Research on Visitor Experience of National Archaeological Site Park from the Perspective of Cultural Perception

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Abstract. In the context of national archaeological park construction, tourists' cultural perception has an important impact on the formation of local identity. It is an important factor in the protection and development of the National Archaeological Site Park. The purpose of this paper is to understand the attitudes of visitors to the National Archaeological Site Park, and to analyze their cultural perception of archaeological site park. This paper uses network text mining method to explore cultural perception. The author took public comments on Ctrip as sample data, then, obtained high-frequency words through ROST Content Mining software, conducted network semantic and sentiment analysis. Through the discussion of the cultural perception and experience of tourists in National Archaeological Site Park, the author concluded that: 1. Tourists' cultural perception of National Archaeological Site Park includes overall experience perception, cultural content perception and cultural form perception; 2. The cultural content of the National Archaeological Site Park shows a three-level structure of "core, transition, edge"; 3. Tourists show certain preferences in the content, form and means of experience in the archaeological site park. On this basis, the author proposed suggestions to improve visitor experience of archaeological site parks based on cultural perception.

Keywords. Archaeological Site Park; Cultural Perception; Network Text Analysis; Visualization

1.Introduction

As an effective model for the protection and utilization of large sites, National Archaeological Site Park is dominated by important archaeological sites and their background environment [1]. This model can drive and radiate the development of surrounding communities, and provide the public with a cultural experience place for nature education and recreation [2]. The State Administration of Cultural Heritage revised and re-promulgated the Measures for the Administration of National Archaeological Site Parks in March 2022, which indicates that archaeological site resources urgently need to be transformed into cultural tourism resources that can be "perceived" or even "consumed" by tourists through the means of "moderate development" [3]. However, the construction of tourist experience in the current National

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Archaeological Site Park is still in the development stage. It cannot meet the diversified cultural experience needs of the public. Based on the above questions, how to understand tourist's real needs of cultural perception in the National Archaeological Site Park is urgent to be considered.

Cultural perception refers to the perception direction that people take culture as the subject, which can acquire the information of immaterial cultural elements through the sensory organs, and finally produce the perception and cultural impression of the environmental site elements [4]. Taking culture as the object of perception and the cultural characteristics of the site as the starting point, archaeological site park expresses and integrates cultural connotation in the way of artistic transformation, so that people can obtain cultural identity. The network text formed on the network can clearly express tourists cultural behavior and perception to tourist destination [5], which makes the result more objective and real. Therefore, this paper takes the evaluation text on the network tourism platform as the data, and uses content analysis to explore the public cultural perception system and its elements in national archaeological site parks, so as to provide reference for its construction of experience.

2.Study Design

2.1 Method

Content Analysis is a research method that describes the explicit content objectively and quantitatively [6]. The advantage of explicit content analysis is that user-generated content is more objective and realistic. It can avoid the limitation of space, time and quantity in traditional research methods such as questionnaire.
Rost Content Mining (RostCM) is a commonly used text analysis software. In this paper, with the help of RostCM6 software, comments on online tourism platform were processed and analyzed. Firstly, the software was used to process the text content to be studied. Secondly, words unrelated to tourism experience and cultural perception were filtered out. Thirdly, the common vocabulary was extracted and the semantic network was obtained according to the functional analysis. Finally, through analyzing tourists cultural perception and experience, the author attempted to put forward some suggestions.

2.2 Subjects

The objects selected for this analysis of tourist experience are 36 national archaeological site parks that have been approved in three batches. On the one hand, it is to ensure the integrity and authenticity of the data, the reliability of the research content and results. On the other hand, it is for understanding the current situation of tourists cultural perception to the National Archaeological site Park more comprehensively, and ensure that it reflects the most authentic emotional and cultural experience of visitors.

2.3 Data Collection

2.3.1 Sample source

According to the mobile APP index ranking provided by iResearch, Ctrip ranked first because of its wide coverage and large number of active users. Therefore, this paper

collected public comments related to the National Archaeological Site Park posted on the Ctrip. The sample selection was open to the public and the unpublished commentary transcripts are excluded.

