A Study on Service Quality Evaluation Model of Clustered Homestay

Xie Zijing¹ & Zhou Pu²

Abstract:

Clustered homestay is an indicator for transformation and upgrade of homestay industry. Service quality is the key point that tourists pay close attention to, which significantly affects the development of accommodation industry. At present, few researches on homestay had focused on the service quality from the perspective of customer. Based on these theoretical and practical issues, this study conducted context analysis on the online reviews of typical clustered homestays to build the conceptual evaluation model, and further conducted exploratory factor analysis and confirmatory factor analysis on questionnaire data to validate and correct the model. As a result, the service quality evaluation model of clustered homestay is constructed, which includes four dimensions: Tangibility, Empathy, Agglomeration, Interaction.

Keyword: Clustered Homestay; Service Quality; Grounded Theory; Confirmatory Factor Analysis

1 Introduction

The development of tourism in China has moved onto a new era, in which growing demand is shown not only in basic elements of tourism but also in expanded tourism elements such as business, regimen, education, leisure, emotion, and peculiarity (Ren, 2015). In this new stage, demands in personalized tourism created a niche market under the background of mass tourism. Under this trend, homestay, as a type of non-standard accommodation, is attracting more and more attention from tourists. "2019 Mainland China B&B Development Data Report" pointed out that the transaction volume of the homestay market in 2019 exceeded 20 billion with the numbers of homestay houses and operators continued to grow and that the online accommodation market penetration rate continued to rise and the online search volume of homestays was 1.33 times that of hotels. With the expansion and upgrade of travel patterns, homestay, which is relatively new and unique tourist acommodation facilities, will inevitably changes its business model and service content. Therefore, the homestay industry has been transforming and upgrading from single homestays to branded homestays and finally to the clustered homestays (Wang, 2019), in which process to realize the transformation from a low-end single product, homogeneous development, self-employment, and decentralized distribution to advanced and distinctive leisure products, differentiated development, enterprise operations and cluster layout (Jiang, Li, 2014).

Being a part of the tourism attraction and a key relevant industry in the tourism industrial chain, homestay clusters play an important role in the development of homestay industry. It relies on tourism resources such as ancient towns, beaches, mountains and lakes and so on, and integrates with multiple travel elements including food, accommodation, transport, tourism, shopping and entertainment. The fact that the accommodation is the core of homestay clusters is accelerating the improvement of the homestay's service quality. Under this circumstances, Zhejiang Province took the lead to launch the 'Deqing Mogan Mountain Homestay Cluster Plan' in 2014, making good use of its superior geographical and economic strength. Until the year of 2018, Mogan Mountain had officially opened 433 homestays, which made it a national benchmark for homestay cluster development. Futhermore, typical areas such as Li Jiang in Yunnan and Jiaochangwei in Shenzhen also presented a new format of development of clustered homestay.

At current stage, the standardization of homestay management, service quality and other aspects have received the attention of local governments in China. Some cities have successively issued relevant laws and regulations. In 2015, Hangzhou issued the "Guiding Opinions on Further Improving Services to Promote the Standardized Development of Rural Homestay Industry", which provided specifications and regulations for rural homestays.

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Shortly afterwards, Dapeng New District in Shenzhen released "Homestay Management Measures in Dapeng New District, Shenzhen (Trial)", which is the first local homestay management measures in Guangdong Province. In 2016, Huangshan issued the "Regulations on the Safety Management of Homestays and Inns", which clarified the definitions of homestay, including specifications on catering, facilities and equipment, fire control and security, guest rooms, storage of luggage and valuables. However, there exist some considerable practical problems as a result of the lack of communication between the norm-setting and the operating entities (Zhou, Cai, Song, 2011). It seems that it is not easy to achieve the balance between standardization and personalisation. Moreover, most homestays in China are still in the preliminary stage, providing basic catering and accommodation facilities. The cultural connotation of home-staying has not been thoroughly explored and the service quality is not guaranteed, which hinders the differentiation and branding of clustered homestays(Zhang, Yang, 2017).

