



Research on Visitor Experience of Movie and Television Theme Parks Based on Data Mining—Taking China Tangcheng as an Example

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Abstract. Based on big data mining technology, we crawled the review texts and related data about China Tangcheng on Ctrip website, built a web review database, used content analysis method and theme analysis method to extract the core elements affecting the tourist experience of China Tangcheng, and then used IPA analysis method to evaluate the quality of tourism experience for each element. The results show that the evaluation elements of tourism experience quality of Tangcheng Film and Television City contain 4 main categories of infrastructure, tourism service, experience service and tourism environment and 14 sub-categories; IPA analysis finds that the performance of each tourism experience element with high importance value is generally better, and there are large differences in both importance and performance of each element; tourism route, guide service, public facilities, film and television shooting, and scenic spot price are the core of tourism experience enhancement. On this basis, suggestions for optimizing the tourism experience of China Tangcheng Film and Television City are put forward to provide scientific reference for the construction and development of tourism experience.

Keywords: Data Mining · Tourism Experience · Film and Television Theme Park · China Tangcheng

1 Introduction

With the rapid development of the Internet and the explosive growth of information data, big data has penetrated into various fields of socio-economics on a global scale [1]. Big data has the characteristics of scale, diversity, high speed, and value, which can reveal the complexity of socio-economic phenomena [2]. The data mining technology associated with big data has made a great impact on the traditional tourism discipline research theories and methods. Based on big data mining technology, related scholars have carried out research on tourists' tourism experience and achieved rich research results.

Film and television theme park is a special tourism model in which film and television, culture and tourism are integrated with each other, with a more complete industry chain extension and innovative tourism experience products [3]. With the boom in national film and television theme park offerings, many of the quality of the tourism experience is becoming increasingly problematic [4]. Past research on tourism experience in film and television theme parks has ignored the accumulation of experience emotions in different products and different service stages [5], and the measurement of experience quality in a single context can hardly reflect the process of tourists' evaluation of the experience in a comprehensive manner [6]. With the rise of various online tourism websites, online travelogues, reviews and other online texts have become important data sources for studying tourism experiences. Through big data mining technology, tourists' tourism emotional information can be extracted from online texts, and then provide theoretical guidance for tourism product development and image enhancement of tourist destinations.

This study takes China Tangcheng as an example, extracts review texts and related data about China Tangcheng on Ctrip website based on big data mining technology, builds a database of online reviews, refines the core elements affecting the tourist experience of China Tangcheng by using content analysis method and theme analysis method, then evaluates the quality of tourist experience of each element by using IPA analysis method, identify the weak points of China Tangcheng film and television city in tourism product development, propose targeted strategies to improve visitor experience, and realize the improvement and development of tourism services in China Tangcheng Film and Television City.

2 Study Design

2.1 Study Area

China Tangcheng, also known as Tangcheng Film and Television Base, is located in Xiangyang, a city with deep cultural heritage and beautiful natural scenery. China Tangcheng relies on the history of the ancient city of Xiangyang to showcase the Tang culture, and introduces the Han River water, which is connected to eight water systems in the city through eight bridges, forming a pattern of eight waters around Chang'an. It is a large comprehensive tourist area with film and television filming services as well as sightseeing tourism, cultural entertainment and leisure and vacation functions.

2.2 Research Methodology and Data Sources

Ctrip website is one of the mainstream travel portals in China. This study crawled more than 2,000 reviews about China Tangcheng on Ctrip website using Python, and after the data was organized, the reviews were qualitatively studied using content analysis method and theme analysis method. Firstly, text mining using ROSTCM6 software was used to analyze high-frequency words and sentiment of review texts; then NVivo11 software was used to conduct thematic analysis, and the collated web texts were imported into this software for open coding and establishing class relationship, which could extract core themes and start analysis; finally, IPA analysis was applied to analyze the quality of Tangcheng tourists' tourism experience.

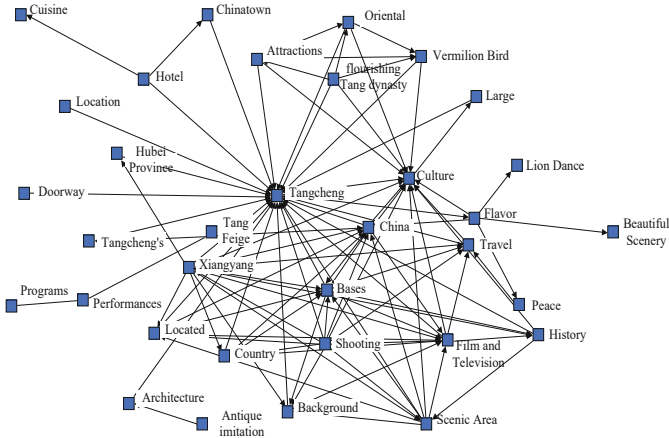


Fig. 1. Semantic network diagram

3 Study Process

3.1 High-frequency Words and Semantic Network Construction

The collated review texts were input into ROSTCM6 software, some meaningless words were eliminated and the top 100 high-frequency words were retained, and the semantic network diagram was generated through social network and semantic network analysis steps as shown in Fig. 1, which shows that architecture, citadel, antique, performance, crossing, prosperity and film shooting are all words with high frequency. This fully illustrates the important connection between the tourist experience of visitors to Tangcheng and these items, and provides a holistic and intuitive display for the analysis of the tourist experience of visitors to China Tangcheng Scenic Area.

