

Satisfaction Analysis and Optimization of the Management of the Forbidden City in Beijing Based on Online Reviews

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Abstract

With the rapid development of the Internet and social media, public opinions and evaluations have been widely spread in cyberspace. As an important form of user feedback, online comments play a vital role in improving services and products. This study aims to evaluate tourists' satisfaction with the management of the Beijing Palace Museum scenic area by analyzing online comment data and to propose management optimization suggestions based on these findings. A large number of user comments from multiple online travel platforms and social media were collected through web crawler technology, and data were processed using text mining and sentiment analysis methods to identify key factors of tourist satisfaction. Research has found that tourists show varying degrees of satisfaction and dissatisfaction with the cultural heritage protection, tourism environment, service facilities, navigation system, and shopping and dining experience of the Forbidden City. Based on these findings, this study proposes a series of optimization measures, including improving the tourist diversion mechanism, strengthening service personnel training, enhancing the modernization level of facilities, enriching digital navigation content, and optimizing tourist experience design. In addition, the study also emphasizes the application prospects of big data and artificial intelligence technology in scenic area management, in order to provide reference and inspiration for the management of the Forbidden City and other historical and cultural scenic areas. The conclusions of this study contribute to promoting the sustainable development of the Forbidden City scenic area, improving tourist satisfaction, and enhancing its international competitiveness

Keywords

The Forbidden City; Scenic Area Management; Online Reviews; Satisfaction Analysis; Optimization Research

1. Introduction

1.1. Research Background

With the continuous development of China's social economy, people's spiritual needs are constantly increasing, and the demand for tourism is also gradually up-

grading. The "14th Five-Year Plan for Tourism Development" mentions that "building a strong cultural nation clarifies the development direction for tourism and requires the industry to play a more proactive role. It emphasizes the need to integrate culture and tourism deeply by using culture to shape tourism and tourism to highlight culture. Since entering the 21st century, with the rapid development of the national economy and the introduction of weekends and Golden Week holidays, domestic tourism has flourished and become accessible to households across the country. Currently, China's tourism industry has entered the "smart tourism" phase. Tourists can use mobile devices to access real-time travel information and easily adjust their itineraries. This also provides a foundation for the online dissemination and construction of tourism destination images. Studying tourists' opinions about destinations is crucial. Online reviews, as a true record and reflection of destination images, are an important way for potential tourists to understand these destinations.

As China's social economy grows, people's spiritual needs and demand for tourism are increasing. The development of internet social platforms has led to more users sharing travel experiences online. The internet has become a key source of tourism information, influencing tourists' intentions and behaviors. Online reviews provide authentic and timely feedback on destinations, revealing their perceived image. Analyzing these reviews can offer empirical support and new perspectives for shaping the destination's image and optimizing management satisfaction.

Beijing, as China's capital and national center for politics, culture, and economy, hosts numerous popular tourist attractions, including the iconic Forbidden City. Since its inscription on the UNESCO World Heritage List in 1987, the Forbidden City has been recognized as one of the largest and best-preserved wooden architectural complexes globally, symbolizing ancient Chinese imperial culture and a pinnacle of architectural art. It is a vital vehicle for preserving Chinese cultural heritage and attracts visitors worldwide. However, current research on the management satisfaction of the Forbidden City, especially based on online reviews, lacks comprehensive analysis and optimization suggestions. This study aims to fill this gap by analyzing online reviews to uncover tourists' expectations and needs, providing insights for improving management quality and visitor satisfaction.

1.1.1. Research Significance

In recent years, domestic and international research on the management satisfaction of the Forbidden City in Beijing has mostly relied on offline data collection methods. Studies based on online reviews from internet platforms are relatively weak, lacking systematic analysis and optimization suggestions. This research aims to fill this gap by conducting an in-depth analysis of management satisfaction using online reviews. It provides a data source for satisfaction analysis and optimization of the Forbidden City. After data cleaning operations such as removing outliers and stop words, the study employs sentiment analysis based on the Naive Bayes model.

The results of this analysis are used to propose corresponding strategies for optimizing satisfaction. This provides a theoretical basis for improving the management satisfaction of the Forbidden City and contributes to the theoretical significance of its cultural development.