Although the rigid regulations promulgated by the government serve as an exogenous mechanism to improve the basic level of service quality of clustered homestay, an endogenous mechanism that takes full account of tourists experience is what could help create a better business format to promote the industry's development. Howver, what are the dimensions of the evaluation of clustered homestay's service quality? Existing studies have not yet given a clear answer. At present, there are very few studies involving clustered homestays, most of which specifically focus on the analysis of the clustering phenomenon of homestays (Guo, 2019) or the formation mechanism (Qin, Hu, Zhu, 2018), brand building (Zhan, Xu, Li, 2019), brand development(Yang H.J., Yang, L.J., 2019). In contrast, more studies focused on the effects of industrial agglomeration and service quality evaluation system. Therefore, this study will discuss the dimensions of evaluation of clustered homestay's service quality in order to provide theoretical and practical reference for the measurement and improvement of the service quality of clustered homestays.

2 Literature Review

2.1 Clustered Homestays

The development of home stay facility has gone through two different stages from single homestay to agglomeration (Guo, 2019). Compared with the characteristics of simplification, personalization, and privatization embodied in independent homestays, clustered homestays have stronger agglomeration effect. In 1991, Porter put forward the "diamond model", a vital evaluation base for the industry's competitive advantage, which emphasizes the economic agglomeration effect that specific industrial areas marginalize the surrounding scattered areas. He believed that industrial agglomeration is a phenomenon that a group of geographically-adjacent and interconnected producers, enterprises and related supporting institutions who are linked by commonality and complementarity co-locate in a related industrial field and form continuous and robust competition advantages (Krugman, P., 1991). Based on the diamond model, Wang Meiyu et al. (2018) proposed that the agglomeration mechanism of the homestay industry can be divided into four dimensions: government intervention systems, production factor systems, related industrial systems, demand status systems. It is claimed that, among those dimensions, production factor systems play a role of promotion and related industry systems act as a supporting role while homestay operators is able to utilize tourism resources, services, facilities and other factors to build core competitiveness. From the perspective of the service supply chain, Qin Ligong et al.(2018) claimed that clustered homestay is a collaboration network integrates with other industries related to the six basic tourism elements. Given the demand of homestay consumers, the network integrated by multiple business formats not only personalizes and re-designs the service products but also consolidates related element resources to achieve the coordination of the entire homestay service supply chain, enhancing the value of tourists' experience. The mode of homestay travel are formed because of the agglomeration of many business formats that are either competitive or co-operative, including relevant functional service facilities such as food, accommodation, transport, sightseeing, shopping and entertainment, along with other industries like agriculture, health, logistics and so on. Guo Yingying et al. (2019) analyzed the clustering phenomenon of homestays and pointed out that the clustered homestay refers to the homestay community formed by the aggregation of homestay houses and their supporting institutions in a particular geographical location.

It can be seen that the clustered homestay is developed into a tourism destination formed by the agglomeration of the homestay houses and complementary tourism industries. Therefore, the service quality of clustered homestays not only emphasized the fundamental and personalized services provided by homestay operators but also stressed the integration and coordination of interconnected tourism industries.

2.2 Service Quality Evaluation of the Homestays

Since the 1970s, there has been abundant research on the definition and evaluation dimensions of service quality. As for the evaluation dimension of service quality, one representative research proposed by Sasser et al. (1978) demonstrated a model contains seven dimensions to evaluate service quality including security, consistency,

Attitude, completeness, condition, availability, and training of service providers. PZB (1985) have made significant contributions in the study of quality of service by putting forward the "Perception Continuous Belt of Service Quality" which clarifies the connotation of service quality. They also proposed the "Gap Model of Service Quality", which includes ten dimensions that affect the service quality and customer service perception: access, communication, competence, courtesy, credibility, reliability, responsiveness, security, tangibles, and knowing your customers. On the basis of these ten dimensions, in 1988, they further presented the commonly used SERVQUAL scale, which includes tangibles, reliability, responsiveness, assurance, and empathy. With the SERVQUAL model being applied to different industries, this model is also questioned by scholars. Cronin & Taylor (1992) believed that the Gap Model proposed by PZB is prone to consumers' ambiguity. As a result, they proposed the SERVPERF model, which emphasizes the customer's actual perception of the service quality and thus is considered more suitable for evaluation.

