

# Research on the Tourism Image of the Historical and Cultural Block of the Jiangnan Canal from the Perspective of Space Production

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**Abstract:** *Based on the comments of tourists in the historical and cultural district of Jiangnan Canal on Ctrip.com as the text data source, the text analysis tool was used to analyze the emotional characteristics, word frequency analysis and semantic network diagram of social relations of tourists. The results show that tourists' perception of the tourism image of the Jiangnan Canal Historical and Cultural District is dominated by positive emotions, and the spatial image cognition can be divided into 3 dimensions and 9 subdivision elements. Furthermore, with the help of IPA model, the development status of tourism image of Jiangnan Canal historical and cultural district was clarified, and it was found that the social space image was a shortcoming at this stage. Finally, recommendations are made on cultural activities, local society, environmental quality and tourist mobility.*

**Keywords:** spatial production; Jiangnan Canal; Historic and cultural districts; IPA model.

## 1. INTRODUCTION

The Jiangnan canal section embodies the Wu culture characteristics of worship of culture and education, equal emphasis on business and agriculture, and highlights the cultural protection and inheritance of water engineering and water town settlements. The space section of Jiangnan Canal is no longer a pure object of physical or geographical significance, it is a natural product of "humanization", which is social, historical and cultural. Through Jiangnan canal historical and cultural blocks tourism image research, comb, the tourists cognition of Jiangnan canal historical and cultural blocks, impression, prejudice and expression of emotional cognition, to improve tourists, tourists revisit will, establish local association, improve the historical and cultural blocks management, promote its sustainable development has important practical significance and academic value.

These research directions can help to deeply understand how the tourism image of the Huaiyang Canal ancient buildings is influenced by spatial production, and how to improve the image of the scenic area through spatial planning, cultural heritage and social interaction. In addition, the study could also provide advice on scenic area management and development on how to maximize the potential of space to enhance attractiveness and sustainability.

## 2. REVIEW OF SPATIAL PRODUCTION STUDIES

### 2.1 The deductive process of space production

The word "space" was originally a hot topic in the study of regional culture. Before the 20th century, people showed their casual shading and neglect of space out of their preferential preference for time, and the mainstream interpretation of space concept has a metaphysical nature. Aristotle's "finite space", Newton's "mechanical absolute space" and Kant's "pure intuitive form space" are its typical representatives, and the essence of space was previously regarded as dead, rigid and static things<sup>[1]</sup>. Since modern times, thinkers such as Bergson and early Heidegger also regard time as the embodiment of human nature<sup>[2]</sup>.

In the 1950s and 1960s, people began to realize that modern theory placed too much emphasis on time and reduced the interpretation of space complexity. The emergence and sudden rise of "space turn" became one of the important events in the development of western social science knowledge and politics<sup>[3]</sup>. Among them, the highly representative and influential are Lefebvre's "production of space", Harvey's "capital cycle and space-time compression" and Suja's "third space" theory. These dissertations and the ideas advocated not only challenge the

dominant Cartesian concept of space and that of Kant's philosophy since the Enlightenment movement, but also change the vision of western critical theory by turning Marx's social and historical dialectics into the "spatialization" of historical dialectics. After the theory was introduced into China, it had a very important influence on philosophy, Marxism, sociology, culture and geography, which to a certain extent inspired scholars and provided them with a research paradigm for the spatial shift of complex social problems. In the 1990s established the socialist market economic system in China, the space practice in the space of social structure and social spatial relations, in some places caused such as value orientation, mode of production, equity distribution, space justice and other social space phenomenon and deep problems, the theoretical research and empirical analysis are broad space and value<sup>[4]</sup>.

## 2.2 Research status of space production

"Spatial production" is a basic vision from material production to social relationship production as the core, that is, the process of shaping specific space by political and economic and social elements such as capital, power and class, and the process of spatial socialization structure and spatial relationship of society."Space production" is the new marxism about space is the most important theoretical progress, the theory is that Marx's social historical dialectics for the historical dialectics of "space", show capital, power, interests, political, economic and social elements and power to reshape space, and its formation space as the bottom of social structure and the process of social spatial relations. Its main representative, Lefevre, pointed out that the "spatial practice", "space reproduction" and "reproduction space" that constitute its theoretical system are a "ternary spatial dialectics" that constantly self-production and expands.