Improving and Enhancing Visitor Satisfaction at the Forbidden City in Beijing:

1. Optimizing Management Measures and Enriching Visitor Experience: By analyzing visitor satisfaction with the management of the Forbidden City, we can understand their needs and expectations. This enables us to optimize management practices, enhance the image of the scenic area, and enrich the visitor experience.
2. The booming tourism industry brings opportunities and challenges to scenic areas. Rising visitor numbers raise management demands. Domestic and international scholars have studied management optimization.
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1.2. International and Domestic Research Status

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1.2.1. International Research Status

In her research on the perception of cultural landscapes' tourism image based on online text analysis, Lin Yejing conducted a study on the cultural landscape of West Lake in Hangzhou. She employed various methods, including Term Frequency-Inverse Document Frequency (TF-IDF), semantic networks, Latent Dirichlet Allocation (LDA) topic modeling, sentiment dictionary-based analysis, and three machine learning models—Support Vector Machine (SVM), Random Forest, and AdaBoost. These methods were used to extract keywords and classify sentiments from tourists' comments. The study identified six key cultural landscapes of West Lake and compared tourists' perceived images with the official projected images from cognitive, emotional, and overall image perspectives. At the same time, Guo Qiannan [2], in her research on the tourist satisfaction of Shenyang's Qing culture tourist destinations based on online reviews, applied text analysis method to conduct an emotional analysis of the tourists of Shenyang's Qing culture. She used the grounded theory to study the influencing factors of the tourists' satisfaction perception of Shenyang's Qing culture tourist destinations, and supplemented it with the IPA model to analyze the tourist satisfaction of Shenyang's Qing culture tourist destinations.

Chen Chen, in his research on the tourist satisfaction of Zhangjiajie based on online

evaluations [3], loaded the sorted evaluation texts into ROST Content Mining for importance-performance analysis (IPA). Based on this, he proposed the influencing factors of the tourist satisfaction of the local area and constructed a satisfaction model for Zhangjiajie. Finally, for Zhangjiajie's tourist destinations, he used the three-level coding method of grounded theory coding to code the online reviews layer by layer, and carried out word frequency analysis processing in the software to obtain high-frequency words. Then, he conducted a characteristic analysis of the tourists' online reviews and put forward constructive suggestions and references for the optimization of the satisfaction of Zhangjiajie Scenic Area. When tourists give satisfaction evaluations based on their experiences of the scenic area, Ni Shuai [4], in his research on the improvement of the tourist satisfaction of ancient town tourism based on tourists' experiences, used the methods of T-test analysis and drawing IPA scatter plots to focus on verifying the existence of differences between tourists' expectations and their satisfaction, and depicted the degree of these differences, providing indispensable constructive and targeted suggestions for the scenic area to find and fill in the gaps and reduce the shortfalls in tourists' experiences. Mao Amin [5], in her research on the tourist satisfaction of the tourism formats in ancient cities based on online text analysis, combined text analysis and used the Analytic Hierarchy Process (AHP) to calculate the index weights, providing important references for the research on the tourist satisfaction of the tourism formats in ancient cities. Under the IPA analysis of multiple elements, Zhou Jia, in her research on the tourist satisfaction of Changbai Mountain Scenic Area based on IPA analysis, adopted a method combining quantitative and qualitative analysis, and supplemented it with the T-test of tourists' evaluations before and after the trip, providing relevant suggestions and references for the improvement of the tourist satisfaction of Changbai Mountain Scenic Area.

In addition, when considering the influence of the scenic area, Wang Zhongyuan [6], in her research on the self-media communication power of national trend brands, put forward a series of targeted improvement suggestions: First, broaden the communication channels, enhance consumers' perception, create a community-based fixed-point push mode, consolidate consumers' cognition, achieve the integration of channels and community fission, and expand the breadth of communication. Second, take high quality as the foundation, innovate the content concept, improve media literacy, be vigilant against the "entertainment to death" phenomenon, deeply cultivate and refine the communication content, and build the depth of communication. Third, pay attention to the maintenance of the relationship with customers and improve the participation in communication.