2.3.2 Keywords search

A total of 35 national archaeological site parks were searched, except for Grand Canal Nanwang Hub National Archaeological Site Park, which the author could not find relevant scenic spots. Among them, 6 national archaeological site parks of Beijing Summer Palace, Niuheliang, Bohai Zhongjing, Zhenpiyan, Chengziya, Han Chang an City Weiyang Palace have no comments on Ctrip, so that the author unable to obtain relevant data. In addition, the Sanxingdui National Archaeological Site Park will not be included because of temporary closure. Eventually, this study collected 21,580 online comments on 28 national archaeological site parks from Ctrip by the end of September 10, 2022 as the original sample data.

2.3.3 Data processing

In order to ensure the accuracy and representativeness of the selected text data, we removed text that was repetitive, too simple, and no real meaning. Through the sorting and selection of text data, the adjustment and improvement of text data collection results, eventually, 20,022 comments were deemed as the valid text content of the study.

3.Results

3.1 Analysis of feature words

3.1.1 High frequency feature word analysis

Firstly, text data of tourism reviews were divided into words through the software. In order to ensure the accuracy of word frequency statistics, we set up a combined word group table to classify the featured words. Secondly, word frequency analysis. Thirdly, according to the ranking results, the high frequency feature words were obtained after removing the feature words with no obvious significance. Finally, the publics experience perception of the National Archaeological Site Park was summarized. The top 60 high-frequency features are as below. (See Table 1)

Table 1. High frequency feature word analysis

No.	Word(s)	Times	No.	Word(s)	Times	No.	Word(s)	Times
1	history	5010	21	feeling	979	41	learning	395
2	worth	4495	22	sightseeing	946	42	display	386
3	museum	4179	23	free	844	43	ticket price	385
4	site	4096	24	experience	830	44	awesome	363
5	culture	2924	25	knowledge	818	45	children	363
6	explaining	2914	26	archaeology	779	46	heritage	328
7	good	2898	27	movie	682	47	pitiful	327
8	scenic area	2446	28	environment	640	48	area	316
9	scenic spot	1982	29	tourist	611	49	commentary	313
10	ticket	1514	30	service	609	50	characters	305
11	visit	1476	31	interesting	562	51	good-looking	297
12	park	1427	32	funny	556	52	exhibition	270

13	cultural relic	1421	33	tourism	502	53	characteristic	257
14	convenient	1390	34	performance	468	54	show	253
15	buildings	1160	35	landscape	456	55	photograph	240
16	scenery	1130	36	not bad	455	56	resplendent	235
17	shocking	1081	37	mysterious	426	57	weather	191
18	civilization	1063	38	protection	421	58	enthusiasm	165
19	time	1017	39	scene	420	59	travel	164
20	guide	1001	40	exhibits	404	60	subway	154

In terms of nouns, "museum" and "site" are the main objects of public discussion. It shows that the museum is still the scene carrier of the National Archaeological Site Park for the perception of cultural connotation. In contrast, the ontological objects such as "cultural relics", "heritage" and "buildings" have not received sufficient attention from the public. At present, the experiential construction of the national archaeological site park is based on the construction of hard cultural space with material and cultural content. It lacks attention to the construction of soft culture space based on the interpretation of immaterial cultural content carried by activities.

In terms of adjectives, it mainly reflects the experience perception of the public. "Shocked", "playful" and "awesome" reflect the overall atmosphere of the public cultural space in the National Archaeological Site Park. " Mystery", "feature" and other special words are users specific evaluation of the site park, reflecting the cultural and emotional experience of the public in this particular scene. However, it also shows that the public perception of archaeological site park is still at the surface level of the site and cultural attractions, the deep cultural perception of humanistic customs and cultural spirit is still insufficient. In addition, some tourists thought that the relics in the archaeological site parks were renovated and fake. This also reflects the lack of attention to the "authenticity" and "integrity" of archaeological site parks in the current protection and development.

