



Research on the Restoration Perception Evaluation of Historical Blocks Along the Inner Mongolia Section of the Middle East Railway Based on Network Text Big Data

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Abstract. Under the information technology, cloud computing technology is gradually emerging. Using big data technology to analyze and process data through cloud computing can further mine information resources and give full play to the value of data resources. Using massive multi-source data as the basis for evaluation, solving the problem of difficulty in the evaluation of the restoration of historical blocks is the key to promoting the research on the restoration of historical blocks. Introduce the concept of restorative environment in the study of historical blocks along the Inner Mongolia section of the Middle East Railway, and select 51,696 online text data from 6 mainstream Chinese online media platforms Ctrip, Tuniu, Fliggy, Tongcheng, Mofang and Weibo as data sources. Through big data processing and analysis, an IPA model is established, and the characteristics of the model are used to evaluate the restoration perception of multiple historical blocks in Inner Mongolia along the Middle East Railway, and propose improvement strategies to explore the impact of the spatial perception restoration of historical blocks along the Inner Mongolia section of the Middle East Railway from the perspective of tourists' experience perception. On this basis, the restoration design inspiration of the historic district is proposed.

Keywords: Big data analytics technology · Smart City · historic district · restorative environment · middle east railway

1 Introduction

At present, the rapid development of information and communication technology and the rapid construction of smart cities, the application of big data to urban research has become a major strategy for urbanization development, and the status of big data in urban research is becoming more and more important. It has functions such as visualization and big data prediction, and affects the innovation of smart city planning concepts and methods. At present, researchers have used big data to conduct a lot of research and discussion on cities, mainly by using social network data such as Twitter, Facebook and Sina Weibo, including geographic location, individual activity information, individual emotional texts, etc. to mine and analyze the foundation. In the past, the internal connection between cities is judged by studying the network activities between cities [6], big data has received a lot of attention in the fields of urban transportation, urban functional area planning, etc., but the research on the utilization of characteristic functional areas and urban infrastructure is still relatively Weak, it is difficult to meet the needs of urban residents, enterprises and the government []. Therefore, it is necessary to use big data analysis techniques to explore a complete urban research framework based on big data so as to realize the wisdom of urban research. Existing studies have proved the restorative effect of historical blocks on the human body [7,10]. Carmen Hidalgo et al. [4] consider that more attractive urban spaces are usually “historical and cultural” places. In the evaluation of the restoration perception of historical blocks, early scholars used questionnaire methods to collect sample data, and combined their own professional knowledge to evaluate historical blocks. Among them, scholars in the fields of landscape architecture, urban planning, architecture, etc. The restorability has been studied in depth. Their research results provide a theoretical basis and empirical evidence for the restorative environmental cognitive mechanism of urban space. For example, Mohamed Elsadek et al. [1] surveyed 364 urban space participants and found that the restoration effect and vitality of the landscape ramp in the walking block were improved, and the trees around the city streets were used as resources to relieve stress and promote the health of urban residents. Ernest Bielinis [5] et al. conducted a controlled experiment on a questionnaire survey of 75 Polish young people and found that the green space environment of the block has a positive effect on the physical and psychological relaxation of the subjects compared with the living in the apartment residential area in the block space. As mentioned above, most of the existing studies conducted questionnaire surveys in a limited population, and the sample size and questionnaire response rate were generally low. In addition, questionnaire surveys will inevitably produce problems such as the high aggregation of sampled data and the limited test population, which may affect the reliability of the results and the scalability of the design strategy. In the Internet age, online platforms allow tourists to express their true feelings and opinions. Compared with questionnaire surveys, the latter can more intuitively and thoroughly understand the perceptions of each tourist’s innermost city destinations. Mobile Internet With the rapid development of the Internet of Things, the use of online media has increased dramatically world-

wide. Every day, tens of millions of users generate tens of millions of data on online platforms such as Ctrip, Fliggy, and Tuniu. Researchers mine these data to help reveal user behavior patterns and social phenomena without violating moral constraints. In addition, network media data is not limited by sample size, time and space, and has the advantage of eliminating non-response bias [3]. In existing studies, previous studies have confirmed the value of these data in restorative environmental research. For example, Stephanie Wilkie et al. [9] use Twitter with 5,624 data texts in this document serve as data support to verify the restorative environmental characteristics of the urban green space landscape. Using Attention Recovery Theory (ART) as a framework for content analysis of tweets. Four characteristics of attention recovery are explored: distance, fascination, compatibility, and abundance. The study found that tweets most often refer to obsession or compatibility, but less than 5% of tweets indicate distance, and restorative environmental characteristics are analyzed through text data. In view of the advantages of these research methods and the existing research foundation, this study uses the text data of China's six mainstream online media platforms to analyze the restorative influencing factors and important characteristics of its historical districts through the data.

At the same time, considering that restorability is a psychological content that is difficult to measure through quantitative methods, this article needs to introduce a bottom-up qualitative research method. Grounded Theory [2] is a qualitative research method based on empirical data. It extracts initial concepts through subjective perception or evaluation, clusters them through coding analysis, and obtains the final result after screening and optimization. Good applicability. Therefore, this article first obtains the factors that affect spatial resilience through grounded theory; then conducts statistical analysis of network text data, establishes a data model to explore the universality and difference of the factors' impact on spatial resilience, and finally derives the spatial resilience design based on the influencing factors Enlightenment.