In Wang Yang's research [7] on the analysis and improvement of the tourist satisfaction of Chinese Snow Town, taking the tourist satisfaction of Chinese Snow Town as the research object, she used the methods of literature analysis, questionnaire survey analysis, a combination of qualitative and quantitative analysis, as well as the combination of theoretical and practical research to widely collect data. Based on the latest

research trends at home and abroad, she analyzed the current situation of the tourist satisfaction in Chinese Snow Town. Taking the tourists of Chinese Snow Town as the research object, through the study of the current situation of tourist satisfaction, she analyzed the existing problems. Combining with relevant foreign experiences, she put forward countermeasures and suggestions that are conducive to improving the tourist satisfaction of Chinese Snow Town. Since tourists have strong subjectivity in their subjective evaluations, Li Shuxia [8], in her research and analysis on the influence of the quality of tourism experience on the tourist satisfaction of museums — taking the China Hakka Museum as an example, predicted the evaluations of the museum's tourists in the form of a questionnaire survey through the methods of constructing a hypothetical model and conducting quantitative analysis. This provided important references for the China Hakka Museum to transform from a single exhibition mode to a comprehensive tourism experience mode.

Regarding the influence of tourism satisfaction on the subjective feelings of tourists, in the empirical analysis part of his research, Jin Xizhong [9] adopted the method of quantitative analysis. Through quantitative analysis methods such as descriptive statistical analysis, reliability and validity tests, and regression analysis, he tested the relationships between various research hypotheses and variables, providing practical experience and theoretical support for the influence of the travel motivations, travel experiences, and tourism satisfaction of middle-aged and elderly tourists on their subjective well-being. Regarding the subjective feelings of tourists in the international tourism market, Qiu Weisheng [10] combined the current tourism situation in Thailand with the current situation of Chinese tourists traveling to Thailand, designed a questionnaire on the tourism satisfaction of Chinese tourists traveling to Thailand, and then studied the survey results of the tourism satisfaction of Chinese tourists traveling to Thailand through the regression analysis of the influencing factors of the satisfaction level. If tourists have the intention of "revisiting" during the travel process, it indicates a relatively high satisfaction evaluation of the scenic area. To this end, Lei Yanyan [11], in her research on the influencing relationships among the perception of tourism public service quality, tourism satisfaction, and post-travel behavioral intentions during ethnic festival activities, conducted an empirical analysis based on SEM on the relationships among the perception of tourism public service quality, tourism satisfaction, and post-travel behavioral intentions, and identified five dimensions that influence tourists' willingness to "revisit", which are: tourism transportation services, tourism information services, tourism safety services, tourism destination infrastructure services, and tourism environment services.

1.2.2. Domestic Research

At the level of the perception of the image of tourist attractions, Xiaoyan et al. [12] conducted a study on the perceived image and promotional image of the Yellow Crane Tower Scenic Area. They combined statistical analysis methods and text analysis methods to conduct an in-depth analysis of the content of official promotions and

travel reviews on domestic travel websites, and used the IPA model to compare their similarities and differences. This study not only put forward targeted suggestions for the construction of the image perception of the Yellow Crane Tower Scenic Area, but also provided useful references for the analysis of destination images and the application of the IPA model. At the same time, regarding the emotional classification of online travel review texts, Wen et al. [13] designed a keyword semantic expansion method based on a machine learning model and a knowledge graph. This method constructs semantically expanded classification data by adding the concept list of keywords to the review text, thereby improving the accuracy of emotional classification. This provides new ideas and methods for the emotional analysis of online travel reviews.

In the research on tourism satisfaction abroad, many scholars have explored the factors influencing tourists' satisfaction from different perspectives. Chao et al. [14] proposed that tourists' satisfaction can be divided into two aspects: expectations and experiences, and pointed out the influence of the tour sequence on satisfaction. This indicates that tourists' satisfaction does not only depend on a single tourist destination, but may also be related to tourists' experiences in other destinations. Regarding the influence of emotional experiences on tourists' satisfaction, scholars such as Dodríguez-Campo et al. [15] and He believe that emotional experiences have a significant positive impact on tourists' satisfaction. This shows that tourists' emotional reactions play an important role in determining their satisfaction. In the cognitive component of the perception of a destination's attractiveness, Clark et al. [16] adopted the method of text content analysis to analyze the content of tweets by tourists before, during, and after their visit to Toronto. They found that the destination's attractiveness was the most commented-on cognitive component, which indicates that tourists pay great attention to the attractiveness of the destination and consider it one of the key factors influencing their satisfaction.

