

# ***Research on Tourist Perception of Shuanglong Lane Historical and Cultural Block Based on Web Text Analysis***

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**Abstract:** This study uses a big data network text base, based on the cognitive-sentiment model, to perform content analysis techniques such as word frequency analysis, semantic network analysis and sentiment analysis on tourists' comments, and ultimately obtains tourists' comprehensive perceptual intentions towards Shuanglong Lane neighbourhoods, which provides a new way of thinking for the study. The findings suggest that the focus should be on the advantage of characteristic resources, create a business model with experience business as the core, enhance the function of the block business, and at the same time, retain the original lifestyle of "old Kaifeng", which is rich in fireworks, so as to activate the vitality of the block.

**Keywords:** Shuanglong Lane, historical and cultural block, online text analysis, tourist perception

## **1. Introduction**

In recent years, with the development of urban tourism and the expansion of the industry, the tourism function of historical and cultural blocks has gradually come to the fore, and is favoured by tourists [1]. The perceived intention of tourists in the block is very important for tourism development, which can target the solution of site problems and meet the emotional and experiential needs of tourists, thus activating the vitality of historical and cultural blocks, and promoting the renewal and protection of the block [2]. However, a series of problems faced by historical and cultural blocks in the renewal process have negatively affected both the protection of historical and cultural resources and tourists' perceptions. Therefore, the study of tourists' perceived intentions towards historical and cultural blocks is an urgent problem to be solved at present.

With the popularity of the Internet, a large amount of data centred on tourists' own real travel experiences are shared on the Internet through photos, short videos, etc., which provides a new way to study the perceived imagery of tourist destinations [3]. Online comment data has the advantages of large sample size of comments and longer time span of comment coverage, which can be used as a supplement to traditional research methods to a certain extent. Currently, methods based on online review data to explore tourists' perceptions have been applied in the renovation and renewal of old cities, the conservation and use assessment, etc. [4].

This paper focuses on the study of tourists' preference and perception of Kaifeng Shuanglong Lane using tourists' network review big data to predict the tourists' intention to select sustainable tourist destination, so as to provide reference for the the construction of historical block.

## 2. Research Design

### 2.1. Overview of the Case Site

Shuanglong Lane from the north of the East Inner Ring Road, west to the north exit of Beixing Street, 850 metres long and 9 metres wide. Throughout the ages, there have been celebrities and high priests living here [5]. Officially opened in January 2020, positioned as “the most Chinese, the most Central Plains, the most Kaifeng,” the integration of culture, commerce and tourism new landmark, quickly became a “net red card place” [6]. At present, there are a lot of data reviews about Shuanglong Lane on the Internet, which is suitable as a case study of the perception of tourists’ intentions.

### 2.2. Data Collection and Processing

The popular Dianping is a highly recognised online review software. Through the page search Kaifeng “peripheral tour” to collect sample data, the use of network crawler tools to crawl the evaluation information of the historical and cultural district. Crawling time period for the 19th of October 2019 to 31st of August 2023, the collection of category including review text content, evaluation star rating (1~5 stars), evaluation time, the study crawled a total of 247 original reviews of the article, after proposing the missing information of the reviewer and invalid comments, getting the valid review article, a total of 20,143 words.

### 2.3. Research Methods and Ideas

With the help of “word frequency analysis” and “social network and semantic network analysis” tools in ROSTCM6. Firstly, the crawled data are cleaned and organised, and secondly, ROST ContentMining is used to perform lexical processing and identify the high-frequency feature words of Shuanglong Lane, so as to obtain the overall impression of tourists’ perception of Shuanglong Lane. Next, the high-frequency feature words are graded and sorted, and the samples are coded according to the content. Finally, the visitor perception intention of Shuanglong Lane is evaluated, so as to take some suggestions on the renewal of historical and cultural blocks.

## 3. Research Analyses and Results

### 3.1. Analysis of High-frequency Words in Evaluation Data

The top 100 high-frequency words are obtained as shown in Table 1. From the lexical point of view, the high-frequency words mainly contain nouns, adjectives and verbs. Nouns are mainly place names, buildings, characters, attractions, etc.; adjectives mainly express visitors’ feelings about the impression of the Shuanglong Lane neighbourhood and its environment; verbs mainly reflect the activities that tourists participate in, such as taking pictures, hitting the card, and strolling around.