3.2 Sample Coding and Core Theme Construction

The qualitative analysis software NVivo11 can be used to encode and assist in the analysis of online review texts, and the specific steps are as follows: the collated textual information is imported into the software, read line by line, and the relevant information reflecting the travelers’ experience is openly encoded and saved as free nodes. The whole text contains more than 80,000 words, and 62 free nodes are collated, including 563 reference points. Based on the number of participating The top 10 codes based on the number of sites are: performance service, performance appreciation, architecture and landscape, film and television shooting, scenic spot traffic, public facilities, scenic environment, food and drink, ticket price, and night tour of Tang cheng.

Based on the association of free nodes, 14 class themes are obtained after analyzing and summarizing, and then selective coding is carried out to summarize and refine the core themes, and finally four core themes of infrastructure, tourism service, experience service and tourism environment are obtained, as shown in Table 1.

Table 1. Category development and qualitative coding

Category	Indicators	Evaluation content
Infrastructure	A1 Traffic Facilities	“Convenient transportation”; “It is not convenient to take public transportation, and there is a long distance from the scenic bus station to the attractions”
	A2 Accommodation Facilities	“Nice B&B, will go back next time I have the chance”; “The hotel is very close to the scenic area and the price is affordable”
	A3 Public Facilities	“The quality of security guards in the scenic parking lot is too poor”; “Expensive parking fees at scenic spots”
Travel Services	A4 Guided Tour Services	“The guide service is not very good”; “I think the guide was more serious and told us a lot of stories about the origins of the buildings and the stories”
	A5 Scenic services	“There are too few scenic resting places”; “Easy to pick up tickets at the attraction and very good service”
	A6 Travel itinerary	“The performance is different for each time slot, and many of the lines arranged cannot catch the performance”; “It would be nice to be able to enhance the experience by only being able to walk around outside”
Experience Service	A7 Architectural landscape	“Inside the scenic spot is an imitation of Tang Dynasty architecture, which is more vicissitudes and history”; “mainly vintage architecture, with huge palace-type complexes and exquisite promenades with small courtyards”

(continued)

Table 1. (continued)

Category	Indicators	Evaluation content
	A8 Dining and Gourmet	“There is a beef bashful noodle restaurant in the scenic spot with better noodles”; “There are too few snacks inside the scenic spot”
	A9 Film and TV shooting	“Scenes from movies and TV shows in recreation”. “The Legend of the Demon Cat, Kyushu Ethereal Record filming location”
	A10 Performance Appreciation	“Just one performance of the Great Tang Flying Song is worth the ticket price”; “There are various performances in Tang City: acrobatics, dance, folklore, ancient style programs, etc.”
	A11 Activity Participation	“A very meaningful day with rented vintage clothes for photos”; “There were some fun activities to participate in such as archery and family recruitment”
Tourism Environment	A12 Local prices	“The local prices in Xiangyang are still OK, not very expensive”; “The price of the hotel and booking tickets online is still a good deal”
	A13 City appearance	“The greenery near the scenic spots is very good”; “Xiangyang is a famous historical and cultural city with rich heritage”
	A14 Scenic price	“Bring your parents to play on the National Day, you can’t buy night set tickets online, the price is much more expensive”; “the scenic area to do activities, two matinee tickets only 80 yuan, the ticket price is worth”

3.3 Importance-Expressiveness Analysis

The IPA analysis method is used to analyze the quality of tourist experience in Tangcheng, with importance as the horizontal axis and expressiveness as the vertical axis, and the mean values of index importance and expressiveness as the cutting points of X and Y axes to divide the space into 4 quadrants. The higher the number of times tourists mention a certain aspect, the greater the importance of this aspect, and the higher the

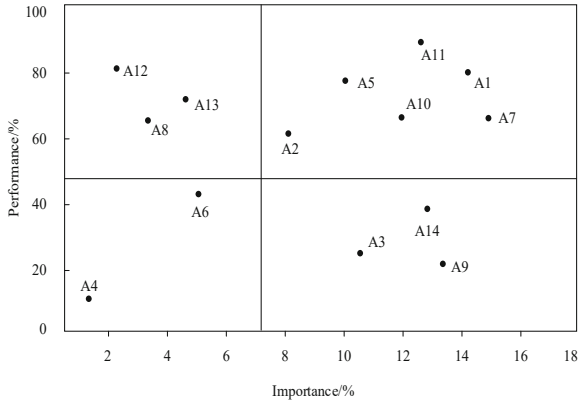


Fig. 2. IPA analysis of travel experience

praise rate means the better the expressiveness. The average values of importance and expressiveness of tourism experience quality in Hengdian Film and Television City are 7.5% and 46.7% respectively, and the ranking order of each element is experience service, tourism environment, infrastructure and tourism service. The analysis revealed that the expressiveness of elements with high importance values was generally better, and there were large differences in both the importance and expressiveness of each element, as shown in Fig. 2.