At present, the number of researches on the service quality for homestay is relatively small, most of the which are studied in recent years. Deng (2018) applied content analysis and grounded theory and used 52 factors affecting the service quality of homestays to construct a conceptual evaluation model of the satisfaction of homestay visitors in Lijiang, which includes five dimensions. Likewise, Huang and Chen (2017) used the content analysis to construct the service quality evaluation system of inns and homestays and found that the customers are particularly concerned about the managers' service. Zhang and Yang (2017) used the content analysis to establish an evaluation index system of service quality of homestays. The results show that customers pay great attention to "human care", which is an important factor to attract customers and improve the rate of customer return. Taking the homestays in Nanyuanling village in Wuyi mountain as the research object, Zhang et al.(2018) also used content analysis to establish three first-level and thirteen second-level indicators for homestay service quality evaluation. Through literature review, it can be found that the content analysis and the grounded theory are the mainstream research methods of studying service quality of homestays. However, there are little researches that combines the classical SERVQUAL model with the characteristics of clustered homestays to evaluate the service quality.

3 Methodology

Firstly, the study used NVivo to analyze online reviews of clustered homestays in online travel agency websites based on grounded theory in order to extract indicators and dimensions of service quality evaluation scale in clustered homestay from the perspective of tourists. Secondly, a questionnaire is designed refer to the combination of the indicators and dimensions extracted above and the SERVQUAL model. Furthermore, SPSS Amos is used to analyze the data collected by questionnaires for conducting exploratory factor analysis and confirmatory factor analysis in order to correct the evaluation model.

3.1 Data collection

3.1.1 Sample Clustered Homestays Selection

Benefit from the high consumption level and great consumer demand provided by the tourism market in Yangtze River Delta region, Mogan mountain in Zhejiang is characterized by the early-established and welldeveloped homestay industry. It is a representative area throughout the nation, either for its scale or its quality. Likewise, Jiaochangwei in Shenzhen benefits from the abundant tourism resources of Dapeng New District. It became a famous "Characteristic Homestay Town" in the Pearl River Delta region with the highest density of homestays in southern China. In addition, Lijiang in Yunnan is one of the first tour regions to develop clustered homestay and it is often selected as the Chinese's top ten most desirable residential resorts. Therefore, the clustered homestays in Moganshan, Jiaochangwei, Lijiang were chosen as the sample tourism destination to collect online reviews.

3.1.2 Sample Online Review Selection

This study collect the information of online reviews on the official website of the online trael agency called Ctrip, which has the most users and contains a high number of users within each demographic in China. The top three homestays that ranked high in popularity and had a large number of comments in each area are selected. 5,924 online comments posted from April 2019 to April 2020 are extracted. After the text pretreatment process in which irrelevant, repeated information and below-50-word comments are screened and excluded, 3,131 valid comments were obtained which were evenly distributed, including 999 reviews about Jiaochangwei, 1088 ones about Li Jiang, and 1044 ones about Mogan Mountain.

4 Data analysis

4.2.1 Open coding

Open coding deals with the labeling and categorizing of phenomena as indicated by the data (Pandit,1996). This study conducted open coding with 3,131 online reviews. In order to increase the effectiveness, this study eliminated the original concepts whose frequency is lower ten. Ultimately, 50 concepts are generated and then 16 categories are finally extracted: personalized service, characteristics of home-stay, service attitude, leisure facilities, furnishing, accommodation facilities, sanitary condition, customer relations, communication with customers, cost performance, authenticity, comfort level, service efficiency, service level, associated tourism elements. The examples of open coding are shown in Table 1.