In addition, cultural cognition is also regarded as an important part of the tourism experience. Scholars such as Li and Liu [17] believe that cultural cognition not only affects tourists' current travel behavior, but also influences their future travel behavior, satisfaction, and loyalty. This indicates that tourists' cultural cognition of the destination has a significant impact on the formation of their tourism experience and satisfaction.

2. Related Research Theories and Methods

2.1. Emotional Analysis

2.1.1. Definition and Application Scenarios

Sentiment analysis, a key aspect of natural language processing, extracts subjective information from texts to gauge authors' emotional attitudes. It's used in movie reviews, product evaluations, and social media sentiment monitoring.

2.1.2. Categories of Emotional Analysis

Emotional analysis is generally divided into different levels according to the smallest input unit of the analysis: sentence-level emotional analysis, text-level emotional analysis, and attribute-level emotional analysis.

(1) Text - level emotional analysis assesses the overall emotional tendency of a text with multiple sentences. As sentences may have complex logical relations, it's more complex than sentence - level analysis. It often builds on sentence - level analysis.

(2) Text - level emotional analysis assesses the overall emotional tendency of a text with multiple sentences. As sentences may have complex logical relations, it's more complex than sentence - level analysis. It often builds on sentence - level analysis.

(3) The Jieba library uses a Chinese word library to calculate character association probabilities. High - probability pairs form phrases for word segmentation. It has a frequency - based algorithm to split text. Users can add custom phrases.

According to the methods used in emotional analysis, it can be classified into the following categories:

(1) The emotional analysis method based on an emotional dictionary uses a pre - built dictionary. It identifies emotional words and adverbs in text, does weighted summation to get text's emotional polarity. But classification accuracy relies much on the dictionary's perfection..

(2) Emotional analysis method based on traditional machine learning: An emotional classifier is trained through a training dataset, and then this classifier is used to conduct emotional analysis on new texts. This method has strong generalization ability, but it usually requires a large amount of labeled data for training, imposing a relatively high demand on the quantity of traditional data.

(3) Emotional analysis method based on deep learning and neural networks: This type of method can automatically learn and extract features from the text and retain the semantic information of words, thus achieving more accurate and efficient sentiment classification. At the same time, through a deep learning model, it is possible to better capture the contextual semantic information in the text, thereby solving the problem of ignoring the contextual semantics in traditional emotional analysis methods and achieving a more accurate prediction result.

2.2.Naive Bayes

Naive Bayes, a generative model based on Bayes' theorem, predicts outcomes by calculating the joint probability distribution between features and classes. This differs from logistic regression's probabilistic discriminative model and SVM's decision-boundary discriminative model.

Generative models can mimic the data - generation process. When training data is scarce, they usually outperform discriminative models. This is because they can use class and feature - given - class probabilities to fill data gaps. But as training data increases, discriminative models often do better as they directly model the decision boundary.

The core of the Naive Bayes formula is based on Bayes' theorem, and it assumes that the features are independent of each other. Its basic form can be expressed as:

Where:

$P(A|B)$ is the posterior probability of event A occurring given that event B has occurred.

$P(B|A)$ is the probability of event B occurring given that event A has occurred.

$P(A)$ is the prior probability of event A.

$P(B)$ is the probability of event B.

$$P(A|B) = (P(B|A) \cdot P(A)) / (P(B)) \quad (1)$$

Where:

$P(A|B)$ is the posterior probability of event A occurring given that event B has occurred.

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$P(A)$ is the prior probability of event A.

$P(B)$ is the probability of event B.

In a Naive Bayes classifier, we usually have multiple features and a class variable. For a classification problem, we can use the following formula to calculate the probability of a certain class C given the feature vector $x_1, x_2, \dots, x_n$:

$$P(C|x_1, x_2, \dots, x_n) = (P(x_1, x_2, \dots, x_n|C) \cdot P(C)) / (P(x_1, x_2, \dots, x_n)) \quad (2-2)$$

Since Naive Bayes assumes that the features are independent of each other, we can simplify $P(x_1, x_2, \dots, x_n|C)$ to the product of the probabilities of all features under the class C:

$$P(x_1, x_2, \dots, x_n | C) = P(x_1 | C) \cdot P(x_2 | C) \cdot \dots \cdot P(x_n | C) \quad (2-3)$$

In practical applications, we usually only care about the relative magnitudes of the probabilities of different classes. Therefore, the denominator $P(x_1, x_2, \dots, x_n)$ can be ignored because it is a constant for all classes. So the final classification decision is based on the maximum posterior probability:

$$C^* = \arg \max_C P(C) \prod_{i=1}^n P(x_i | C) \quad (2-4)$$

Multinomial Naive Bayes is popular for text data. Its word - level calculations make it a common algorithm in text classification, like sentiment analysis. It helps build strong models for accurate text emotion prediction.