Table 1: Ranking of the top 100 high-frequency words in web texts.

So	Keywor	Freque	So	Keywo	Freque	So	Keywo	Freque	So	Keywo	Freque
1	Shuangl	202	26	celebri	25	51	Beautif	12	76	dragon	7
2	Kaifeng	185	27	flavour	25	52	industr	12	77	go for	7
3	Lane	145	28	repair	24	53	lively	12	78	either	7
4	histories	130	29	freewa	23	54	Ancest	11	79	Visit	7

Table 1: (continued).

5	culture	11	3	remould	2	5	daytime	1	80	Heritage	7
6	Song	10	3	snacks	2	5	night market	1	81	Comfortabl	7
7	emperors	82	3	go sightseeing	2	5	civilised	1	82	Not open	7
8	street	77	3	fewer tourists	2	5	bazaars	1	83	lighting	7
9	local	65	3	unfrequented	2	5	gatehouse	1	84	lanterns	7
1	former	55	3	Brother	1	6	Henan opera	1	85	alley	7
1	old	51	3	interesting	1	6	nightscape	1	86	One Hour	7
1	architectur	50	3	concrete	1	6	feeling	1	87	Fridays	7
1	at night	49	3	shops	1	6	Famous	1	88	first lane	7
1	Take a	41	3	Live	1	6	Not large	1	89	memorise	7
1	residence	43	4	Story	1	6	Zhang fang	9	90	landscaping	7
1	retention	40	4	tradition	1	6	guesthouse	9	91	hot place	6
1	Check in	37	4	environment	1	6	make a film	9	92	niche	6
1	Sight	34	4	characterisatio	1	6	quietly	9	93	Du	6
1	exploit	45	4	commercial	1	6	Emperor of	9	94	café	6
2	Zhao	32	4	street stall	1	7	performance	8	95	weekends	6
2	China	31	4	have a strll	1	7	playground	8	96	transport	6
2	Zhao	30	4	lively	1	7	Not fun	8	97	convenienc	6
2	atmosphere	30	4	not open	1	7	The first	8	98	hotels	6
2	deserve	26	4	Intangible	1	7	statue	7	99	ticket	6
2	historical	25	5	hanfu	1	7	Bar	7	10	old ways	6

### 3.2. Cognitive Analysis of Historical and Cultural Neighbourhoods

#### 3.2.1. Content Analysis

After analysing and sorting out the above high-frequency words, the initial classification is 15 related words. After sorting and summarising, 8 primary general terms were extracted, which are “material resources”, “intangible resources”, “leisure activities”, “business mode”, and so on. Finally, the eight sub-categories were further summarised into three main categories, namely “cultural resources”, “activity experience” and “impression of block atmosphere”.

#### 3.2.2. Research Results

According to the above high-frequency word combing division, the statistical results are shown in the Table 2.

Table 2: Classes of cognitive intention analysis of Shuanglong Lane.

main category	Number of	subcategory	Number of
cultural awareness	36.9	material resources	17.8
		Intangible resources	12.6
		historical person	6.5
Activity Experience	11.2	leisure and	6.1
		Industry Experience	5.1
		Overall atmosphere	12.6
Impressions of the neighbourhood atmosphere	51.7	emotional feeling	15.0
		Location	24.1

### (1) Cultural Resource Cognition

As can be seen from the chart, the frequency of high-frequency words in the category of cultural resources cognition is 36.9%, of which the material resources attributes account for the highest proportion. The streets and lanes and buildings are mentioned the most, indicating that tourists have a better understanding of the iconic landscapes of the Shuanglong Lane Historical and Cultural District, and pay less attention to details of the neighbourhood landscapes and architectural decorations, which only account for 5%, e.g. Figure 1.

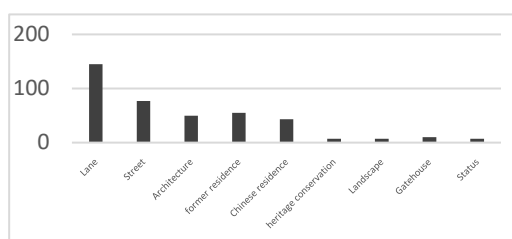


Figure 1: Statistics of material resources.