2 Materials and Methods

2.1 Study Area

The study area was selected as the historical district along the Inner Mongolia section of the Middle East Railway (Fig. 1). The total length of the Middle East Railway is 2489.20 km. The Inner Mongolia section of the main trunk line starts from Manzhouli and passes through Hailar, Zhalai Nuoer, Yakeshi, Boketu, Zhalantun, etc., which contains a complete historical block area along the railway line. The historical buildings of the Middle East Railway include the church in Manzhouli, the Tsarist Russia prison exhibition hall b, the expert building and its water tower a, the woodcut in the north area, the history museum d in Zhalai Nuoer, the old railway station e, the coal pit f, and the railway station in Yakeshi n. Water tower o, the century-old machine garage i in the blog picture, the former site of the police station g, the former site of the Czarist Russian Route Guard headquarters h, the historic buildings on Shuiyuan Street, the office of

the centennial section chief, the former site of the 8172 Army, and the site of Zhalantun Suspension Bridge Park j, the former residence site of Tsarist Russian executives k, the Six Nations Hotel i, the Puppet Hingan East Provincial Historical Exhibition Hall m, the Middle East Railway History Research Society, etc. The historical block contains a large number of cultural relics protection units, historical buildings and traditional buildings, and block space It is also unique, which makes this multicultural historical district extremely advantageous.

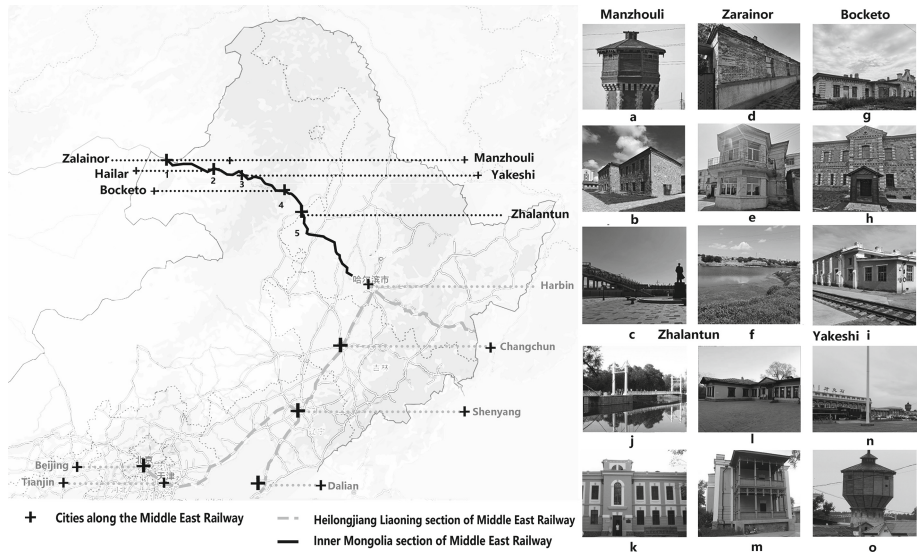


Fig. 1. Historic District along the Inner Mongolia Section of the Middle East Railway

2.2 Materials and Methods

The main process of this research includes: (1) Collecting and sorting out the network text data related to the historical blocks of the Inner Mongolia section of the Middle East Railway; (2) Based on the grounded theory, the basic elements of the historical block space are obtained from the text data clustering category; (3) Determine the spatial restorative perception elements of historical blocks through data text analysis; (4) Explore the universality and difference of the impact of the elements on the spatial restorability; (5) Finally, the IPO model is used to evaluate the relative importance of each influencing factor to analyze; (6) Analyze and interpret the results. Finally, according to the influencing factors, the enlightenment of spatial restoration design is derived, and the workflow is shown in Fig. 2.

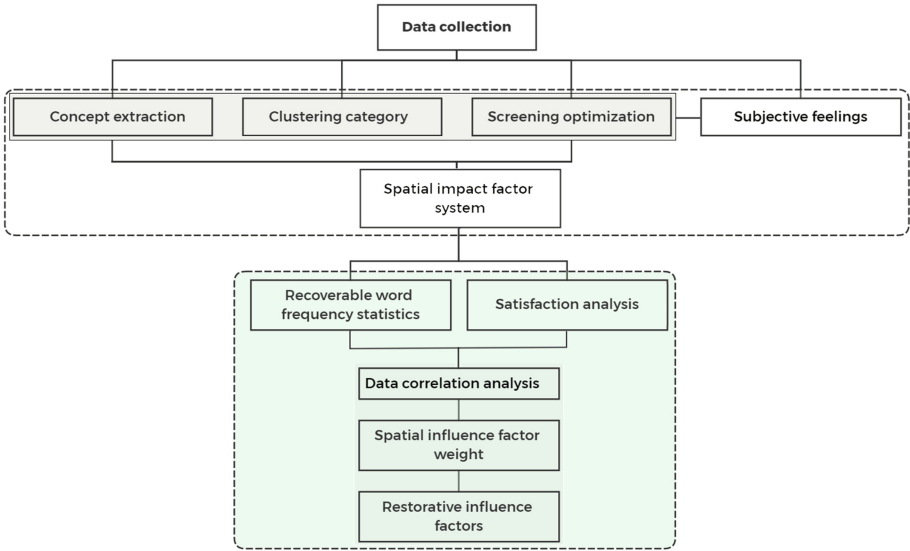


Fig. 2. Data processing and analysis process.