Although the number of articles on "space production" in China has been increasing in the past decade, the research mainly focuses on Marxist theory, historical materialism and other philosophy, and covers less topics in other disciplines. In the case of space production theory, the "ternary" features such as spatial practice, spatial representation and representational space, as well as the "level of space history", can provide theoretical tools for the connotation analysis of cultural tourism mode<sup>[5]</sup>. Therefore, it is of great theoretical significance to apply the theory of space production to the study of tourist experience in the canal historical and cultural blocks.

## 3. STUDY SUBJECTS, METHODS, AND PROCEDURES

### 3.1 Research object

In this paper on the Jiangnan canal historical and cultural blocks object selection, in 2021 issued by the general office of Jiangsu province people's government of the provincial government of the grand canal section of the core land space control notice, on the basis of the article in the canal world cultural heritage elements bar Jiangnan canal historical and cultural blocks including qing name bridge along the river historical and cultural blocks, shan street historical and cultural blocks and historical and cultural blocks.

### 3.2 Research technique

LDA (Latent Dirichlet Allocation) is a commonly used topic model for discovering potential topic structure from text data. It has wide applications in information retrieval, text mining, recommendation systems, social network analysis and other fields. The main idea is to abstract text data into two polynomial distributions: "subject-vocabulary" distribution and "document-topic" distribution.

IPA (Importance-Performance Analysis), or importance-performance analysis, was proposed and applied in 1977 by Mattila and James in the assessment of automobile dealers. In 1991, Chon K S etc. introduced it into the study of tourism and leisure industry, and then this method was used to diagnose tourism image and positioning analysis.

### 3.3 The research process

First, the Python language to capture the tourist comment data of Jiangnan Canal Historical and cultural block on Ctrip, Acquisition 5, 733 comments; Secondly, with the help of ROST CM 6.0 software, To the unique nouns of the historical and cultural block of the Jiangnan Canal, Such as Qingming Bridge, Shantang Street Tower, etc, Without objection, On the basis of the completion of the word segmentation, Use the LDA theme model to generate the implied theme of the text; last, A new SPSS 26.0 model, And analyze the importance and satisfaction of the elements of tourists' image perception, To achieve the objective and quantitative description effect of the explicit

content.

## 4. ANALYSIS OF THE STUDY RESULTS

### 4.1 Construction of tourism image dimension

The Python Jieba library was used to classify the text content, extract the keywords based on the TF-IDF algorithm, and summarize the top 300 feature words according to the frequency from high to low. From tourists experience perception of high frequency words can be summarized: tourists in Jiangnan canal historical and cultural blocks, mainly feel the cultural environment, appreciate the historical buildings as the main purpose, tourism activities to "play" "visit" and "explain" give priority to, is still in the sightseeing stage, not involved such as experience local traffic, tasting local cuisine, ornamental local characteristic scenery, participate in the activities of local characteristics such as multi-angle depth experience.

In order to further clarify the dimensional distribution of tourism image dimensions in the historical and cultural blocks of Jiangnan Canal, the subject number of documents was determined according to the confusion, using the gensim library to create LDA model to generate the confusion curve. Combined with confusion visualization results, inflection point theme number range in 3~4.5, through the pyLDAvis library subject visualization, determine the best theme number is 3, combined with each group of keywords, the Jiangnan canal historical and cultural blocks tourism space image is divided into: material space, cultural space and social space three dimensions, summarized into three spatial image dimensions and nine perception elements of Jiangnan canal historical and cultural blocks image dimension table (see Table 1).

**Table 1:** Table of spatial image perception dimensions of Jiangnan Canal Historical and Cultural Block

The spatial image dimension	Perceived elements	Element interpretation
Physical space	spatial planning	Physical layout and scenic area planning, including the location and connection of attractions, buildings and roads
	architectural feature	Architectural structure, style, and historical background of the historic district
	environment quality	Environmental quality of historic districts, including air quality, water quality and landscape
Cultural space	cultural landscape	Culture, history, and traditions of the historic district
	Story narrative	Historic districts use space to convey historical stories, legends and cultural background information
Social space	Cultural Activity	Historic district for cultural events, celebrations, and performances
	The flow of tourists	Behavior, path, and flow of visitors within the historic district
	Community participation	Local communities participate in the management of historic districts and cultural activities and phenomena
	Local society	Interactions between visitors and local residents within the historic district