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4.2.2 Axial coding and selective coding

Axial coding, based on open coding, puts concepts and categories back together in new ways by making connections between a category and its sub category. While selective coding could explore the core category from

main categories, representing the most significant phenomenon of the study (Pandit, 1996). According to the process, 15 sub categories are repeatedly contrasted and 5 main categories are extracted: empathy, tangibility, assurance, responsiveness and agglomeration. With constant comparison and in-depth analysis, the core category, service quality of clustered homestay, is finally extracted from five main categories. (Tab2.)

Core category	Main category	Sub category	Concepts included
	Empathy	Personalized service Personalized	Reception service at the airport, scenic spot introduction, travel consultation, booking consultation, transportation consultation, supporting catering services
		service	Hospitality, friendliness, kindness, helpfulness
		Homestay characteristics	Unique culture, architectural characteristics, ambiance, local customs
		Leisure facilities	Courtyard, ocean view rooftop, entertainment facilities
		Indoor	Architectural style, furnishing style, room layout, room
	Tangibility	Arrangement	arrangement, room supplies
		Accommodation	Sound insulation, hot water supply, wireless network,
Service quality		facilities	room size
of clustered homestay		Sanitary conditions	Cleanliness of rooms, general sanitation
	Assurance	Customer relations	Service etiquette, customer confidence
		Communication	Demand response, communication efficiency
		Cost performance	Reasonable price, cost performance
		Authenticity	Conformity of comments to actuality, Conformity of publicity to actuality
		Comfort level	Comfort level of rooms, comfort level of environments
	D	Service efficiency	Response efficiency, check out efficiency
	Responsiveness	Service quality	Service efficiency, timely solution
	Agglomeration	Associated tourism elements	Surrounding environment, surrounding scenic spots, surrounding catering services, recreational activities, distance from the station, distance from the parking lot, distance from the shopping area

Tab2.	Axial	coding	and	selective	coding
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The conceptual model of service quality of clustered homestay is constructed including five dimensions: empathy, tangibility, assurance, responsiveness, agglomeration. Empirical study is further conducted to validate the model.

5 Result

5.1 Sample

Based on the service quality measurement model of clustered homestay developed above, confirmatory factor analysis is conducted to make up the limitation of qualitative research methods. A two-part structured questionnaire is designed with one part of Likert five point scale to obtain service quality perception and the other part of multiple choice to obtain basic demographic information. One monitoring question is designed to exclude invalid questionnaires. The questionnaires were distributed online by purposive sampling and snowball sampling. 219 questionnaires are received and 201 valid ones are collected with the effective rate of 91.78%. There are 44% female and 56% male included in the survey. 86% respondents get access to information of homestay through online travel agency such as Airbnb, Ctrip and Metituan B&B.

5.2 Exploratory factor analysis

Firstly, SPSS version 26 is used to tested the reliability of the scale. The Cronbach's alpha coefficient of the scale is 0.913 and that of each dimension (tangibility, empathy, responsiveness, assurance and agglomeration) is 0.668, 0.844, 0.889, 0.811, 0.711 respectively. It is showed that the questionnaire reflects high reliability. Subsequently, the exploratory factor analysis is conducted. The result shows that the KMO & Bartlett coefficient is 0.912>0.8, sig.=0.000<0.05, which means the scale structure is effective and suitable for factor analysis.

According to the factor load matrix after orthogonal rotation, one item whose coefficient is lower than 0.4 is eliminated. Four factors with characteristic values larger than one are extracted by the principal component analysis method, accounting for 59.21% of total variance.

Studies show that homely atmosphere, local touch and guest-host relationship are key points that greatly influence tourists to choose alternative accommodation (Gunasekaran et al., 2012) and the core element of homestay service is the interaction between customer and operator (Li, Shan, 2017). However, the dimensions of responsiveness and assurance in SERVQUAL scale are focused on the service efficiency and service level (ZBP, 1993), which are closely related to the interaction between guest and operator. Therefore, responsiveness and assurance, are merged into one dimension called interaction. As a result, 4 factors extracted are named as tangibility, empathy, interaction and clustering, respectively.