4 Conclusions and Recommendations

4.1 Research Conclusion

The process of tourist tourism experience is a complex process of interaction of various elements related to tourism subject and tourism object, and it is important to explore the evaluation of tourist experience quality in film and television tourism theme parks for the guidance of tourism operators and tourism destination managers. This study proposes that the evaluation factors of tourism experience quality in the film and television city include 4 main categories of infrastructure, tourism services, experience services and tourism environment and 14 sub-categories of transportation facilities, accommodation facilities, public facilities, tour guide services, scenic services, tourist routes, architectural landscape, food and beverage, film and television shooting, performance appreciation, activity participation, local prices and cityscape, so as to build an evaluation model of tourism experience impact factors in China Tangcheng Film and Television City.

The analysis by IPA method found: (1) tourists pay more attention to and are more satisfied with the six elements of transportation facilities, accommodation facilities, scenic services, architectural landscape, performance appreciation and activity participation, and that tourists have a better feedback experience on the transportation and services of scenic spots as well as the performances and experience programs provided; (2) tourists'

perceptions of the 3 elements of food and beverage, local prices and cityscape are relatively weak, but more satisfactory, and tourists feel good cityscape and food service experience during the tour; (3) tourists' perceptions of the 2 elements of tourist routes and tour guide services are low in importance and also low in evaluation, which is an area for improvement in Tangcheng Film and Television City in the future. (4) The three elements of public facilities, film and television shooting and scenic spot prices are of high concern to tourists, but the expected experience is low, which is an important factor affecting tourists' tourism experience. With the development of the scenic spot of Tangcheng Film and Television City, the number of receiving film crews is increasing, attracting many tourists to visit the sites of film and television shooting and understand the production process of film and television dramas, but due to the management and requirements of the crew, the scenes of the crew may differ greatly from the impression of most tourists; in terms of public facilities, the management of the scenic spot parking lot is confusing and extra charges are common, causing the reputation of Tangcheng Film and Television City to become worse; in terms of scenic spot prices, the scenic spot ticket prices are not uniform enough at different times and on different platforms, while the included performances are not the same, resulting in some tourists' great opinions.

The above summary found that the performance of each tourism experience element with high importance value is generally better, and there are large differences in the importance and performance of each element; tourism route, guide service, public facilities, film and television shooting, and scenic spot price are the core of tourism experience enhancement for tourists in Tangcheng Film and Television City. It also reveals the complete tourism body influence configuration of tourists from a systematic and comprehensive perspective inquiry, which provides theoretical and practical basis for tourism business operators and tourism destination managers.

4.2 Suggestions

With the gradual maturity of China's film and television theme park tourism market and the arrival of personalized self-guided tours and intelligent tourism technology, China Tangcheng Film and Television City still needs to continuously promote the upgrading of tourism experience, and enhancing tourists' expected experience, environmental atmosphere experience, shopping experience and self-guided tour experience is the core of realizing the development of film and television city tourism. This paper proposes the following aspects for the enhancement of the tourist experience of the film and television city visitors.

4.2.1 Improve and Enhance the Quality of Tourism Products and Extend the Scenic Industry Chain

Tangcheng Film and Television City tourism product development to seize the constantly new film and television elements, dynamic development of tourism products, so that it is "always new", so that visitors "each time a new discovery. To extend the industrial chain of the scenic spot, by combining sightseeing, leisure, entertainment and shopping, enhance the comprehensive profitability and market competitiveness of the scenic spot.

4.2.2 Strengthen Internal Management and Training to Improve the Quality of Tourism Services

Tangcheng Film and Television City should strengthen its internal management system, carry out regular training for employees and improve the quality of scenic spot staff.

4.2.3 Improve the Infrastructure of Scenic Spots and Pay Attention to Safety Issues

Tangcheng Film and Television Base currently has problems such as imperfect tourism infrastructure and tourism safety guarantee system. Therefore, we should vigorously promote the construction of tourism infrastructure in Tangcheng Film and Television City, and at the same time, we should take intelligent tourism as an opportunity to strengthen the construction of tourism information infrastructure and provide tourists with comprehensive information consultation, so as to enhance tourists' tourism experience. In addition, Tangcheng Film and Television City should also create a perfect safety warning and rescue system to protect the personal safety of tourists.

4.2.4 Complemented by Modern New Technology and New Platforms, the Integration of Film and Television Tourism Elements

As a product of the integration and development of tourism industry and film industry, the formation of "film and television+tourism" is accompanied by tourists' curiosity about film and television shooting, performance and production process, their pursuit of film and television stars and their fascination with film and television dramas. In the era of experience economy, the construction of film and television theme parks should also develop to depth, and develop new products and projects on the basis of tourism experience. Tangcheng Film and Television City can reproduce the original scenes in the form of video playback at some filming locations to increase the experience of tourists. Also through virtual reality technology, VR/AR immersive entertainment projects to make tourists experience the original scenes of film and television, enhance the tourist experience.

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