2.3. jieba

Jieba library calculates character probabilities for Chinese word segmentation using a word library. It employs a frequency-based algorithm and allows users to add custom phrases..

1. The Jieba library is for Chinese text word segmentation. It uses a frequency - based algorithm to split continuous texts into words. It offers three modes: accurate,

full, and search engine. Users can choose the suitable mode as needed.

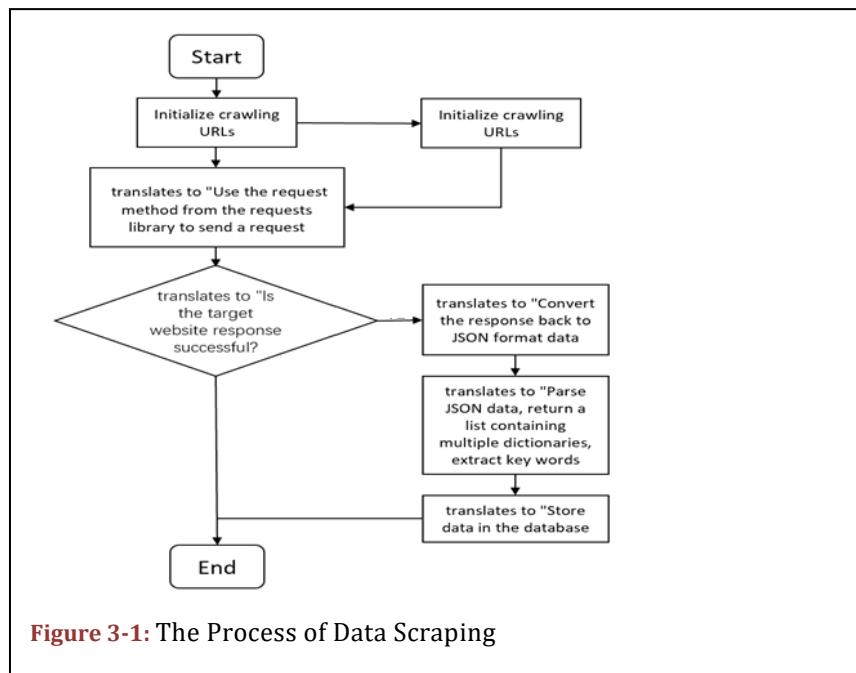
2. The Jieba library supports custom dictionaries. Users can add words to adapt to specific fields and get more accurate segmentation.
3. The Jieba library offers keyword extraction. It can automatically pick keywords from texts, helping users grasp text themes and key points fast.
4. The Jieba library supports part - of - speech tagging for segmented words. It marks each word's part of speech (noun, verb, etc.), aiding further text analysis and semantic comprehension.
5. The Jieba library supports parallel word segmentation. It uses multi - core or multi - threading to speed up and boost the efficiency of segmentation.
6. Jieba is an open-source, user-friendly library for Chinese text segmentation in Python. It offers a straightforward API for easy use and modification.

3. Data Description and Preprocessing

3.1.Data Acquisition

This experiment primarily uses data scraping, with Python technology for the task. Below is a concise explanation of the module's process design and implementation details for scraping data.

The data scraping process is shown in Figure 3-1 below.



After the crawler starts running, it mainly executes four steps:

- (1) Use HTTP lib to send requests with headers (User-Agent) and params to mimic a browser, fetching system data via request methods.
- (2) If the request is sent successfully and the server responds, a Response is received. The Response content, like HTML, Json, or binary data, is what we need.

(3) Parse the received Response content. In this system, decode it to Json format and return a list named engine_jds with multiple dictionaries.

(4) Save the data: Extract the required fields from the parsed data, and then save the data. Store it as a CSV file on the local Windows system.