5.3 Confirmatory factor analysis

Secondly, SPSS Amos version 24 is used to construct the measurement model and then conduct confirmatory factor analysis to test the convergent validity and the discrimination validity.

5.3.1 Convergent validity test

The convergent validity test refers to the suggested indicators and values of studies of Schreiber (2008), McDonald and Ho (2002), Boomsma (2000), Jackson Gillasyp et al. (2009), Hoyle and Panter (1995), Schreiber, Stage, King, Nora and Barlow (2006), Hu and Bentler (1999), Baugartner and Homburg(1995) and Doll, Xia and Torkzadeh (1994), including: $\chi^2/df<3$, RMSEA<0.08, CFI>0.90, SRMR<0.08, GIF>0.80, AGIF>0.80. Besides, refers to the study of Hair, et al (1998) and the study of Fornell and Larcker (1981), the convergent validity of the scale is acceptable, meeting the suggested values including Std.>0.5, 0.7<CR<0.9, AVE>0.36, SME²>0.5.

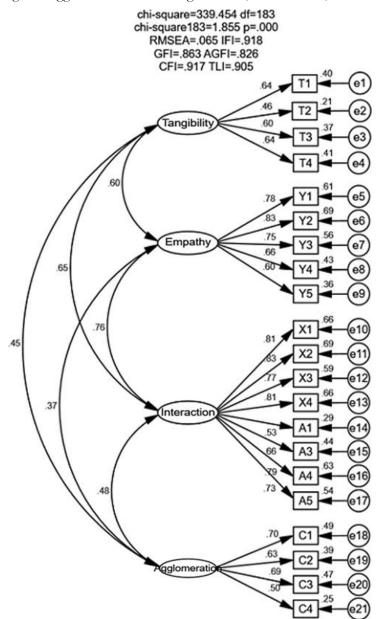


Fig1. Service Quality Evaluation Model of Clustered Homestay

The result of convergent validity test (Fig1.) shows, among twenty-one items of four dimensions, the standardized coefficients of T2 of tangibility, A1 of interaction and C4 of cluster are unacceptable. As a result, those three items are eliminated. The corrected model is tested again. (Fig2.)

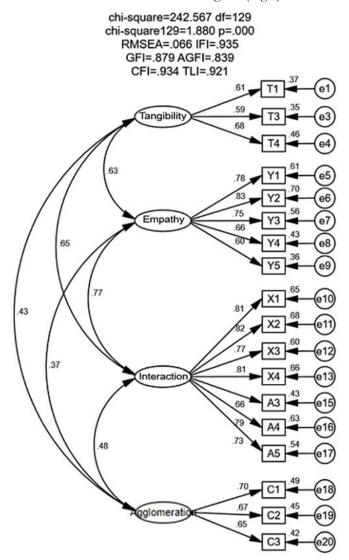


Fig2. Corrected Service Quality Evaluation Model of Clustered Homestay

<u> </u>					2				
Dimensions	Items	Unstd.	S.E.	t-value	Р	Std.	SMC	CR	AVE
	T1	1.000				0.610	0.372		
Tangibility	Т3	1.170	0.198	5.915	***	0.590	0.348	0.659	0.392
	Τ4	1.240	0.196	6.328	***	0.676	0.457		
	Y1	1.000				0.780	0.608		
	Y2	1.111	0.091	12.152	***	0.834	0.696		
Empathy	Y3	1.002	0.092	10.840	***	0.752	0.566	0.848	0.532
	Y4	0.902	0.097	9.311	***	0.657	0.432		
	Y5	0.784	0.094	8.363	***	0.597	0.356		
	X1	1.000				0.808	0.653		
	X2	1.029	0.077	13.350	***	0.824	0.679		
	X3	1.061	0.087	12.233	***	0.773	0.598		
Interaction	X4	1.073	0.082	13.142	***	0.814	0.663	0.912	0.599
	A3	0.918	0.092	9.966	***	0.659	0.434		
	A4	1.046	0.082	12.676	***	0.793	0.629		
	A5	0.927	0.081	11.405	***	0.733	0.537		
	C1	1.000				0.698	0.487		
Clustering	C2	0.873	0.132	6.631	***	0.669	0.448	0.711	0.451
	С3	0.868	0.132	6.555	***	0.646	0.417		