2.3 Data Acquisition and Preprocessing

Data Acquisition. Select [Qunar.com](#), [Ctrip.com](#), Weibo, [Tongcheng.com](#), Mofang, Fliggy Travel and other software to crawl the travel notes and travel evaluation text content of historical districts along the Middle East Railway Inner Mongolia. In the relevant content of travel notes and evaluations, relevant travel notes and evaluations are retrieved, and pure pictures without text and pure scenic introductory text are removed, and the final travel notes and evaluations are obtained. These travel notes describe the travel experience and impressions of tourists in the tourist destination, Mainly including text and pictures, only extract the text content, and copy all the text content to the csv file for content analysis. Statistics on the search results, an example is shown in the following Table 1:

Collect information about the “historical districts along the Inner Mongolia section of the Inner Mongolia section of the Middle East Railway” in the travel notes and evaluation columns of the six major online travel network platforms, and set the three elements of the visitor’s net name, release time, and content for each review of each travel note. After the information is collected successfully, it will be exported and summarized in the form of “Travel Notes of Historic Districts along the Middle East Railway Inner Mongolia.xlsx” or “Evaluation of Historic Districts along the Middle East Railway Inner Mongolia.xlsx”.

By using tools to capture webpage data and accurately identify various webpage elements in batches according to the collection needs of the corresponding topics, the online travel notes published by users of major domestic websites include information such as travel, food, accommodation, sightseeing, shopping,

and entertainment. This article mainly uses relevant important nodes (main research samples) of historical blocks along the Inner Mongolia section of the Middle East Railway as search keywords, and obtains relevant online travel notes and relevant scenic spots evaluations as initial samples. First, preprocess the text: delete blank lines, Chinese and English characters, numbers, irrelevant content, etc. Irrelevant content includes: travel notes containing content of other unrelated scenic spots; advertising posts that have nothing to do with the research content; secondly, combined with the context of the text, summarize and merge related descriptions of tourist sites, scenic spots, and activities with similar meanings. For example: the names of related scenic spots in Manzhouli, Tsarist Russia prison, water tower, church, and the description of travel notes with similar meanings are merged.

Since the collected network text data may have defects such as duplication and deviation from the theme, in order to ensure the scientificity and rigor of the research results, these text data are manually screened, and the rules are as follows:

- Fix the problem of missing characters and typos. Combining context, correct and supplement obvious typos and omissions. For example, “underdeveloped shopping” is revised to “underdeveloped shopping”, and “full of people in the mountains” is revised to “full of”, etc.
- Delete meaningless content. Visitors are less constrained when sharing the evaluation of online travel notes, so the content is relatively free and free. After reading the text, it is found that some of the content does not revolve around the main historical block, mainly including: a. The text is not correct and the topic b. It has nothing to do with the research theme or content. Advertisements c. Tourist destinations are miscellaneous and d. The content is irrelevant and blank and other meaningless content. After carefully reading the texts one by one, 143 repetitive and invalid travel notes were eliminated, 294 posts were evaluated, and 51,696 valid evaluations were finally obtained.

Code Analysis. First, open coding: decompose the original sentence, code and label the extracted keyword sentences, and generate the initial concept samples and categories of the influential elements. Import 51696 sample transcripts into Nvivo11 software for encoding. After labeling and conceptualization, the initial concepts are mined, and elements that are not related to space are eliminated. The initial concepts are clustered into 6 main categories based on similarity, causality, etc., and then The main categories are connected together through the canonical model to form the core category. The initial concept, main category, and core category together constitute the spatial impact factor system. The system includes 6 core categories: scale, traffic accessibility, activity support, natural characteristics, cultural heritage, and emotional elements, which are divided into 13 s-level subcategories and 30 third-level subcategories (Fig. 3).

2.4 Extraction of Important Factors Based on Data Analysis

The grounded theory has preliminarily determined the spatial influence elements, but the content of the data article is vague and complicated. In order to obtain the degree of influence of the restoration of each element more accurately, further analysis and processing of the text data is required. On the one hand, it analyzes the proportion of word frequency statistics, establishes the standard of restorative lexicon, classifies the three-level category text to obtain 30 txt format text files, and sequentially measures the four categories of rich, compatible, distant, and charming texts. The factor is the framework for restorative word frequency statistics, and the percentage of vocabulary frequency in the total vocabulary is used as the restorative value. On the other hand, sentiment analysis is performed on the text and the sentiment score of high-frequency vocabulary is used as the satisfaction value. Establish an IPA model and use the characteristics of the model to evaluate the degree of influence of the above elements on the restoration of different perception elements in the historic district (Figs. 4 and 5).

Data Analysis Strategy. The spatial resilience measurement uses the Chinese version of the Healing Environment Scale compiled by Ye Lihong in 2010 as a framework for network text statistics. The percentage of the restorative high-frequency vocabulary in the total high-frequency words is taken as the resilience value of the high-frequency words, including 4 A measurement factor [9], the statistical results are shown in Table 3. Spatial element satisfaction uses ROST CM software to do sentiment analysis, and then refer to the University of Michigan SRC index compilation method [10], the difference between the number of words in positive emotions and the number of words in negative emotions is A, and the number of words in positive emotions is sum The sum of the number of words in negative emotions is B, and the satisfaction of high-frequency words is $X(X = A/B)$; Analyze the evaluation of restorative perception elements in the historical districts of the Middle East Railway, and select the Middle East from March 2020 to March 2021 Crawling of travel post data related to the historical blocks in the Inner Mongolia section of the railway. It mainly includes: 12,675 Feizhu websites, 1995 Mofang websites, 4967 Qunar websites, 5,415 Tongcheng websites, 1508 Xiecheng websites, 25136 Weibo posts, with a total of 51696 comments of 2398912 words.