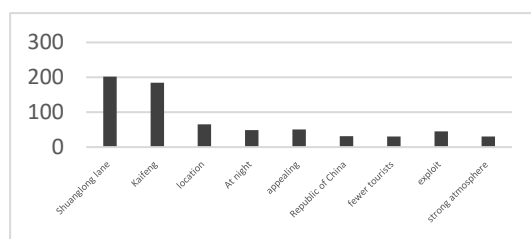


Figure 2: Visitor perception statistics for Shuanglong Lane.

Visitors' awareness of the intangible resources of the neighbourhood is second only to the material resources, with a frequency of 12.6%. The sensitivity of tourists to the terms "history" and "culture" is high, with a frequency of 130 and 115 times respectively, indicating that tourists identify with the historical and cultural background of Shuanglong Lane [7].

Tourists have the lowest awareness of historical figures, with a frequency of only 6.5 percent. Most tourists are familiar with the terms "Zhao Kuangyin". But there are also many heroic deeds during the revolutionary period, which together created the glorious history of Shuanglong Lane [8].

### (2) Activity experience

Tourists' perception of the activity experience of Shuanglong Lane is mainly reflected in the aspects of leisure and entertainment and business experience. Most tourists choose to "take pictures" or "casually stroll", and there are only a few "performances" and "games" in the evaluation of other activity forms, which can be seen that the neighbourhood activities in the form of a single, less activity content, the lack of activation of tourists to participate in interactive experience projects.

Industry experience is an important link to activate the consumption ability of tourists and drive the vitality of the neighbourhood. In the figure, it can be found that industry attributes are mainly concentrated in the "stall economy", "night economy" and "experience economy", but they do not leave a deep impression on tourists.

### (3) Overall atmosphere impression perception

The high-frequency words in the category of atmosphere impression accounted for the highest proportion, 51.7%. This category is mainly divided into three aspects: overall atmosphere, emotional feeling and location recognition. Among them, tourists have the highest degree of recognition of the location of Shuanglong Lane, which leaves a deep impression on tourists, e.g. Figure 5. The word "Shuanglong Lane" appears as many as 202 times, compared with labels such as "Republic of China"

and “Old Town”. Compared with labels such as “Republic of China” and “old city”, tourists are more likely to remember representative landmarks.

Visitors’ emotional feelings directly reflect the degree of satisfaction with the block experience, with “few visitors”, “development” and “commercialisation” appearing more frequently. As most of the buildings in Shuanglong Lane block have been rebuilt, the situation of local development has damaged the continuity of the street landscape, causing some tourists to question the transformation of the architectural heritage. At the same time, there are also positive evaluations such as “interesting”, “good-looking”, “out of the film”, etc.

The overall atmosphere category follows closely, in which “sense of place” and “ancient colour” are the atmosphere that most tourists agree with, and also represent the traces of the historical memory of Shuanglong Lane, e.g. Figure 2. The overall atmosphere is stronger in the “evening”. Visitors’ impressions of Shuanglong Lane are “relaxed”, “quiet”, “comfortable” and “retro”, which are also the unique atmosphere of Shuanglong Lane. “Netroots” and “niche” can be seen in the future Shuanglong Lane should focus on the direction of development.

### 3.3. Social Networks and Semantic Analyses

Social semantic analysis can reveal tourists’ emotions and attitudes, mine and analyse tourists’ needs and expectations, and thus reflect their perceived intentions towards the tourist destination [9]. In this paper, The NetDraw is used to draw the semantic network relationship map, so as to view the degree of association between different keywords [10].

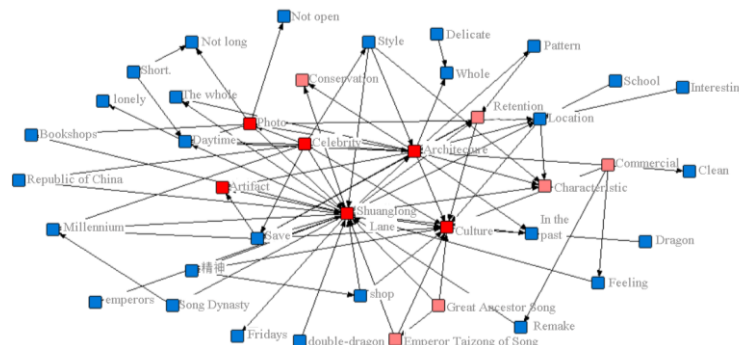


Figure 3: Semantic network analysis of high-frequency feature words in Shuanglong Lane.

