-celebrity photo punching destination, but also discloses the tourism motivation of some tourists; "Inside - queue - hour - minute", "inside - take photos - many people", "in advance - queue - show" suggests that Chang 'an 12 hours in the scenic area is relatively crowded, and at the peak it might require a long time to queue; "Performance - feeling - time travel" and "Hanfu - performance - experience - good" emphasize the characteristics of cultural performance and immersive experience in scenic spots; "Hanfu - performance - program" "Tang costume - photo - beautiful" manifests that the scenic spot holds a strong historical and cultural heritage.

3.4. Tourism image perception

This paper classifies and summarizes high-frequency keywords into 5 main categories and 12 sub-categories (Table 3). The five main categories encompass tourism attractions, tourism experience, tourism environment, tourism consumption and services, and tourism evaluation and suggestions. From the perspective of tourism attractions, history and culture: This category focuses on tourism attractions related to history and culture, such as "Tang Dynasty" and "Nishang Yuyi", associated with ancient civilization and traditional art; experience activities: Including "performance", "show" and "immersive experience", such activities enable tourists to personally experience and participate in the cultural activities of the destination, enhancing the interaction and entertainment of tourism. Others: Comprising "taking photos", "taking pictures" and "taking photos", indicating the tourists' need to record the journey and preserve beautiful images, which is particularly significant in today's social media sharing culture. From the perspective of tourism experience, cultural experiences: Such as "Hanfu", "Tang costume", and "ancient costume" and other keywords, emphasizing the tourists' fondness for traditional clothing, "atmosphere", "feeling" and "immersion" reflecting the tourists' aspiration for deep cultural immersion. Tour experience: Words like "commercialization", "inside" and "place" indicate tourists' attention to the degree of commercialization of the scenic spot. From the perspective of the tourism environment, the location environment: "Xi 'an", "Chang 'an Twelve-Hours" and other terms indicating the geographical location and cultural background of the destination; the environment of the scenic spot: "Crowded" and "overcrowded" reflecting the congestion problems that the scenic spot may confront; "Indoor", "outdoor" and "block" depicting different viewing environments within the scenic area. From the perspective of tourism consumption and service, consumption items: "Tickets", "snacks", "food", "cost performance", "consumption" and other words, reflect the economic considerations of tourists during the tourism process, paying attention to whether the cost is reasonable and if they can obtain the corresponding value experience; service quality: Including "service", "personnel", "attitude", "makeup", "clothes" and "environment", these terms emphasizing the quality of tourism service in the scenic spot and mirroring the tourists' anticipation of high-quality service. From the perspective of tourism evaluation and suggestions, positive evaluation: "Good", "attractive", "suitable", "recommended" and other words, demonstrating the positive feedback of tourists on the travel experience. Negative comments: Words such as "not worth", "average" and "not recommended" reflect tourists' dissatisfaction with the travel experience.

Tourist advice: "In advance", "suggested", "arranged" and "selected" describe the tourists' needs and their expectations of tourism services when planning their journey, underlining the importance of planning and personalized selection.

Table 3: Tourism Image Perception Evaluation System and Semantic Text Feature Words.

Major category	Subcategorization	Partial high-frequency words
Tourist destinations	History and its associated culture	Tang Dynasty, finishing Yuyi, culture, history
	Engage in the activity of experience.	Performance, performance, immersive experience, experience
	Others	Capture images, create images.
Travelling Experience	Cultural encounter	Hanfu, Tang costume, ancient costume, atmosphere, feeling, immersion
	Touring Experience	Commercialization, inside, place, scenic spot, punch in, go in, hours, minutes
Tourism surroundings	Location and environment	Xi 'an, Chang 'an Twelve-Hours
	Picturesque environment	Many people, crowded people, indoor, outdoor, block
Tourism consumption and service offerings	Consumer item	Tickets, snacks, food, cost-effectiveness, consumption
	Quality of Service	Service, personnel, attitude, makeup application, apparel, environment
Tourism assessment and recommendations	Favorable comment	Excellent, pleasant, appropriate, advisable, superb, attractive, palatable, convenient, optimal, plentiful
	Negative assessment	Unworthy, mediocre, not advisable
	Tourist Guidance	Proceed, counsel, organize, select

4. Conclusions, proposals, research limitations and prospects

4.1. Conclusion

The conclusions are as follows: (1) The majority of the tourists hold positive emotions towards the 12 Shi Chen Scenic Spot in Chang'an, accounting for 78.99%, and the proportion of highly positive emotions is relatively large, indicating that the tourists have an extremely positive and strong assessment of the scenic spot. Although negative emotions account for merely 10.14 per cent, the combined proportion of moderate and high negative emotions exceeds 4 per cent, demonstrating that there is scope for improvement in certain aspects, such as potential congestion and long queues. (2) Visitors' comments centre around words like "performance" and "inside", reflecting that cultural performances within the scenic area are a crucial factor in luring tourists, but also revealing the popular characteristics of the scenic area as a location for taking photos. Additionally, words such as "Hanfu", "experience" and "crossing" emphasize the allure of immersive experience and traditional culture, signifying that the scenic spot has successfully created a distinctive cultural ambience of Tang style and enhanced tourists' sense of historical and cultural experience. (3) The tourism image perceived by tourists is summarized into five principal categories: tourism attraction, tourism experience, tourism environment, tourism evaluation, tourism consumption and service, and tourism evaluation and suggestion. Specifically, the tourist attractions of Chang'an 12 Shi Chen Scenic Area