Text Data Analysis. Integrate all the collected comment information into one document, perform word segmentation and word frequency statistics in the ROST CM6.0 software, and manually filter out irrelevant words. First, use the 30 indicators of the three-level category as the standard for text data Comment statistics, summarized into 30 text files corresponding to the indicators, and classify the three-level category text to obtain 30 txt format text files. In turn, perform word frequency statistics on the category text with the four measurement factors of rich, compatible, distant, and charming. Taking the vocabulary

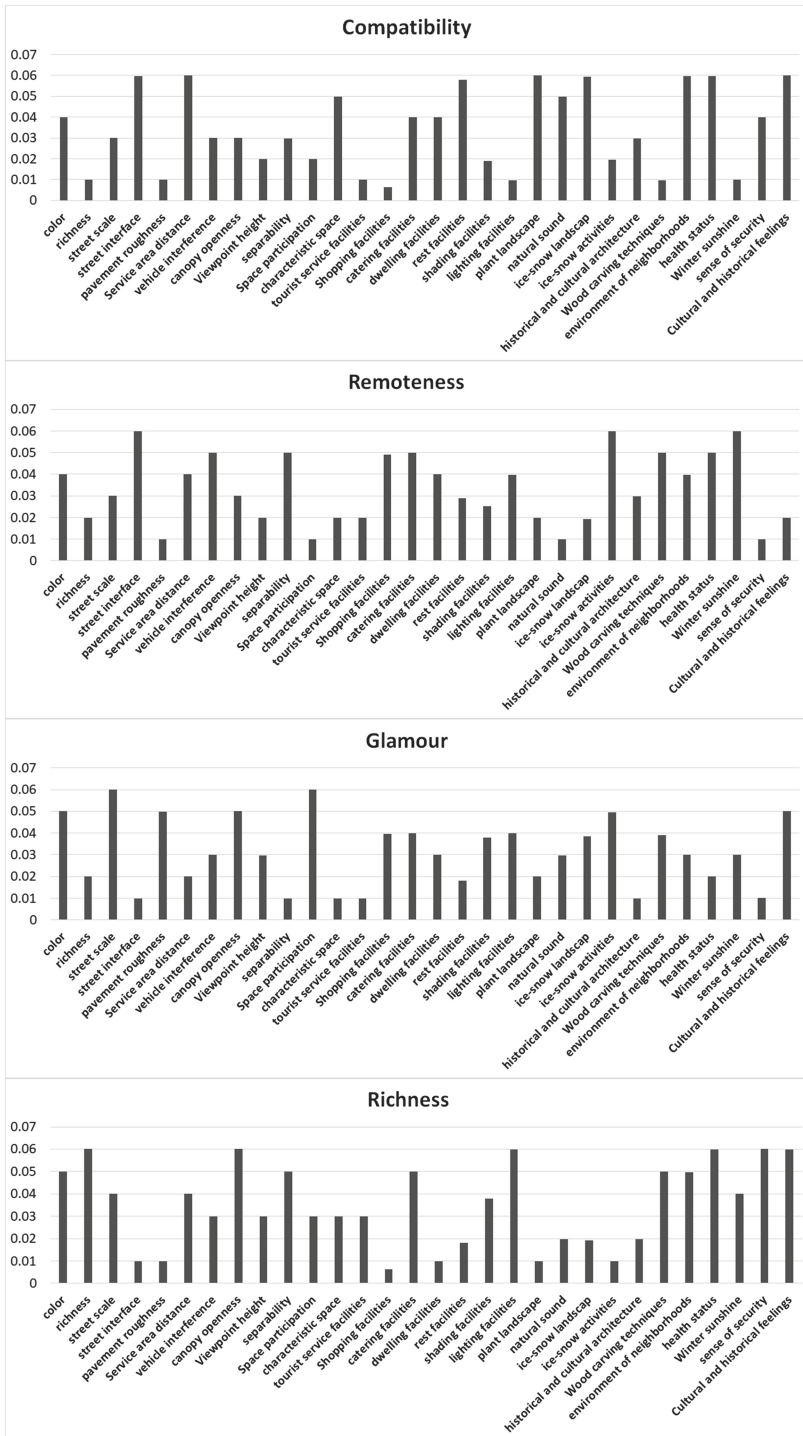


Fig. 3. Statistics of importance proportion.