As can be seen from the figure 3, there is a strong correlation between “Double Dragon Lane”, “culture”, “architecture”, “celebrities”, “cultural relics”, “features” and “taking photos”. “cultural relics”, “characteristics”, and “taking pictures” have a strong correlation, indicating that tourists have a strong perception of the history and culture of Shuanglong Lane. The deep cultural heritage is an important evaluation index that distinguishes Shuanglong Lane from other historical and cultural districts, while the courtyard area with well-preserved buildings from the late Qing Dynasty and early Republican period is still the trump card, and the historical stories and celebrity legends linked to the architectural symbols are the icing on the cake [11].

### 3.4. Sentiment Intent Analysis

Sentiment intention analysis is a way to determine the emotional tendency of text data by analysing its emotional expression, which is usually divided into positive, negative and neutral [12]. As shown in the Table 3, the proportion of tourists’ positive emotions is the highest, reaching 82.33%; the proportion of negative emotions is lower, 15.6%; the proportion of neutral emotions is the lowest, 2.07%. The negative emotions should also be paid attention to.

Table 3: Distribution of visitors' sentiment towards Shuanglong Lane.

Emotional categories	Proportions (%)	intensity	Proportions (%)
positive emotions	82.33%	general	14.52%
neutral mood	2.07%	/	/
negativity	15.60%	general	10.73%

Among the negative perception factors of Shuanglong Lane, the aspect of activity experience accounts for the most. Visitors repeatedly mentioned that they were dissatisfied with the following: (1) the lack of popularity of the neighbourhood, the original old residents have all been relocated due to the planning of the neighbourhood, and the change of the building function will lead to a lack of city atmosphere. (2) There is nothing to stroll, 5 minutes to stroll through.

### 3.5. Summary

Overall, the visitors' impression of the atmosphere of Shuanglong Lane Historical and Cultural block is good, with a positive trend, which indicates that most of the visitors are satisfied with the state of the neighbourhood renewal and transformation, and that they have a high recognition and expectation of the local historical and cultural resources of Shuanglong Lane. At the same time, most of the negative comments given by tourists are related to the satisfaction of the activity experience, which is still lacking in the aspect of "activity experience" [13].

## 4. Conclusion

The conclusions of the analysis are as follows: (1) The "impression of neighbourhood atmosphere" of Shuanglong Lane has a greater impact on tourists' perceived intention, indicating that tourists care about the unique atmosphere of the historical and cultural neighbourhood, and from the high-frequency feature words, it is known that tourists have a high degree of recognition of the neighbourhood's image of Shuanglong Lane, and the evaluation of the overall impression is good. This is followed by "cultural awareness" and "activity experience". (2) In the overall image perception, "architecture", "celebrities", "streets and lanes", "culture" and so on together build the tourists' perception of the Shuanglong Lane Historical Quarter. Most of the tourists initially heard the story of Zhao Kuangyin and Zhao Kuangyi to come, and Shuanglong Lane talent, but many Republic of China revolutionary heroes and neighbourhood characteristics of the Ming and Qing architectural complexes are unique existence [14]. Therefore, the focus should be on the landmark qualities of Shuanglong Lane to create the core IP image [15]. (3) The negative evaluation of tourists on Shuanglong Lane has the largest proportion of problems in activity experience, including business experience and leisure and entertainment, which means that tourists are less satisfied with the business, cultural activities, and recreational facilities in the neighbourhood, resulting in a negative cycle of low foot traffic and shop closures.

By combining the rich cultural resources of Shuanglong Lane, restoring the prosperous market life scene of the old street, increasing diversified activities, enhancing the commercial atmosphere, innovating leisure and entertainment programmes, and regularly updating the content of the activities, so as to improve the satisfaction, attractiveness and the overall perceived intention of the tourists.

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