

A Study on the Perceived Tourist Image of the Jingzhou Xiongjiazong National Archaeological Site Park Based on Network Text Analysis

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Abstract

With the advent of the big data era, establishing a database by collecting network reviews of destination-related websites from various tourism platforms allows for the acquisition of tourists' perceptions of destinations. This provides a novel approach for researching the perceived tourist image of national archaeological site parks. This study employs network text analysis to investigate the perceived tourist image of the Xiongjiazong National Archaeological Site Park. It collects network reviews from tourism websites such as Ctrip Travel, Dianping, and Mafengwo about the Xiongjiazong National Archaeological Site Park. The study utilizes rostm software for frequency analysis, semantic network analysis, and sentiment analysis to explore tourists' preferences for the archaeological site park. Simultaneously, it analyzes tourists' perceptions of the Xiongjiazong National Archaeological Site Park from four aspects: archaeological culture, park environment, park facilities, and management services. Four conclusions are drawn: firstly, "Chema Zhen" is the most direct and profound cognition of the park by tourists, aligning with the park's theme; secondly, expressions like "worth seeing," "shocking," and "spectacular" signify high satisfaction among tourists regarding the site's landscapes; thirdly, overall, tourists tend to have a more positive attitude towards visiting; fourthly, the rich archaeological culture, serene and beautiful park environment, awe-inspiring Chema Zhen, comprehensive and interesting park facilities, patient and meticulous service attitude, digital design, and immersive experience have left a favorable impression on tourists. Finally, this paper proposes corresponding strategies to enrich the display of cultural relics, improve the park environment, enhance promotional efforts, refine park facilities, and optimize management services.

Keywords

National Archaeological Site Park, Online Drama Review, Perception of tourism image, Network Text Analysis.

1. Introduction

With the development of society and the improvement of people's living standards, tourism has become an important way for people to enjoy leisure and cultural experience. Among the many tourist destinations, the National Archaeological Park is gradually gaining popularity among tourists due to its historical and cultural value, natural beauty and educational significance^[1~3]. As one of the important historical sites in China, Jingzhou Xiongjiazun National Archaeological Site Park not only carries a long history and culture, but also is a witness to the intersection of civilizations^[4~5].

Tourism image perception refers to the impressions and opinions that individuals form about a tourist destination, which is influenced by a variety of factors, including prior experience, word-of-mouth communication, and media coverage. Especially with the prevalence of the

internet and social media, people are more reliant on online reviews and reviews when choosing a travel destination^[6~8]. In this context, online reviews are used as an important data source to provide a large number of text data such as reviews, ratings, and experience sharing, and to conduct in-depth research on the image perception of tourist destinations. This type of research is essential for tourism and academic research.

However, the scale and complex structure of online text data make it difficult for traditional research methods to deal with it effectively. In order to solve this problem, this project adopts the method of online text analysis, through word frequency analysis, semantic network analysis and sentiment analysis of the text, to identify and analyze the keywords, emotional tendencies, core themes and associations in the online text, so as to deeply understand the impression of tourists on the tourist destination^[9~12]. Furthermore, tourists' perception of the tourism image of the park was analyzed from four aspects: site culture, park environment, park facilities, and management services.

2. Research object and research method

2.1. Objects of study

The research object of this paper refers to the "Xiongjiazuka National Archaeological Site Park" located in Zhangchang Village, Chuandian Town, Jingzhou District, Jingzhou City, Hubei Province, which is about 34 kilometres away from the ancient city of Jingzhou. Xiongjiazuka in Jingzhou is one of the largest, best-preserved and most completely distributed cemeteries of high-ranking aristocrats in the State of Chu, highlighting the highest level of Chu culture in the Spring and Autumn Period and the Warring States Period^[4~5]. The State Administration of Cultural Heritage confirmed the status of Xiongjiazuka National Archaeological Site Park in the "Notice on the List of the Second Batch of National Archaeological Site Parks and the List of Projects".

2.2. Research methodology

This paper focuses on the content analysis method of web text analysis, which allows for the transformation of unsystematic, quantitative web text into systematic, qualitative data for objective, systematic analysis of the research method^[6~7].