In terms of verbs, it mainly reflects the means and ways for the public in experience. According to the results, "visiting" and "sightseeing" are the main ways to recreation in the archaeological site park. "Explanation" and "learning" reflect its educational attributes. This shows that the form of public participation is still relatively traditional. Archaeological site parks should consider how to give full play to their own advantages in experience construction, such as simulated archaeology, on-site activities and so on. In addition, words such as "explanation" and "commentary" indicate that the public is the receiver of cultural content instead of active participants and creators.

3.1.2 Feature word clustering analysis

The experience content frequently mentioned by tourists is the special things that leave a deep impression, which reflects the prominent part of tourists experience to this place [7]. Based on the analysis results of high-frequency feature words, clustering processing was conducted from the perspective of cultural experience. The author divided tourists cultural experience into three levels: overall experience perception, content of cultural experience and form of cultural experience. Finally, we sorted out the high-frequency word clustering analysis table of tourists cultural experience. (See Table 2)

Table 2. High frequency word clustering analysis

Categories	Elements	Feature words (frequency of occurrence)
Perception of the	Image	shocking (1081); civilization (1063); mysterious (426); characteristic (257); resplendent (235);

whole	Space	buildings (1160); environment (640); scene (420); area (316)
	Psychology of tourists	worthy (4495); good (2898); ticket (1514); convenient (1390); free (844); experience (830); interesting (562); playful (556); ticket price (385); awesome (363); pitiful (327); good-looking (297)
Perception of content	Scientific research	site (4096); cultural relic (1421); knowledge (818); archaeology (779); protection (421); heritage (328)
	Education	museum (4179) culture (2924) exhibits (404) learning (395) characters (305) exhibition (270)
	Recreation	scenic area (2446); scenic spot (1982); park (1427); scenery (1130); landscape (456); sightseeing (946)
Perception of form	Content interaction	visit (1476); movie (682); service (609); performance (468); display (386)
	Social interaction	explaining (2914); guide (1001); tourist (611); commentary (313); show (253); enthusiasm (165)

From Table 2, in terms of overall experience and perception, tourists mainly focus on the image perception and experience of the archaeological site park, such as "civilization", "mystery", "worthy", "shocking", "interesting" and other psychological experience. However, only the geographical concepts more abtract such as "building" and "area" have attracted the attention of tourists. Therefore, National Archaeological Site Parks should strengthen the use of public space, abandon the original "physical space" logic that relies on managers for construction and planning, and turn the logic to that the public is the creator of "experience space".

In terms of cultural experience, the words "cultural relics", "archaeology" and "protection" show that tourists have realized that heritage protection and archaeological research are the core contents of scientific research in archaeological site parks. What s more, visitors often use words such as "culture" and "learning" to express their educational and cultural exposure to historical tourist attractions such as cultural relics and buildings in the park. The last key point is that archaeological site parks also have the recreational properties of general parks. Therefore, tourists will frequently use physical terms such as "scenery" and "landscape" to evaluate, which is also the most basic experience content to the National Archaeological Site Park. It can be seen that the cultural experience content of archaeological site park focuses on scientific research, education, and leisure. However, tourists evaluation is mostly shallow content of the surface landscape. The National Archaeological Site Park needs to improve the presentation and interpretation of cultural content, so as to help tourists understand the deep content of culture.

In terms of the form of cultural experience, it is mainly content interaction and social interaction. One is the interaction between tourists and cultural content. Tourist evaluation focuses on traditional visual methods, such as "visit", "display" and "film". At the same time, new narrative interaction modes such as "performance" and "show" have also appeared, but the possibility of whether tangible cultural heritage can be used as the carrier of cultural experience has been ignored. The other is the interaction between tourists and others. Archaeological site parks serve as a means to create experiences by connecting visitors with other stakeholders. However, the current approach is still traditional and the tourists accepted information passively, which does not consider the possibility of treating tourists as creators and participants. Therefore, opportunities should be provided for tourists to actively participate in the construction and interpretation of cultural content.

In conclusion, using RostCM for high-frequency keyword ranking and cluster analysis, the author found shortcomings in the development and utilization of "soft space", as well as the display and reuse of archaeological site ontology in the current National Archaeological Site Park. On this basis, tourists cultural experience was divided into three dimensions: overall perceptual experience, cultural experience content and cultural experience. At the same time, the author respectively discussed the status quo of cultural experience in national archaeological site parks from different dimensions, the method to provide tourists with cultural perception opportunities, and the ways to create experience.