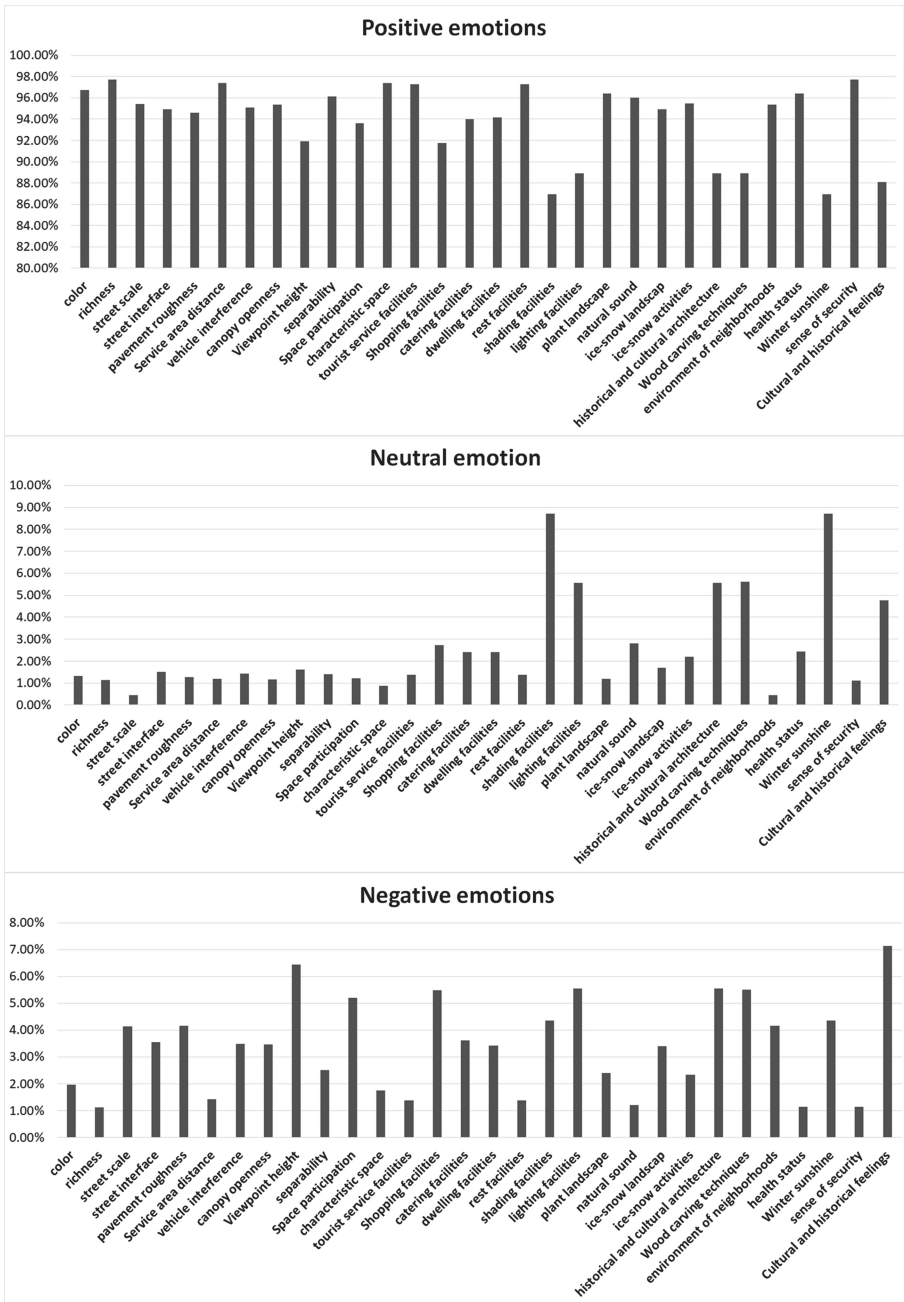


Fig. 4. Statistics of satisfaction ratio.