3.2. data processing

3.2.1. data cleaning

Not only the data obtained from the Internet need to be preprocessed, but also the text data. First of all, there is a wide variety of information in the text data on the Internet. It is not only cumbersome but also contains noise. Therefore, it is necessary to preprocess the useless text information. Otherwise, it will cause a large deviation in the subsequent analysis results and may also affect the conclusions drawn.

Therefore, before conducting sentiment analysis and visualization operations, first clean the crawled data using the Pandas library in Python to remove duplicate values and outliers in the text data. Through data cleaning, suitable data can be provided for subsequent sentiment analysis.

3.2.2. sentiment analysis

First, import the required libraries and modules, including joblib, pandas, numpy, classifiers from sklearn, data splitting tools, feature extraction tools, Naive Bayes classifiers, evaluation metrics, etc. Then, read the training dataset. Use the `pd.read_csv()` function to read data from a CSV file and store the result in a Data-Frame named data. Start the data preprocessing: Delete missing values and duplicate values. Use regular expressions to remove non-alphanumeric characters from the text, and use a stop word list to filter out the stop words in the text. Then, use the jieba library for Chinese word segmentation. Split the dataset: Divide the dataset into a training set and a test set. Use the `train_test_split()` function to randomly split the data according to the specified proportion (here, 80% is used as the training set). Process the data features: Use `CountVectorizer()` to convert the text into a vector representation. Represent the features of the text by calculating the frequency of each word appearing in the text.

Use the Naive Bayes classifier. Create a `MultinomialNB` object as the classifier and train it with the training - set data. Then, conduct model evaluation. Use the trained classifier to make predictions on the test set, calculate the accuracy, and generate a classification report. Perform model persistence: Use `joblib.dump()` to save the trained classifier and feature extractor to the specified file path. Load the model and feature extractor: Use `joblib.load()` to load the saved classifier and feature extractor from the file. Test custom data: Given a list containing texts to be predicted, perform the same pre - processing steps as during training. Then, use the feature extractor to convert the texts into vector representations. Finally, use the loaded classifier to make predictions.

Table 3-2 :Sentiment Analysis Prediction

	precision	recall	f1-score	support
0	0.81	0.74	0.77	343
1	0.42	0.65	0.51	143
2	0.77	0.65	0.51	143
accuracy			0.69	799
Macro avg	0.67	0.68	0.66	799
Weight avg	0.72	0.69	0.70	799

Output result: Output the corresponding sentiment category (negative, neutral, or positive) according to the prediction result, as shown in Table 3-2. The accuracy of the result is 0.688360450563204, and the prediction result is positive.

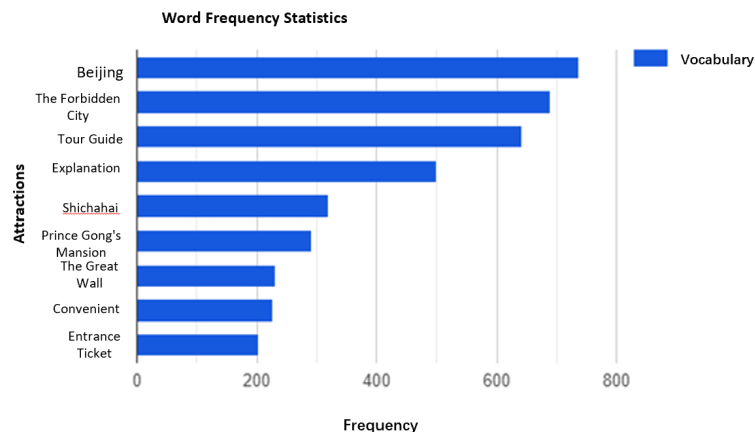
3.3.data visualization

(1) Import the dataset: Import the processed and analyzed dataset into the Echarts framework.

(2) Create graphical reports based on data features: According to the characteristics of the dataset, create corresponding graphical reports, including word cloud charts, bar charts, pie charts, waveform charts, etc.

(3) Display the visualization results: Display the visualization results generated from the dataset on the web through HTML

Collect tourists' online reviews. Use text analysis tools to extract high - frequency words and word cloud to visualize them. This shows tourists' concerns and scenic area management issues. For the Forbidden City, "Forbidden City" is the top - frequency word. "Tickets", "tourists", "history", "crowded", "guide", "food", "take pictures", "maintenance" etc. are also frequent. These words reflect tourists' concerns on ticket prices, experiences, historical value, large tourist flow, guide services, consumption, main activities and environmental maintenance.