In this paper, with the help of ROSTCM content analysis software designed and developed by Professor Shen Yang of Wuhan University, the textual data of online reviews were studied in depth with the functions of word division, word frequency analysis, socio-semantic network analysis and sentiment analysis^[8~10]. It then draws qualitative conclusions that tourists perceive the tourism image of Xiongjiazuka National Archaeological Site Park and make predictions about the development of things.

2.3. Data acquisition and processing

2.3.1. Data acquisition

The online review data in this paper were collected from multiple sources, mainly covering many travel-related websites such as Dianping.com, Ctrip.com, and Mavo.com. In these websites, we input "Chu Wang Cart and Horse Array Scenic Spot" to search for a total of 860 online reviews from 1 December 2013 to 19 August 2023, and use Octopus collection software to crawl these online reviews, and after the initial de-emphasis function of the software, we obtain a total of 813 pieces of initial sample data.

2.3.2. Data processing

Since online reviews are subjective and free comments made by tourists, the contents are complicated, and it is necessary to pre-process the sample data before analysing the review texts, including deleting the photos, comments unrelated to the Xiongjiazuka National

Archaeological Site Park, comments that are too simple or have no substantive content, comments that are repetitive in content, and changing the misspelled words and traditional Chinese characters in the texts, etc. In the end, we obtained 759 valid reviews, including 214 reviews from Volkswagen, 534 from Ctrip, and 11 from MaMaWo, totalling 46,111 words. Reviews 214, Ctrip Travel 534, and Mabee's Nest 11, with a total of 46,111 words. The finalised 759 comments are summarised in word, and the find and replace function of word is used to further process the text data, including synonym categorisation, e.g. "worth a visit, worth a stroll, worth a visit, and so on are categorised as worth a look", "child, wa, children, children, children, children, children", "bus, shuttle bus, buses, buses", etc. The processed text is copied to the ".txt" format text for subsequent text analysis in rostcm6.

In order to ensure the accuracy and scientificity of the word frequency analysis, a new customised participle word list is constructed on the basis of the participle word list that comes with the software, including words related to the main attractions of the park (cart and horse array, real people, real carts, real horses, main mounds, worship mounds, martyred tombs, etc.), terms related to the tourists' feelings of visiting the park (worthy of a visit, cost-effective, spectacular, shocking, inconvenient, etc.), and terms related to the facilities and services (signposts, signage, service attitude, directional signs, toilets, etc.). service attitude, signage, toilets, etc.), etc. This will be used for further analyses.

3. Results and Analyses

3.1. Analysis of high-frequency words

Through the word division function of rostcm6 software and high-frequency word statistical analysis, filtering words that have nothing to do with tourism image perception, such as hour, visit, experience, place, years, etc., and finally extracting the first 100 high-frequency words in Table 1. Through the analysis, it can be seen that the most high-frequency word "Carriage and Horse Array" reflects the tourists' overall cognition of the park, which is in line with the theme of the scenic spot "Chu King's Carriage Array". The most high-frequency word "Chu King's Cart and Horse Array" reflects visitors' overall knowledge of the park and is in line with the theme of the scenic spot; the word frequency of "Jingzhou" indicates that the scenic spot has become Jingzhou's "business card"; and "shocking" and "worth seeing" are the most common words. ", "worth seeing", "very good", "not many tourists", "spectacular" and so on. The words are reflecting the tourists' truest feelings of playing. The terms "car and horse pit", "exhibition hall", "cultural relics", "site" and "archaeology" are in line with the positioning of the park, i.e., the car and horse pit and cultural relics excavated by archaeological research are available for tourists to visit and learn through the form of exhibition halls, and the park is mainly set up for the protection of the high-level aristocratic tombs of the State of Chu during the Eastern Zhou Dynasty; the main site content has been mentioned by the tourists for many times, so it can be seen that tourists' concerns are concentrated in the site cultural relics; the frequency of the mention of "ticket" is also higher, which shows that tourists' concern for the admission tickets is high, and this is closely related to the terms reflecting tourists' feeling of visiting the site, such as "cost-effective", "not worthwhile", "worth it", and so on.