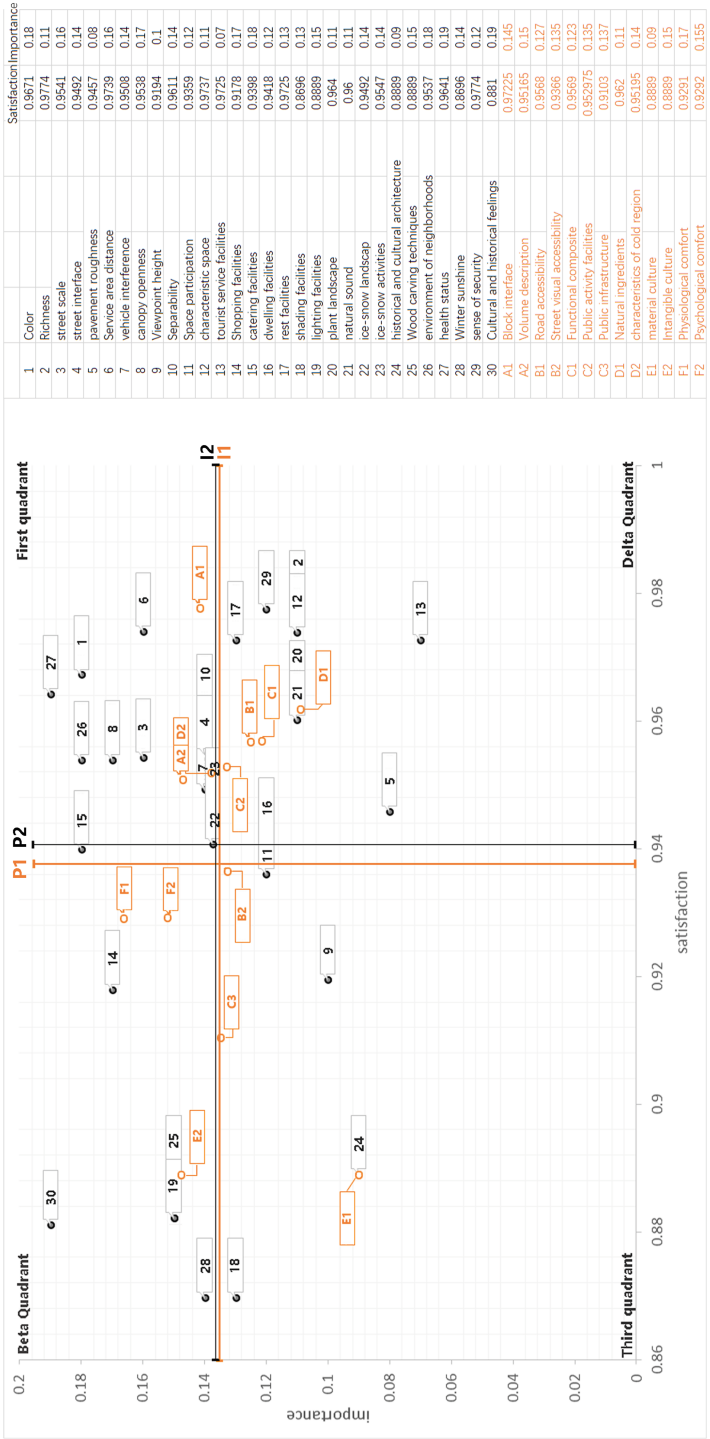


Fig. 5. IPA model.

frequency as the percentage of the total word segmentation vocabulary as the importance value, and dividing the extracted high-frequency vocabulary into six categories: scale, traffic accessibility, activity support, natural feature vocabulary, cultural heritage vocabulary, and emotional element. Statistics, the results are shown in (Table 2). Collection of travel notes and comments related to the historical districts along the Inner Mongolia section of the Middle East Railway through the Internet, sorted and summarized tables according to frequency. The word with the highest frequency symbolizes the most attractive features of the historical district, while the lower frequency indicates that tourists are not interested in it and need to be rectified accordingly. Based on the statistical results, the historical district can be effectively located on the basis of restorative characteristics (See Fig. 3).

IPA Model Analysis. The IPA model [8] is the “importance-performance” analysis method jointly proposed by Martilla and James. The analysis principle is that the degree of customer satisfaction with the product or service is related to the company’s emphasis on the attributes of the product or service, so as to continuously improve the improvement of the product or service quality.

Taking the importance of high-frequency words as the X -axis and the satisfaction of high-frequency words as the Y -axis, an IPA model was established, and the model results (Table 4) are used to analyze the pros and cons of the historical block update and restoration evaluation.

3 Research Results and Analysis

After statistical analysis of the data obtained by SPSS2.0, the average value of the importance of the secondary category is 1.36, and the average value of the satisfaction is 0.936, that is, $I1 = 1.36$ and $P1 = 0.936$, forming a vertical intersection of the X -axis and the Y -axis Point, establish the IPA model, the model is divided into four quadrants (Fig. 6).

The average value of the three-level category importance is 0.1359, and the average value of satisfaction is 0.9375, that is, $I2 = 0.1359$ and $P2 = 0.9375$, which form the vertical intersection of the X -axis and the Y -axis, and establish the IPA model. The model is divided into four quadrants.

The first quadrant is the continued maintenance area. The second-level category indicators include block interface, volume description, and cold area characteristics. The third-level category indicators include color, street scale, street interface, vehicle interference, visual openness, There are 9 options, physical environment of the block, and sanitary conditions. According to the characteristics of the IPA model, the satisfaction and importance of these indicators are higher than the average, and they play an important role in the development of the historical districts along the Inner Mongolia section of the Middle East Railway. They are the potential for the development of historical districts, so these indicators need to be maintained and improved on the basis of maintaining the status quo.

Table 1. Summary of important notations

Root Category	Sum W.F.	Subcategory	Word Frequency	Child Category	Word Num.	Faraway	Charming	abundant	Compatibility	W.F.		
A Scale	0.59	A1 Street	0.29	Color	4060	162	203	203	162	0.18		
				Diversity	27672	553	553	1660	276	0.11		
		A2 Size	0.3	Street Size	28074	842	1684	1122	842	0.16		
				Street Front	5149	308	51	51	308	0.14		
B Traffic Accessibility	0.65	B1 Accessible	0.38	Street Smooth	6516	65	325	65	65	0.08		
				Service Distance	12310	492	246	492	738	0.16		
				Vehicle Interference	29293	1464	878	878	878	0.14		
		B2 Street Visual Accessible	0.27	Horizon Level	33024	990	1651	1981	990	0.17		
				Viewpoint Height	4191	83	125	125	83	0.1		
		C Activity Support	1.32	C1 Function Composite	0.37	Choosability	5499	274	54	274	164	0.14
Spatial Participation	13254					132	795	397	265	0.12		
Personalized Space	4459					189	44	133	222	0.11		
Tourist Service Facilities	5415					108	54	162	54	0.07		
C2 Public Facilities	0.54			Shopping Facilities	857	42	34	34	34	0.17		
				Catering Facilities	2388	119	95	119	95	0.18		
				Residence Facilities	5959	238	178	59	238	0.12		
				Rest Facilities	276	8	5	5	16	0.13		
C2 Public Infrastructure	0.41			Sunshade Facilities	158	4	6	6	3	0.13		
				Lighting Facilities	1958	78	78	117	19	0.15		
D Natural Feature	0.5			D1 Natural Ingredients	0.22	Plants Landscape	26078	521	521	260	1564	0.11
						Natural Sounds	3832	38	114	76	191	0.11
		D2 Cold Region Characteristics	0.28	Snow-ice Landscape	573	11	22	11	34	0.14		
				Snow-ice Activities	1434	86	71	14	28	0.14		
Cultural Inheritance	0.24	E1 Material Culture	0.09	Historical Buildings	2113	63	21	42	63	0.09		
		E2 Non-Material Cultural	0.15	Woodcut Construction Techniques	822	41	32	41	8	0.15		
F Emotional Factors	0.82	F1 Physical Comfort	0.51	Block Physical Environment	1508	60	45	75	90	0.18		
				Sanitary Conditions	3913	195	78	234	234	0.19		
				Winter Sunshine	4602	276	138	184	46	0.14		
		F2 Psychological Comfort	0.31	Security Sense	1500	15	15	90	60	0.12		
				Historical Culture Sense	5946	118	297	356	356	0.19		