**Figure 3-3: Word Frequency Chart**

Data on Forbidden City reviews and collections, tabulated by local attractions, helps analyze tourist distribution and popularity. Beijing, a major tourist hub, features the Forbidden City, a top heritage site. Figure 3 - 6 shows common review words. "Explanation" probably means tour guides. Shichahai, near the Forbidden City, also at-

tracts visitors. "Ticket" refers to high entry fees with discounts for special groups, while "Convenient" relates to accessibility. The Great Wall is often mentioned alongside the Forbidden City. Reviews mainly focus on the Forbidden City's cultural - historical value, visiting experience, ticket prices, and accessibility, with ticket prices and access convenience being tourist concerns.

Figure 3-4: Statistics on the Satisfaction Degree of the Forbidden City Scenic Area in Beijing



Statistics on the Satisfaction Degree of Beijing Scenic Areas: By analyzing online reviews with natural language processing, we extracted tourists' satisfaction ratings and presented them in bar charts. Most scenic areas in Beijing receive positive feedback. Tiananmen Square, Badaling Great Wall, and the Forbidden City have the highest satisfaction, all over 100 points, indicating high praise. Other areas like Qianmen Street, the National Museum of China, and Temple of Heaven Park have slightly lower but still above 70 points.

Conclusion: Most Beijing scenic areas are well - received. Tiananmen Square, Badaling Great Wall, and the Forbidden City are the most popular. Overall, most spots score above 50 points, showing relatively high tourist satisfaction.

4. Optimization Strategies for Management Satisfaction of the Forbidden City Scenic Area in Beijing

4.1. Optimization of Passenger Flow Control

The Forbidden City faces high tourist pressure in peak seasons. This study proposes dynamic crowd management to monitor and regulate real - time tourist distribution. Reviews often mention "queue", showing overcrowding issues. A real - name reservation system can manage tourist inflows effectively, cutting waiting times and avoiding safety risks like stampedes. By scheduling time slots scientifically and allocating reservation quotas, a balanced tourist flow can be achieved, ensuring a safe and comfortable visit.

4.2. Service Quality Improvement

Service staff, especially tour guides, are crucial to tourists' Forbidden City experiences. Tourists desire more and higher - quality guides. So, service - awareness training for employees, especially receptionists and tour guides, is essential. Regular training and evaluation can enhance professionalism. Adjusting service methods based on feedback helps meet tourists' needs and improve service quality.

4.3. Facility Improvement and Upgrade

In response to tourists' feedback, the Forbidden City should upgrade public facilities to meet convenience needs. Existing restrooms and rest areas should be improved. Also, a multilingual online tour guide system and interactive exhibitions can benefit international visitors. These enhancements, using technology, will boost tourists' satisfaction and provide a more immersive cultural experience.

4.4. Supervision of Commodity and Catering Prices

The frequent mention of "ticket" in online reviews shows tourists care about Forbidden City ticket prices. The scenic area should strengthen price supervision to make tickets more reasonable and offer value - for - money experiences. Also, to safeguard consumer rights and market fairness, the Forbidden City management should set up a scientific pricing system for goods and catering. By closely monitoring merchants and curbing overpricing, it can ensure visitors have a great experience without high costs.

4.5. Expansion of Cultural Experience Activities

The study's online reviews revealed high-frequency mentions of nearby scenic areas like the Badaling Great Wall and Tiananmen Square, indicating that tourists often visit multiple sites around Beijing. To deepen and broaden tourists' cultural experiences, the Forbidden City should collaborate with these areas to host joint historical and cultural events, traditional craft displays, and interactive offline activities. Such initiatives would meet tourists' diverse cultural needs and enhance their overall experience.

In conclusion, the implementation of these strategies aims to comprehensively enhance the visiting experience of tourists at the Forbidden City in Beijing. From passenger flow control, service quality, facility improvement, price supervision to the richness of cultural experiences, every aspect is crucial for improving management quality and tourist satisfaction.

5. Summary and Prospect

This study used online reviews and visualization tools like word clouds and charts to evaluate Forbidden City management satisfaction. It showed tourist satisfaction, found management pros and cons, and aided managers. Future research could integrate sentiment analysis and combine word cloud analysis with

other methods for more comprehensive results.

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