### 4.2 IPA model analysis

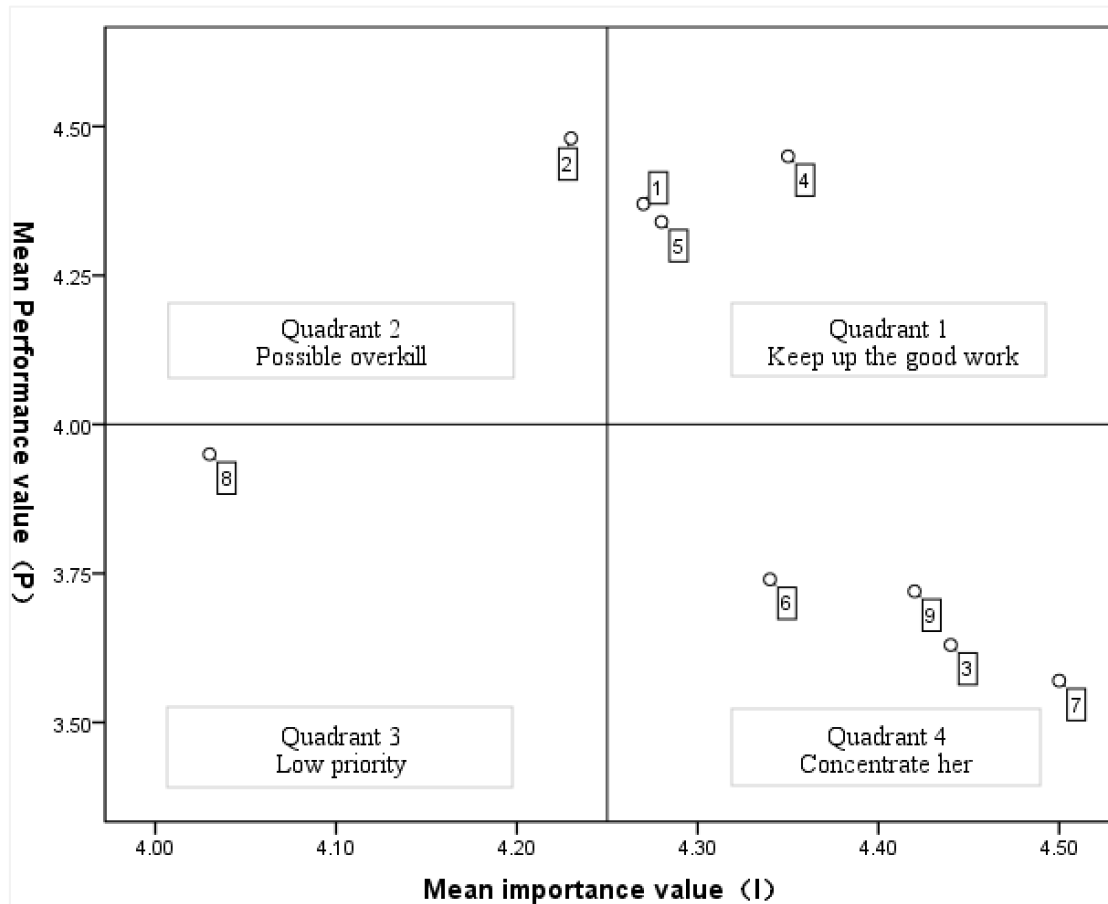
In summary Jiangnan canal historical and cultural blocks image dimension table and perception elements table on the basis of tourism image perception elements coding sequence, through the study of historical and cultural blocks comments analysis, will review the elements of tourism image perception and summary, and then calculate the importance of each elements and satisfaction, the summary results as shown in Table 2.

**Table 2:** Summary table of perceived factor importance and satisfaction

number	Image elements	Mean Satisfaction Level (P)	Mean value of importance (I)	P-I
1	spatial planning	4.37	4.27	0.1
2	architectural feature	4.03	4.23	-0.2
3	environment quality	3.63	4.14	-0.51
4	cultural landscape	4.25	4.45	-0.2
5	Story narrative	4.34	4.28	0.06

6	Cultural Activity	3.74	4.34	-0.56
7	The flow of tourists	4.47	4.50	-0.03
8	Community participation	4.05	4.53	-0.48
9	Local society	4.02	4.32	-0.3

The average value of I value and P value (4.34,4.10) was determined as the coordinate origin, divided the quadrant, and used SPSS 26.0 software to draw, and the IPA model diagram of image perception of Jiangnan Canal historical and cultural block, as shown in Figure 1:



**Figure 1:** IPA model diagram of Jiangnan Canal Historic and Cultural Block

Note: 1. Space planning; 2 architectural features; 3 environmental quality; 4 cultural landscape; 5 storytelling; 6 cultural activities; 7 tourist flow; 8 community participation; 9 local society.