3.2 Semantic Network Analysis

This study carried out semantic network analysis with ROSTCM6. It can dig out the hidden meanings behind the high-frequency words and form the visual expression of word cloud (see Figure 1). The more arrows and lines between nodes, the closer the relationship between concepts. The density of lines represents the level of co-occurrence frequency, and the denser the lines between feature words, the closer the connection with the core node words [8].
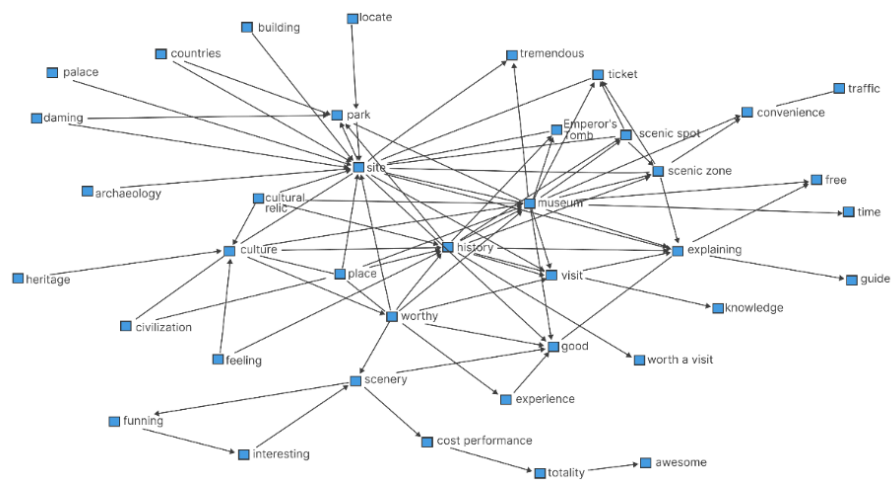

Figure 1. Semantic Network analysis diagram.

According to the results, the semantic network of visitor experience in the National Archaeological Site Park presents a three-layer structure of "core-transition-edge". "Site" and "museum" are the most prominent core layers in the word cloud, both of which have a high degree of semantic correlation. They form an experience space for visitors. Among them, "archaeology - site - interpretation - experience", "cultural relics - museum - history - visit" and "site - cultural relics - culture - experience" are important relationship chains for tourists to experience. Firstly, this reflects that archaeological site park still takes heritage protection and archaeological research as the core content. Secondly, it is the further expansion and transition of the core layer, including the elements of "culture", "history", "visit" and "explanation". This mainly reflects tourists strong interest in historical and cultural content and their willingness to participate actively, which is an effective aspect of cultural education. Finally, the feature words distributed on the edge,

mainly around travel consumption, cultural relics, environmental landscape and other aspects. These include "architecture", "palace" and other physical elements, which are the most basic cultural content that visitors can experience. This reflects the most basic recreational properties of the Park. This three - layer nested structure of "core - transition - edge" influences tourists perception and understanding of cultural content with different functional attributes.

3.3 Emotional image analysis

Through RostCM6, we got the emotional distribution map of tourists (see Table 3). The table shows positive emotions, neutral emotions and negative emotions. The tendency of positive emotion accounted for the largest proportion (76.02%), while negative emotion accounted for 11.93%. This indicates that the National Archaeological Site Park has a high appeal to the public, which is consistent with the analysis results of the high-frequency feature list above. The overall public experience perception is good.

