

Research on High-End Hotel Service Quality Evaluation Index System Based on Network Comment Content Analysis—Taking Guangzhou as an Example

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Abstract. The customer's comment from the Internet largely reflects the customer's focus and perceived evaluation of the quality of the hotel's quality. This paper first analyzes the content of 1500 network reviews, selects 35 initial indicators, and designs questionnaires based on these 35 indicators to survey frequent customers of 171 high-end hotels. Finally, this paper establishes a high-end hotel evaluation index system of service quality through factor analysis, providing high-end hotels with the direction of improving service quality.

1. Introduction

Since 2017, China's high-end hotel market has fully recovered, and more and more people are willing to go to high-end hotel consumption. However, with the rise of the hotel and the continuous improvement of the service level of the mid-end hotel, consumers can choose more and more types of hotels. Therefore, it is very valuable to understand the changing needs of consumers, establish a high-end hotel service quality evaluation index system, and improve the service quality and market competitiveness of high-end hotels.

2. Literature review

Since Gronroos (1982) pioneered the study of service quality, domestic and foreign scholars have conducted in-depth research on the evaluation theory of service quality and service delivery process.^[1] Therefore, people's research on the evaluation theory of service quality has been in the process of continuous exploration and development. In view of this, it is necessary to sort out the current research status between hotel and service quality assessment.

Looking back at the past literature, we found that foreign scholars had studied the quality of hotel services earlier than domestically. Parasuraman et al built the famous SERQUAL model and evaluated the quality of service from five attributes.^[2] Saleh et al first applied the SERVQUAL model to the hospitality industry.^[3] Akbaba and Juwaheer et al have appropriately revised the questions on the SERVQUAL scale and applied them to the evaluation of service quality.^[4,5] Xie Lishan et al conducted an empirical study on the customers of three hotels in Guangdong Province, and discussed the relationship between the four types of attributes in fairness about service and the three types of attributes about service quality, and in-depth analysis of the impact of various attributes of service fairness and service quality on customer satisfaction.^[6] Xiong Wei and Xu Junhua conducted an in-depth study on the evaluation of service quality about China's budget hotels based on content analytical method, and compared with high-end hotels, and found that the evaluation about service quality of economic hotel is obviously better than high-end hotels.^[7]

3. The initial index selection based on the analysis about content of online comments

The evaluation data collected from the network is published by the customer in the form of natural language on the network. By using semantic analysis technology and using computer to collect and

analyze comments on network in the form of natural language. The top 100 customer reviews of these 15 high-end hotels were collected and screened on Ctrip.com. Excluding invalid comments such as "Environment and service are good" and then got "Customer Review.txt", a total of 1500 valid comments. Then Import "Customer Review.txt" into ROST content mining software, analyzed the feature words in alto frequency that can represent "Customer Review.txt". A total of 38 and then according to words in alto frequency, from "Customer Review.txt" filter out the most popular word about network comments in alto frequency, and then analyzed the semantics of these network comments and verify the validity of the high-frequency words. That is, if the high-frequency words are generated due to software analysis errors, then it is considered that the words in alto frequency are invalid, thus ensuring the validity of the words in alto frequency, and finally the relevant influential factors index items are 35, as shown in table 1.

Table 1. Influential factors indicator items

Serial number	Indicator item	Serial number	Indicator item	Serial number	Indicator item	Serial number	Indicator item	Serial number	Indicator item
1	Decoration style	8	sanitary condition	15	Swimming pool	22	Type of breakfast	29	Service attitude
2	Detail arrangement	9	Network situation	16	Gym	23	Afternoon tea service	30	Smart service
3	Overall style	10	Noisy situation	17	Spa	24	Traffic condition	31	Check out service
4	Sound insulation	11	Catering facilities	18	Back yard	25	Geographic location	32	Room smell
5	Room size	12	Commercial entertainment facility	19	Children's playground	26	Attraction distance	33	Tips
6	Parking lot	13	Air conditioning	20	Restaurant environment	27	Free experience	34	Cleaning service
7	Balcony view	14	Toiletries	21	Restaurant service	28	Shuttle service	35	Booking service

4. The questionnaire survey

The author used the initial selection of 35 factors as a test item, designed a 7-level Richter scale, and sought out high-end hotel frequent flyers in Guangzhou to understand the importance of high-end hotel guests in evaluating the factors affecting service quality. 200 questionnaires were distributed and 171 valid questionnaires were returned. The effective rate of the questionnaire was 85.5%. From the gender distribution of the respondents, males accounted for 52.3%, and women accounted for 47.7%, with reasonable distribution. From the distribution of age, 8.7% for 21-30 years old, 40.0% for 31-40 years old, 48.8% for 41-50 years old, and 2.5% for 51-60 years old, including 31-50 years old accounted for 88.8% of the total sample of the respondents, which is the dominant group of high-end hotel consumption, which is consistent with the actual situation. The age of the survey sample is reasonable. From the frequency of the high-end hotels in the survey, the proportions of more than once a month, more than once a month, and more than half a year were 20.5%, 35.5%, and 44.0%, respectively, indicating that the survey sample is representative.