The elements located in the I quadrant (dominance zone) include: 1 spatial planning, 4 cultural landscape, and 5 storytelling. Tourists have a high experience of the spatial planning of the Jiangnan Canal Historical and cultural block, and a good satisfaction with the cultural landscape and narrative narrative of the historical and cultural block. The cultural heritage of Jiangnan Canal Historical and cultural Block attracts many tourists, and tourists have high praise on the cultural landscape and spatial planning of the historical and cultural block, which is also one of the advantages for the development of Jiangnan Canal Historical and cultural Block.

The elements located in the II quadrant (holding area) are: 2 Architectural features. Architectural features rank the first among the nine elements of satisfaction, and the second from the bottom in importance, indicating that although tourists rarely mention architectural features in the comments, they take satisfaction as the main emotional experience, and should continue to maintain the features in the subsequent development and construction of the Jiangnan Canal Historical and Cultural Block.

The elements located in the III quadrant (opportunity) are: 8 community engagement. The importance of community participation ranks the lowest in the tourist evaluation, but its satisfaction ranks fifth, at a middle level.

This shows that tourists do not pay much attention to the activity of local residents in the historical and cultural block of Jiangnan Canal, but have a good perception and image of the scenes of residents. Therefore, in the long term, cultural festivals and activities participated by the community play an important role in promoting the interaction between local hosts and guests and cultural inheritance.

The elements located in the IV quadrant (repair area) include: 3 environmental quality, 6 cultural activities, 7 tourist mobility and 9 local society. Tourist flow in the importance of nine elements, ranked first, and on the satisfaction, shows that tourists repeatedly mentioned in the comments, historical and cultural blocks tourist behavior and behavior, but mention the worst emotional experience satisfaction, further comb tourists comments, found that this part involves the negative behavior of tourists and space crowded experience, follow-up can regulate tourist behavior and optimize the historical and cultural blocks space layout to improve this problem. Environmental quality, cultural activities and local society also have similar problems of high attention and low satisfaction.

### 4.3 The cognitive and emotional characteristics of the tourism image

In order to further verify the results of the IPA model, through the emotional analysis of the text content, analyzed the emotional dimensions of tourists' experience, and drew the emotional characteristic table of tourists (see Table 3). In general, the experience of tourists was dominated by positive emotions, accounting for 76.47%.

**Table 3:** Emotional characteristics of tourist experience in Jiangnan Canal Historical and Cultural Block

affective style	Classification proportion /%	Emotional degree	The proportion of emotional degree is /%
Positive emotion	74.57%	same as	31.74%
		moderate	24.02%
		altitude	18.81%
Neutral emotion	13.33%	—	—
Negative emotions	12.10%	same as	9.06%
		moderate	2.47%
		altitude	0.57%

Positive emotional aspect. (1) Architectural features. Tourists repeatedly mentioned the history and value of historical and cultural blocks, "qing name bridge is the oldest Wuxi ancient canal, the largest, retain the most complete single hole stone arch bridge", think Jiangnan canal historical and cultural blocks "building of primitive simplicity, quiet environment, with strong Jiangnan local characteristics", on the tourism experience perception "very historical characteristics of ancient buildings, every time to have different feelings, every time sometimes see new feelings"; (2) the cultural landscape. Visitors mention Jiangnan canal historical and cultural blocks cultural landscape, in addition to the "historical and cultural landscape, is the wonderful representation of Oriental culture" "paddle, shadow, ancient bridge, dwellings constitute a picture of the purest ancient canal folk customs water figure" ornamental value, or historical memories, is the representation of collective memory "qing name bridge is the ancient canal history symbol, there is the epitome of traditional life, old Wuxi countless memories".