Table 1: High-frequency vocabulary

number	vocabulary	Frequency	number	vocabulary	Frequency
1	Carriage and horses	319	51	Friend	28
2	King of Chu	191	52	Convenient	28
3	Jingzhou	184	53	Complete	27
4	Terracotta	151	54	Carriages and horses	27
5	History	131	55	Inconvenience	26
6	Shocked	129	56	Awesome	26

7	Worth	120	57	Martyrdom	25
8	Explain	115	58	Stop the car	25
9	Exploitation	100	59	Visitor	24
10	Very good	96	60	Again	23
11	Carriage pits	87	61	Bus	23
12	Culture	85	62	Serve	22
13	South	84	63	Scenery	22
14	Chu	77	64	Park	22
15	Xiong Jiazhong	74	65	Country	21
16	Exhibition hall	70	66	Publicize	21
17	Scenery	67	67	Area	21
18	Archaeology	63	68	Feel	20
19	Relics	62	69	Pavilion	19
20	Scale	60	70	Knowledge	19
21	Fewer tourists	57	71	Reality	19
number	vocabulary	Frequency	number	vocabulary	Frequency
22	Tickets	56	72	Air	19
23	Excavation	55	73	Protection	19
24	Drive	55	74	Family	18
25	Heritage	54	75	Station	18
26	Spectacular	53	76	Pity	18
27	Environment	51	77	Construction	17
28	Children	50	78	Passenger transport	17
29	Remote	48	79	The Son of Heaven drove six	17
30	Worth recommending	48	80	It's worth it	17
31	Traffic	46	81	Qin Shi Huang	16
32	Museum	46	82	Spring and autumn	16
33	The main mound	46	83	Aristocrat	15
34	Interesting	41	84	Modern technology	15
35	Real horses	36	85	Outing	15
36	It's huge	35	86	Worth	15
37	Opening	35	87	Unworthy	15
38	Funeral tombs	34	88	Explanation	15
39	Completely	34	89	Very good	14
40	Save	34	90	Value	14
41	Price	33	91	Seldom	11
42	Sightseeing car	32	92	Jingjiao car	9
43	Funeral accompaniment	32	93	Ruins	9
44	Suggestion	31	94	Lamplight	9
45	Tickets are expensive	31	95	Scenic area	9
46	Excavate	30	96	Learn	9
47	Guide	30	97	Gizuka	9
48	Real car	30	98	It's worth the trip	8
49	Tourism	30	99	Worthy of praise	8
50	Deserve	29	100	Facility	8

In addition, words such as "children", "family" and "friends" were mentioned many times, indicating that Xiongjiazuka National Archaeological Site Park provides an ideal place for

not obvious; however, the negative sentiment also occupies a certain proportion of 26.71%, indicating that the park still has some negative elements that need to be improved. Generally speaking, tourists have a more positive attitude towards visiting the park. The rich culture of the ruins, the shocking cart and horse formations, the beautiful scenery, the careful and warm service attitude, the modern design and the immersive experience have left a good impression on the tourists. However, some tourists still have a negative attitude, which is mainly reflected in the gap between tourists' expectations and the reality, such as inconvenient transport, high ticket prices, single tour programme, parking charges, and insufficient publicity in the dark exhibition halls.

Table 2. Sentiment Analysis Table

Emotional type	Frequency/message	Proportion n/%	Segmented statistics	Frequency/message	Proportion n/%
Positive emotions	551	72.5	general	191	25.13
			Moderate	137	18.03
			height	223	29.34
Neutral emotions	6	0.79	-----	-----	-----
Negativity	203	26.71	general	65	8.55
			Moderate	15	1.97
			height	14	1.84

3.4. Perceived composition of tourism image

The perception of the tourism image of the heritage park is mainly manifested in four aspects: the heritage culture, the park environment, the park facilities, and the management service.