5. Factor analysis and calculation

5.1 KMO test and Bartlett spherical test

In order to ensure the validity of this questionnaire, the validity analysis was made on the collected effective questionnaires through using SPSS21.0 software. The KMO value is greater than 0.7, and the common degree of each measurement item is above 0.6, indicating that the questionnaire has a high degree of structural validity. The significance of the results of Bartlett ball test ($p < 0.001$) indicates that there is a correlation between the items, which is suitable for the factor analysis.

5.2 Factor analysis

By extracting factors of the main components, we can see that this questionnaire includes 8 main factors, which explains the original items of 74.182% and indicated that the factor analysis of the main components of this study is effective. Among them, the variance interpretation rate of the first factor loading is 15.816%. The variance interpretation rate of the second factor loading was 11.810%. The variance interpretation rate of the third factor loading is 9.343%. The variance interpretation rate of the fourth factor loading is 9.312%. The variance interpretation rate of the fifth factor loading was 9.299%. The variance interpretation rate of the sixth factor loading is 7.822%. The variance interpretation rate of the seventh factor loading is 5.673%. The variance interpretation rate of the eighth factor loading is 5.106%. Then discovered by matrix orthogonal rotation that "there were more catering facilities around the hotel", "children playground in the hotel" and "afternoon tea service in the hotel" were mixed with other factors, so the three questions were deleted.

5.3 Data iteration

We iterated the data of the remaining 32 items and performed KMO and Bartlett tests using SPSS21.0 software. The result shows that the KMO value measured in this study is 0.821. According to the evaluation criteria of KMO value, the factor analysis can be carried out in this study. The results of Bartlett spherical test were significant ($p < 0.001$), indicating that there was correlation between the items and factors could be extracted.

Factor analysis was carried out on the modified measurement items to obtain the total variance of the modified questionnaire interpretation. We can see that the questionnaire includes 7 main factors, which explain the original total items of 72.162%, indicating that the principal component factor analysis of this study has a good effect. The variance interpretation rate of the first factor loading is 15.649%. The variance interpretation rate of the second factor loading was 15.154%. The variance explained the rate of third factor loading was 9.619%. The variance interpretation rate of the fourth factor loading is 9.312%. The variance interpretation rate of the fifth factor loading is 9.386%. The variance interpretation rate of the sixth factor loading is 6.504%. The variance interpretation rate of the seventh factor loading was 5.983%. Then, on this basis, matrix orthogonal rotation was carried out. Finally, the seven factors are named as hotel service, guest room experience, hotel entertainment facilities, hotel catering, surrounding facilities, hotel features and the hotel location.

6. The conclusion

The final evaluation index system of high-end hotel service quality based on customer online comments is determined, as shown in table 2, including 7 primary factors and 32 secondary subordinate factors.

Table 2. High-end hotel service quality evaluation index system

First order factor	Secondary membership factor							
Hotel service	Free experience	Service attitude	Check out service	Shuttle service	Tips	Cleaning service	Booking service	Smart service
Room experience	Sound insulation	Room smell	Balcony view	sanitary condition	Room size	Network situation	Air conditioning	Toiletries
Hotel entertainment facilities	Swimming pool	Back yard	Gym	Spa				
Hotel catering	Restaurant environment	Restaurant service	Type of breakfast					
Facilities around the hotel	Parking lot	Noisy situation	Commercial entertainment facility					
Hotel features	Decoration style	Detail arrangement	Overall style					
Hotel location	Traffic condition	Geographic location	Attraction distance					

7. Discussion

Based on a number of references and comments, this paper summarizes the customer's constituent factors of the service quality evaluation system of high-end hotels in Guangzhou. Finally, the following seven factors are mainly obtained. Arranged according to the explanatory force, they are hotel service, guest room experience, hotel entertainment facilities, hotel catering, surrounding facilities, hotel features and the hotel location.

According to the theory of planned behavior, customers choose hotels in a planned way, and they will actively seek information related to the hotel to decide whether to stay in the hotel. And the web review of the site is a powerful and compelling message. This paper suggests that high-end hotels should pay attention to the service quality of these seven factors, improve customer satisfaction from these seven aspects, obtain customers' good evaluation of the hotel, establish the excellent reputation of the hotel and attract more customers to stay in the hotel with the effect of reputation, forming a virtuous circle.

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