Negative affective aspects. (1) Cultural activities. The number and types of cultural activities in historical and cultural blocks need to be improved. At the present stage, "all are cruise ship activities"; (2) local society. In historic district interaction between tourists and local residents two voices, one think "residents still live here more real and friendly", another is obvious "adjacent effect", think the existence of local residents "grab" the tourism resources, resistance "on both sides are some residential buildings, the hanging clothes too beautiful" "one side of the river is shops. On one side are residential areas. A lot of ways to get out "; (3) environmental quality. The environmental quality, especially the sanitation environment, needs to be improved. Tourists have repeatedly mentioned that the toilet sanitation "if the details would be better, such as public facilities, clean, public toilets are clean and hygienic", followed by the environmental atmosphere of the historical district "the commercial atmosphere here is a little rampant"; (4) the flow of tourists. "The quality of the tourists is still can't keep up, In just over half an hour's journey, I saw the three groups of garbage floating on the water, "" Because of the many poor quality of the tourists, Very noisy, make a racket, And all the kids running and playing, Some people even shout out on king of Glory ", Secondly, in terms of the tourist path and the flow, Think that the historic district is " too crowded, Basically, it's just a crowded walk, Squdle in and can't get out, Nothing to look at ", And in the flow path of tourists, "The spatial layout of the historical block is unreasonable, There are also stalls on both sides."

Combined with the content of tourists' comments, positive emotions involve architectural features and cultural landscape. Negative emotions mainly involve cultural activities, local society, environmental quality and tourist mobility in historical and cultural blocks, and this conclusion is consistent with the IPA model results.

## **5. STUDY CONCLUSIONS AND RECOMMENDATIONS**

### **5.1 Study conclusions**

Through the analysis of LDA model, this paper found that the image perception of tourism space in the historical and cultural block of Jiangnan Canal mainly focused on three aspects: material space, human space and social space, and formed nine subdivided perception elements. On the basis of further combining IPA model and tourist emotion analysis, it is found that tourist experience is mainly positive, but at the same time, there are also relevant deficiencies in cultural activities, local society, environmental quality and tourist flow.

### **5.2 Development proposal**

First, we should improve the supply of tourism products. First, enrich the product types. Develop diversified and interdisciplinary tourism products, such as tourism, experience and cultural exchange, Including historical and archaeological exhibitions, traditional craft performances, concerts, art exhibitions, opera performances and handicraft fairs, To meet the tourism needs of different age groups and interest tourists; second, Increase the depth of the activity experience, The history, traditional culture, folk customs and other cultural connotations of the historical and cultural blocks are fully integrated into the tourism development, Such as traditional handicraft experience, historical clothing fitting, etc., To enhance tourists' cognition and experience of historical and cultural blocks, Enhance the tourist interaction in the scenic area, Including the interaction between tourists, tourists and the environment, and tourists and local communities; third, Embracing digital technology, Create an interactive experience. By adding digital archives, digital exhibition hall and digital education platform, the history, culture, value and other information of the historical and cultural blocks will be displayed in the form of multimedia to provide interactive experience for tourists.

Secondly, pay attention to community participation and cultural linkage. Remodel the role of community residents in the development of historical and cultural blocks, and enhance their enthusiasm for participation and sharing. First, conduct cultural heritage projects to train local residents to teach traditional crafts and cultural skills to increase their cultural identity and employment opportunities; second, hold regular community activities and cultural festivals, such as community fairs, concerts, and traditional festivals to promote community cohesion and cultural interaction; and establish a public participation mechanism of joint construction and sharing to encourage residents and tourists to participate in the development, protection and management of the historical and cultural blocks of the Jiangnan Canal.

Finally, divert the tourist flow and path. First, optimize the layout and guide of the scenic spots. The direction of walking between tourists can affect the perception of crowding<sup>[6]</sup>. In the spatial layout design can add scattered scenic spots series footpath, try to avoid the phenomenon of visitors. At the same time, in the main road with more people, in addition to creating an open and far-reaching artistic conception, it is necessary to reasonably guide the direction of tourists through the sign, and provide self-service guide equipment such as smart phone applications and guides, so that tourists can explore the scenic area, avoid congestion crowd, and reasonably plan the tour route; second, develop diversified tourist routes. Closely monitor the flow and needs of tourists, and develop diversified tour routes, including historical and cultural routes, ecological adventure routes, food tour, etc., to meet the needs of different tourists.

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