First, the culture of the site. "Carriage and horse array, real person, real car, real horse, shocking, spectacular" and so on are high-frequency words related to the culture of the site. On the whole, the real people, real cars, and real horses in the exhibition hall of the park's carriage and horse array are the most direct perception content for visitors. "There are terracotta warriors and horses in the north, there are chariots and horses in the south", the carriage and horse formation of Xiongjiacun is the longest chariot and horse pit found in the country at present, it is intact, magnificent, and very spectacular. In addition, "the exhibition hall is good for the protection of the site" has been mentioned many times, and the confined space is preserved, with constant temperature and humidity, reflecting the high degree of attention to the culture of the site. "Floor tiles, walls, and decorations are endowed with Chu culture-related ornaments", which is also one of the ways of cultural inheritance. Xiongjia Mound is the inheritance of Chu culture, with profound historical heritage, and the chariot and horse array shows the extremely prosperous image of the Chu nobles in the Spring and Autumn Period and the Warring States Period, and also confirms the brutal and unequal hierarchy of the real people in the slave society, which is the business card of Jingzhou. However, there are also some negative evaluations about the site culture, such as "insufficient historical excavation, insufficient cultural relics display, and insufficient publicity". There is also little mention of recreational activities, such as "outdoor archery games, card collection activities, quizzes, and flower viewing".

Second, the park environment. Tourists' environmental perception of the park is mostly reflected in air quality, scenic aesthetics, environmental quietness, etc., such as "beautiful scenery, fresh air, quiet environment, small number of tourists" and other words, which shows that most tourists have a positive emotional attitude towards the park environment. However, there are also a small number of tourists who think that the scenery of the park is average.

Third, park facilities. Words such as "digital technology restores the scenes of thousands of troops, sound and light technology, furnishings, exhibitions, intelligent interactive facilities, complete software and hardware of scenic spots, complete parking facilities, and simple stone ladders to climb in the main mound" show that most tourists are highly satisfied with the facilities of the park, which helps tourists experience the culture first-hand and is beneficial to the inheritance of the heritage of the site. However, there are still some tourists who have a negative attitude towards the park facilities, mainly in the guidance signs, entrance and exit settings, such as "the entrance and exit are one-way, the signs are not clear, the entrance and exit routes are not marked, the toilets are difficult to find, the seats are next to the plants, and the light is dim".

Fourth, management services. Words such as "good service attitude of the park ticket swipers, patient and meticulous commentators, professional and easy to understand, reasonable tickets, high quality staff, friendliness, and efficient scenery delivery" reflect the overall positive tendency of tourists to the park service, and these words have been mentioned many times, and it can be seen that the service attitude of the park staff is very important to the tourists' tour experience. However, the uneven quality of service makes tourists have some negative experiences, such as "the museum is humid and smelly, the open state of the carriage and horse formation is not communicated to tourists in advance and the tickets are charged at the original price, the service attitude is not good, it is not responsible, the behavior of destroying cultural relics protection facilities is not stopped in time, the professionalism of the tour guide is weak, there is a tendency to bundle consumption, and forced consumption".

4. Conclusions and Recommendations

4.1. Conclusions

To sum up, this paper takes Xiongjiazun National Archaeological Site Park as an example, and draws the following four conclusions through the network text analysis method: first, the "chariot and horse formation" is the most direct and profound cognition of the park by tourists, which is in line with the theme of the park; Second, "worth seeing, shocking, spectacular" and so on reflect the high satisfaction of tourists with the landscape of the site; Third, tourists' attitudes are generally more positive; Fourth, the rich heritage culture, clean and beautiful park environment, shocking carriage and horse formation, complete and interesting park facilities, patient and meticulous service attitude, digital design and immersive experience have left a good impression on tourists.

In addition, some tourists still have a negative attitude, which is mainly manifested in the following aspects: (1) The cultural aspect of the site. The historical excavation is insufficient, the display of cultural relics is not rich, and the publicity is insufficient; The scenery of the park is average, etc.; (2) Park facilities. Unclear signs, no signs on the entrance and exit routes, toilets are difficult to find, seats are next to plants, and the light is dim, etc.; (3) Management services. The humidity and smell in the museum are heavy, the open state of the carriage and horse formation is not communicated to tourists in advance and the tickets are charged at the original price, the service attitude is not good, the responsibility is not responsible, the behavior of destroying the cultural relics protection facilities is not stopped in time, the tour guide is weak in professionalism, there is a tendency to bundle consumption, forced consumption, etc.; (4) Accessibility to transportation. Far away from the city, inconvenient transportation, few shuttle buses, high taxi fares.