Table 2. Summary of important notations

item	positive emotion	neutral emotion	negative emotion	item	positive emotion	neutral emotion	negative emotion
color	96.71%	1.32%	1.97%	dwelling facilities	94.18%	2.40%	3.42%
richness	97.74%	1.13%	1.13%	rest facilities	97.25%	1.37%	1.37%
street scale	95.41%	0.46%	4.13%	shading facilities	86.96%	8.70%	4.35%
street interface	94.92%	1.52%	3.55%	lighting facilities	88.89%	5.56%	5.56%
pavement roughness	94.57%	1.27%	4.17%	plant landscape	96.40%	1%	2.40%
Service area distance	97.39%	1.19%	1.43%	natural sound	96.00%	2.80%	1%
vehicle interference	95.08%	1.43%	3.48%	ice-snow landscape	94.92%	1.69%	3.39%
canopy openness	95.38%	1.16%	3.47%	ice-snow activities	95.47%	2.20%	2.33%
Viewpoint height	91.94%	1.61%	6.45%	historical and cultural architecture	88.89%	5.56%	5.56%
separability	96.11%	1.39%	3%	Wood carving techniques	88.89%	5.61%	5.50%
Space participation	93.59%	1%	5.20%	environment of neighborhoods	95.37%	0.46%	4.17%
characteristic space	97.37%	0.88%	1.75%	health status	96.41%	2.44%	1.15%
tourist service facilities	97.25%	1.37%	1.37%	Winter sunshine	86.96%	8.70%	4.35%
Shopping facilities	91.78%	2.74%	5.48%	sense of security	97.74%	1.12%	1.14%
catering facilities	93.98%	2.41%	3.61%	Cultural and historical feelings	88.10%	4.76%	7.14%

The second quadrant is the over-supply area. The second-level category indicators include intangible culture, psychological comfort, and physical comfort. The third-level category indicators include cultural and historical sense, shopping facilities, catering facilities, lighting facilities, and woodcarving craftsmanship. There are a total of six winter sunshine. According to the characteristics of the IPA model, it shows that the satisfaction of these high-frequency words is higher than the average, and the importance is lower than the average. The praise of historical blocks is far greater than the estimated value, and more in-depth values of such indicators should be tapped.

The third quadrant is the area with lower priority. The second-level category indicators include E2 intangible culture, street visual accessibility, and public infrastructure. The third-level category indicators include viewpoint height, spatial participation, shading facilities, There are a total of four historical and cultural buildings. According to the characteristics of the IPA model, people’s attention to these indicators is not high, and long-term plans need to be formulated to gradually improve people’s awareness of the intangible culture of historical blocks, the visual accessibility of historical blocks, and historical blocks. A sense of identity in public facilities.

The fourth quadrant is to strengthen the improvement of key areas. The second-level category indicators include street and pavement accessibility, functional composite, public activity facilities, and natural components. The third-level category indicators include richness, road surface smoothness, and personalized space. There are nine tourist service facilities, rest facilities, plant landscape, natural sound, and sense of security. According to the characteristics of the IPA model, it reflects that people have a high degree of attention to these words and low satisfaction, and need to improve the road to reach; increase the block Functions; increase and upgrade public facilities; increase natural landscape elements to improve space quality.

Table 3. Summary of important notations

1 st category	2 nd category	Average value of satisfaction	importance value	3 rd category	satisfaction value	importance value
A Scale form	A1 block interface	0.97225	0.145	color	0.9671	0.18
				complexity	0.9774	0.11
	A2 volume description	0.95165	0.15	street scale	0.9541	0.16
				street interface	0.9492	0.14
B Traffic accessibility	B1 Street pavement accessibility	0.9568	0.127	road surface roughness	0.9457	0.08
				service area distance	0.9739	0.16
				vehicle interference	0.9508	0.14
	B2 Street visual accessibility	0.9366	0.135	visual openness	0.9538	0.17
				viewpoint height	0.9194	0.1
				optionality	0.9611	0.14
C Activity support	C1 Function composite	0.9569	0.123	spatial participation	0.9359	0.12
				personalized space	0.9737	0.11
				tourist service facilities	0.9725	0.07
				shopping facilities	0.9178	0.17
	C2 Public event facilities	0.952975	0.135	dining facilities	0.9398	0.18
				residential facilities	0.9418	0.12
				rest facilities	0.9725	0.13
	C3 Public infrastructure	0.9103	0.137	shading facilities	0.8696	0.13
				lighting facilities	0.8889	0.15
				plant landscape	0.9640	0.11
D Natural characteristics	D1 natural ingredients	0.962	0.11	natural sound	0.9600	0.11
				ice-snow landscape	0.9492	0.14
	D2 regional characteristics of cold regions	0.95195	0.14	ice-snow activities	0.9547	0.14
				historical and cultural buildings	0.8889	0.09
E Cultural heritage	E1 material culture	0.8889	0.09	woodcut craftsmanship	0.8889	0.15
	E2 intangible Culture	0.8889	0.15	block physical environment	0.9537	0.18
				health condition	0.9641	0.19
F Emotional element	F1 physical comfort	0.9292	0.17	winter sunshine	0.8969	0.14
				sense of security	0.9774	0.12
	F2 psychological comfort	0.9292	0.155	sense of cultural history	0.8810	0.19