mainly encompass historical and cultural experiences, interactive experience activities (such as performances, and immersive experiences) and photo punching, which satisfy the dual needs of tourists for traditional cultural exploration and social sharing; Tourists' attempts on traditional attires such as Hanfu and the experiences of immersive cultural atmospheres express their aspiration for deep participation in culture; The location and cultural backdrop are recognized, but there is also feedback on the issue of congestion within the scenic spot; Tourists are more sensitive to the price and cost performance of consumption items and have higher requirements for service quality. The positive evaluation focuses on the attractiveness, suitability and recommendation intention of the scenic spot, while the negative feedback reminds the scenic spot to pay attention to the value perception and management efficiency, and the tourists' suggestions centre on the planning and personalized selection of tourism activities. (4) Regarding innovation, the research adopts Internet text mining technology and big data to extract tourists' genuine perception of the Chang'an 12 Shi Chen Scenic Spot from a vast number of online comments. This constitutes an innovative research approach which can grasp tourists' emotions and social public opinion trends more comprehensively and in real-time compared to traditional research methods. By establishing a set of tourism image perception and evaluation systems, this paper divides the complex tourism experience into five categories: tourism attraction, tourism experience, tourism environment, tourism consumption and service, tourism evaluation and suggestions, and twelve sub-categories. This structured classification facilitates in-depth analysis of the specific aspects that tourists are concerned about and provides a scientific framework for tourism destination management. Through sentiment analysis and semantic network analysis, it not only quantifies tourist emotions but also reveals the key points of the tourist experience by extracting core words, providing intuitive and in-depth insights into the building of tourist destination perception image.

4.2. Proposal

To optimize the image perception of the tourist destination and enhance tourist satisfaction, based on research and analysis, the following suggestions are proposed for the 12th Hour Scenic Spot in Chang'an: (1) Enhance the performance quality and intensify the immersive experience: Considering that "performance" is one of the core elements of tourist perception, the scenic spot should consistently strengthen and enrich the content of the performance, guarantee the quality and professionalism of the performance, increase the diversity and duration of the performance to accommodate the preferences of diverse tourists, reduce queuing during peak hours, and take into account that "immersive experience" and "sense of travel" are highly appreciated by tourists. The scenic spot can further develop interactive experience projects related to Tang culture, enabling tourists to immerse themselves more deeply in the ancient life of the Tang Dynasty; (2) Optimize the visitor experience and upgrade service quality: In response to negative image feedback such as "excessive crowds" and "queuing", the scenic spot should implement a more effective tourist flow management and reservation system to alleviate congestion and enhance tourists' sense of experience. Additionally, the scenic spot should intensify staff training and improve the service attitude and professional skills, especially in the service links of "makeup" and "clothes" that tourists have direct contact with, thereby providing a more intimate and professional service experience. Elevate tourist satisfaction; (3) Strengthen the attributes of the photo check-in: Considering that the photo check-in is an important tourism activity for tourists, the scenic spot should establish more distinctive photo areas, provide high-quality photography services or prop rentals (such as Hanfu, Tang suits), and optimize the light layout to improve the quality of tourists' "shots"; (4) Balance the relationship between commercialization and cultural protection: Given the "commercialization" issue in tourists' image perception of the scenic spot, the scenic spot should pay attention to maintaining the cultural authenticity during the development of commercial projects, appropriately control commercial

elements, ensure that the cultural atmosphere is not diluted due to excessive commercialization, and ensure respect for history and culture.

4.3. Research Deficiencies and Prospects

There exist certain drawbacks in this study: Despite the substantial amount of online text data available, potential sample bias might persist. For instance, younger users tend to be more disposed to leaving comments online, which could result in the analysis outcomes not fully embodying the viewpoints of all tourists. Although sentiment analysis software is capable of providing quantification of emotional tendencies, tourists' subjective evaluations are influenced by numerous factors, such as personal experience and expectation, thereby limiting the accuracy and depth of sentiment analysis to a certain extent. Future studies could further broaden the scope of data collection to encompass more tourism platforms and social media and even complement the data via offline questionnaire surveys to enhance the diversity and representativeness of samples. Utilize more advanced natural language processing and machine learning algorithms to enhance the accuracy of sentiment analysis, and concurrently employ more complex social network analysis models to deeply explore tourist behaviour patterns and psychological motivations. Incorporate multidisciplinary theories such as psychology, economics, and sociology to investigate the motivation underlying tourist behaviour and the formation mechanism of tourist destination image, to obtain more comprehensive and profound research results. Translate the research findings into specific management strategies and operational guidelines, offer practical suggestions for tourism destination marketing, service improvement, and tourism experience design, and promote the practical application of the research results in collaboration with the government and tourism enterprises.

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