4.2. Development Recommendations

Based on the above analysis results, especially in view of the negative evaluation of tourists, the following suggestions are put forward from the aspects of enriching the display content of

cultural relics, improving the park environment, increasing publicity, improving park facilities, and optimizing management services:

First, enrich the content of cultural relics display, and the specific suggestions are as follows:

1. Enrich the diversity of exhibits. Display of excavated physical artifacts such as pottery, handicrafts, ornaments, tools, etc.
2. Enhance interactive displays. Provide opportunities to touch the exhibits, so that visitors can feel the texture and form of the artefacts first-hand. Participatory activities such as pottery making, weaving handicrafts or simulating the use of ancient tools are offered to give them a hands-on experience of how the ancients lived.
3. Enrich educational content. Publicity boards will be set up at designated points in the park to build a cultural corridor to help visitors better understand culture. Organize docents or hold special lectures to explain the significance, history and cultural background of the artefacts to visitors.

Second, to improve the park environment, the specific suggestions are as follows:

1. Landscape design and greening. In the design of the park, the natural environment is preserved as much as possible, and the local vegetation and topography are integrated into the park, so that the ruins and natural landscapes complement each other. Construct a harmonious and distinctive creative attraction to improve the quality of water bodies, and add interesting hydrophilic designs, such as hydrophilic platforms, to enhance visitors' experience of the park environment.
2. Integration of cultural elements. Sculptures, signs, and landscape sketches with historical and cultural significance are set up in the park.
3. Environmental protection and sustainability. Establish an effective garbage disposal system and keep the park tidy. Adopt sustainable development measures such as renewable energy and energy-saving lamps to reduce environmental impact.

Third, increase publicity efforts, and the specific suggestions are as follows:

1. Make full use of the internet platform. For example, using "Weibo and public accounts" to publish promotional tweets, posters, etc.; Use "radio media, WeChat video account, and Douyin short video" to publish promotional videos, which can include park introductions, site culture introductions, cultural and entertainment activities, etc., to interact with fans and increase online attention.
2. Organize special cultural and entertainment activities. Cultural and entertainment activities, such as cultural festivals, dance performances, ancient fashion shows or traditional handicraft performances, are held to attract tourists and let them experience the charm of culture, thereby expanding the influence of cultural communication. Combined with the relevant elements of the site culture, the development of cultural and creative souvenirs.
3. Strengthen cooperation with schools and tourism organizations. Educational courses and visit programs are offered, and academic seminars are organized to enhance the academic reputation of archaeological sites and attract the attention of the academic community. In cooperation with local tourism agencies, Kumajiazuka is included in the tourist itinerary and offers special tour packages to attract tourists.

Fourth, improve the park facilities, the specific suggestions are as follows:

1. Improve the guide sign system. Set up signs and information boards with clear signs and obvious locations, and provide guide maps. The use of technology, such as mobile apps, guide devices, etc., to provide visitors with detailed tours of archaeological sites. Rest areas are set up in the park, and rest seats are set up in the hard pavement.
2. Application of multimedia and digital technology. Multimedia equipment is provided to enhance the visitor experience by playing video and audio commentary related to the exhibits.

Using digital technology to design ancient scenes, visitors can travel through time and space to enhance their experience.

3. Improve the convenience of transportation. Cooperate with local transportation authorities, travel agencies, and other relevant organizations to promote the archaeological site park. Set up information points at transport hubs and tourist information centres, provide clear transport route maps, and ensure direct access to public transport.

Fifth, optimize management services, specific suggestions are as follows:

1. Optimization of service attitude. Provide professional service training for staff, establish clear service guidelines and standards, and encourage employees to provide high-quality services, including courteous hospitality, problem solving, listening to and responding to the needs of tourists, etc. Strengthen training in information transmission to ensure that tourists are informed of relevant information in a timely and effective manner.

2. Enhance the professionalism of tour guides. Provide systematic professional training for tour guides, covering historical, archaeological, cultural and other knowledge, so that they can have a wealth of professional knowledge; Regularly update your guide's knowledge to ensure they are up-to-date with the latest archaeological finds and relevant information.

3. Establish a feedback mechanism. Establish an effective feedback mechanism, encourage tourists to provide feedback and suggestions, analyze problems in a timely manner according to tourists' feedback, take targeted improvement measures, and continuously improve service quality.

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