3.1 Natural Restoration Design Based on Natural Components

For spaces that already have green resources or have the conditions to create a virtual green environment: green plants, natural sounds, seasonal landscapes and other natural components should be used as the core elements to trigger restoration. The element information in this part reflects that people have a high degree of attention to it, but low satisfaction, so it is necessary to focus on solving the problems in this area. Specific measures should focus on improving the quality of the landscape sketches, and the introduction of ice and snow sculptures to activate the restoration function of the winter space to make up for the restoration defects caused by the scarcity of vegetation species and the short green vision cycle.

In the outdoor environment, add a node space with suitable virtual reality and a certain green view rate of the opening to block unfavorable weather and noise interference, and provide a place for tourists to interact with the outdoor nature. Secondly, optimize the landscape facilities, promote the interaction between the individual and the space, increase participation, ensure the individual's physical comfort and security, and extend the experience time. Finally, for natural landscape space, on the basis of improving path accessibility, more attention should be paid to visual accessibility, so as to maximize its recovery ability.

3.2 Artificial Restoration Design Based on Activity Attraction

For spaces with entertainment, public exhibitions, etc. as their main functions, the activities carried by the body can be completed without the use of directional attention. When an individual engages in such activities, the brain is quickly occupied by rich information, and the stressful event is temporarily forgotten, so that non-directed attention is activated. Therefore, maximizing support for multiple activities is the key to the restoration of this type of space.

First of all, it is necessary to ensure the adequacy and perfection of activity facilities, and control the density of people flow to avoid the psychological discomfort caused by the overcrowding. Secondly, establish a complete outdoor climate shelter system to create a relatively suitable physical environment for individual travel and outdoor activities in winter, and enhance the accessibility of indoor activity spaces. In addition, ice and snow sports facilities can be introduced to create an activity experience with characteristics of cold regions.

3.3 Supportive Recovery Design Based on Multiple Choices

For the space with sightseeing and rest as its main functions, the activities carried by it are the main source of attention recovery. As far as the same activity is concerned, different individuals will differentiate their needs according to their preferences. The support and respect for individual needs can improve the compatibility between the user and the activity to a certain extent, that is, reduce the "unwillingness" in the brain. Do it" idea. Therefore, refining the main functions,

mining sub-functions that support multiple choices, assigning sub-functions to unit functional components, and incorporating the form of unit space into the overall space are the main strategies for this type of space restorative design. At the same time, it can appropriately embellish the environmental features that can cause directional attention to temporarily rest, such as potted plants, artistic murals, light and shadow changes, etc., to provide the brain with mental content that is different from learning and work, and promote recovery.

3.4 Aesthetic Restoration Design Based on Perception Experience

Spaces in historical blocks with deep cultural connotations or strong artistic atmosphere, such as exhibition halls, historical museums, historical ancient buildings, etc., not only contain entertainment activities, but also have aesthetic spatial content, and the form is limited by functions, and the architectural aesthetics Value can be more easily displayed and displayed. Therefore, this kind of space should focus on strengthening the aesthetic experience, and on the basis of the beauty of the form, give the space a humane connotation that can be interpreted, expand the breadth of the individual brain's interpretation of the space, and establish the emotional connection between the individual and the environment. Specifically, it can be through deepening the existing historical and cultural background, or creating symbolic sign language, or through the logical connection of sequences to achieve the function of space "narration", depicting a scene and telling a story; it can also be through exhibits or interior The decoration renders the sense of future technology and triggers psychological content different from the current environment.

4 Conclusion

The Inner Mongolia section along the Middle East Railway is a well-known scenic spot with local characteristics, with a profound cultural heritage and numerous attractions. However, the evaluation and optimization strategies for the recovery perception of the block are always inaccurate. This article starts with the subjective feelings of tourists, aims to improve the attention recovery function of historical districts, and uses grounded theory as the basis to explore relevant influencing factors using network text analysis. The research finally drew 30 spatial impact evaluation elements, and deduced the degree of influence of spatial elements in the space of historical districts. The data statistics are large and the analysis results are more accurate. From this, the "Evaluation of Historic Districts Along the Middle East Railway Inner Mongolia" is derived. Restoration evaluation and satisfaction score. Based on this data analysis, the IPO score of the historic district of the Middle East Railway is carried out, and finally the restoration influence factor system of the historic district space is established, and the restoration design enlightenment is proposed to expand the influence and attraction of the historic district force. The research results can be used to guide the design of historic districts, to achieve the goal of improving tourists'

life pleasure and mental health, and to facilitate the perception and evaluation of the restorative environment of historic districts. The research method based on network data analysis in this paper can provide a good reference for restorative perception evaluation of other historical blocks.

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