Table 3. Emotion distribution result

Emotion	Quantity	Percentage (%)	Level	Quantity	Percentage (%)
positive	16922	76.02	General (0-10)	6766	30.40
			Medium (10-20)	5185	23.29
			Height (above 20)	4971	22.33
neutral	2683	12.05			
negative	2655	11.93	General (0-10)	1911	8.58
			Medium (10-20)	498	2.24
			Height (above 20)	73	0.33

Analyzing negative emotions can improve tourists experience in archaeological park to a certain extent. After classifying the comments with strong negative sentiment tendency in sentiment analysis and combining them with high-frequency feature words, the author found that the negative sentiment mainly focused on the problems of unreasonable tourism planning, poor perception of cultural content, and strong commercial atmosphere. The public has more negative emotions about the products and services in the National Archaeological Site Park. Here are some of the low-scoring comments:

"Its hard to tell the real exhibits from the fake ones, and the ruins are all fa ke. " (lack of authenticity);

"The environment is good, but the general feeling is that there is a lack of information." "Really dont think there is anything worth seeing, all scenery depends on imagination." (poor perception of cultural content);

"The management of sightseeing buses in the scenic area is very chaotic, and the waiting time is more than half an hour, which seriously degrades the experience." (unreasonable tourist routes);

" Some cultural relics are all replicas, and the commercial atmosphere is strong." (too commercial)

3.4 Cultural perception of tourists

In-depth research on tourist experience from the perspective of cultural perception can better highlight cultural characteristics, improve cultural transmission and optimize the effect of cultural experience. Therefore, this paper discusses and analyzes the content, form and means of experience.

First of all, in terms of experience content, some tourists think that the archaeological site park lacks substantive content and the visit need to rely on their "imagination". Some tourists even think the journey is boring. This also reflects that the construction and application of experience content are relatively weak, and their exclusive property has not been well utilized sufficiently.

As a new public cultural space, the National Archaeological Site Park is essentially different from other parks. This is mainly reflected in its three-level relationship of "research - education - recreation"(See Figure 2). Among them, scientific research is the core experience content and the core attribute of the archaeological site park. Recreation is the most basic experience content and the most basic attribute of archaeological site park as a park. As the middle layer, education is the experience content that effectively connects the other two layers, and also the recreation experience content of tourists from the surface. It is an important way to deeply understand the cultural connotation and historical significance. As a whole, the three-level relationship of "scientific research, education and recreation" shows that scientific research is the core and the function of education and recreation is the purpose. It can effectively tap the cultural resources of the archaeological site park and provide tourists with a deeper cultural experience.
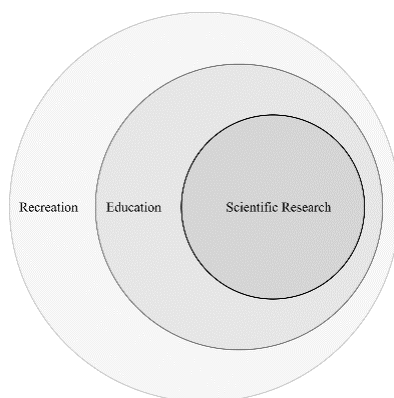
Figure 2. Chart of the three-level relationship between "scientific-research, education and recreation".

Secondly, in terms of the form of experience, the archaeological site park provides the public to perceive and understand history and culture through the interpretation of cultural content, such as digital audio and video, song and dance performances, and guided interpretation. Some visitors hold the positive attitude to the use of digital devices in the exhibition and interpretation of archaeological site parks. This also creates opportunities to construct cultural experiences in the digital space. Through digital translation to cultural content, tourists can communicate and interact with it more easily. They can use a variety of digital device media to achieve more natural and direct interaction. Through this way, the cultural, emotional and spatial connection between visitors and the site can be strengthened.

Thirdly, in terms of experience means, tourists mainly focus on the evaluation of traditional tourism activities, such as "performance", "explanation" and so on. However, with the continuous updating of technological means and tourists experience needs, the traditional experience means of one-way transmission should be transformed gradually. Digital technologies such as virtual reality, augmented reality and mixed reality are applied across fields, and interactive devices such as interactive projection and exhibition are widely promoted, so as to create scene and immersive experience space for tourists.

Through reviewing and analyzing the data above, the author found that the ontological display of archaeological site parks is weakened at present; The tourists cannot participate the interaction actively; The experience of soft space is too simple. Therefore, the archaeological site park needs to start from enhancing tourists cultural perception to improve tourists experience in all aspects. The research, interpretation and dissemination of archaeological site parks can be well enhanced.

4.Conclusion

Based on web text, this paper uses RostCM to conduct high-frequency feature word ranking, cluster analysis and semantic network analysis. The athour studied and discussed the cultural perception and experience of tourists in archaeological parks, and reached the following conclusions:

4.1 Three categories of cultural experience

Through high-frequency feature ranking and cluster analysis, three categories of cultural experience of tourists were collected. Based on the ranking of feature words, the existing visitor comments of archaeological site park are discussed. Then, three categories of cultural experience are obtained by clustering analysis of high-frequency feature words: overall perceptual experience, content of cultural experience and form of cultural experience. Through discussing the status quo of cultural experience construction in each dimension, as well as the opportunities and means to create cultural experience content, the author hope to improve tourists cultural perception.

4.2 Three levels of cultural experience

Through semantic network analysis and visualization, we propose a three-level structure of "core-transition-edge" for tourists cultural experience. Firstly, it takes heritage protection and archaeological research as the core experience content. The second is the expansion and transition of the core level, mainly including "explanation", "culture" and other features. They are the important form and means for tourists to perceive the core cultural content. Finally, travel consumption, cultural relics, environmental landscape and other elements are the basic experience content that tourists can obtain, which reflects the most basic recreational properties of archaeological site parks.

4.3 The three-level relationship of cultural experience content

From the perspective of cultural perception, we put forward the three-level relationship of "scientific research, education and recreation" in the content of cultural experience.

Research is the core experience of the archaeological site park. Recreation is a basic part of the experience. Education, as the middle layer, is the main content to be constructed in the archaeological site park, as well as the experience content that can effectively connect the other two layers. The cultural experience content of archaeological site park generally presents the scientific research as the core, and through the excavation of cultural resources, the education and recreation function of archaeological site park can be better played. It can expand the ways for tourists to perceive cultural content, so as to provide tourists with a deeper experience.

5.Suggestion

5.1 Full process consideration

The Experience EEI model considers Expectation, Event and Impact as an inseparable part of an experience [9]. This suggests that pre-travel experience expectations should be included as one of the elements of experience construction. Therefore, before, during and after tourism are important stages to enhance cultural perception and enhance tourist experience. For example, serious games related to the site can be provided before the tour to help tourists establish their knowledge background; Tourist attractions should be used as clues to encourage tourists to actively explore cultural content; After tourism, it can form exclusive tourism content and share with others while forming good memories. Only when tourists form specific memory content can they truly complete the construction of tourism experience.

5.2 Common sharing and collaborative creation

As a new form of cultural heritage protection and display open to the public, the National archaeological site park should change the role of tourists from audience to creator and narrator. It also reflects the inclusiveness of archaeological site park as a public cultural space to some extent. Visitors are empowered to interpret historical and cultural information. They can actively participate in the construction of cultural content in the process of recreation. When the cultural characteristics of the site and the cultural perception of the public echo each other, and the cultural content and tourist experience coincide with each other, the public will gain cultural identity and cultural confidence in the archaeological site park.

5.3 Application of digital technology

Digital technology should be applied to archaeological site parks to improve the visitor experience. In view of the current negative public sentiment, we should focus on how to alleviate the negative sentiment of tourists from the technical level and build a friendly public cultural space. Psychologist Mihaly Csikszentmihalyi (1990) believes that pleasant life experiences and the meaning of life can be obtained by changing environmental conditions or interacting with existing environmental conditions in different ways [10]. Therefore, we can start from the relationship between tourists and space, which includes the mutual communication at the physical and digital level, so as to expand the ways and means of interaction between tourists and the site.

From the discussion above, enhancing the cultural perception of the National Archaeological Site Park can provide the public more comprehensive and unique experiences and services. We should change the thinking of theoretical method research and practical application exploration. Not only should tourists exp erience content and way be constructed according to local conditions, but also the experience built before tourism should be considered to form a full-link tourism experience. The archaeological site park needs to strengthen the publics cultural perceptio n of the national archaeological site park by means of digital technology through the joint participation and creation of all parties, so that the National archaeological site park can truly become a public cultural space that can be accessed, perceived, participated in and identified with.

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