Tab 3. Convergent validity test

The result of the convergent validity test of the corrected model (Tab3.) shows indicator values of the model meet the suggested values well: $\chi^2=242.567$, df=129, $\chi^2/df=1.880<3$, RMSEA=0.066<0.08, SRMR=0.0528<0.08, GFI=0.879>0.80, AGFI=0.839>0.80, CFI=0.934>0.90, TLI=0.921>0.90. The CR value of tangibility, empathy, interaction, agglomeration is 0.659, 0.848, 0.912, 0.711, and the AVE value is 0.392, 0.532, 0.599, 0.451, respectively. In addition, the factor loading of all latent variables are between 0.590 and 0.834. All dimensions meet the proposed values except that the CR value of tangibility is slightly lower than 0.7 and that the factor loading of T3 and Y5 is 0.590 and 0.597, respectively, slightly lower than 0.6. However, all values are still fall within acceptable limits. Hence, the scale is verified to have good convergent validities.

5.3.2 Discriminant validity tests

Tab4. Discriminant validity tests

	AVE	Agglomeration	Interaction	Empathy	Tangibility
Agglomeration	0.451	0.672			
Interaction	0.599	0.476	0.774		
Empathy	0.532	0.370	0.772	0.729	
Tangibility	0.392	0.434	0.646	0.627	0.626

The result of discriminant validity tests (Tab4.) shows, the square root of the AVE value of each variable is higher than its correlation coefficient with other variable. The square root of the AVE value of tangibility is slightly lower than its correlation coefficient with empathy and interaction, which is still acceptable. Therefore, the scale is verified to have good discriminant validities.

6 Conclusion

Eventually, the evaluation model for service quality of clustered homestay is constructed in this study with the four dimensions of tangibility, empathy, interactivity, and agglomeration, including 18 indicators in total.

Different from the original SERVQUAL model, reliability is not incorporated in the evaluation model of the service quality of clustered homestay. Reliability refers to the capacity of enterprises to fulfill their promise in an authentic and accurate manner, which means that the service is fulfilled on time in a consistent way and without error. However, homestay services pay more attention to the customization of services. The idiosyncrasy of the operator reflected in the process of communicating with customers is more important than the consistency. Therefore, customer's perception of reliability in clustered homestay is not significant.

Tangibility of the service quality of clustered homestay refers that homestay is able to provide customers with good accommodations, including accommodation facilities, room layout and furnishing style, and sanitary

conditions. The result of confirmatory factor analysis showed that cleanliness and tidiness in each area of the homestay house has the highest contribution rate to tangibility. Therefore, operators of clustered homestay should pay attention to the cleanliness of public areas and rooms so as to improve customers' perception of tangibility.

Empathy, which is one of the key points of the service quality of clustered homestay, refers that homestay services can provide customers with personalized services, including: the keeper's willingness to communicate with consumer, the activeness to understand the needs of consumer, the personalized services catering to customer, the ambiance of homestay and local characteristics and customs. Therefore, operators of homestays should have more interaction with customers during and after their stay, which is an important factor of the service quality perception, so as to emphasize the personalization of homestay service.

Interaction, which has a relatively high correlation with empathy, is also an important evaluation dimension of the service quality of clustered homestay. Among those indicators included, service efficiency, service quality, communication ability, service attitude, service etiquette, comfort level and consumer confidence, the contribution rates of service efficiency and service quality are particular high to interaction. It shows that the efficiency and the quality of services of homestay are still important for customers, which is similar to the general service industry. Therefore, homestay operators should respond to customers' needs in time and handle customers' complaints properly so as to enhance the customer confidence and improve service quality.

Agglomeration, which is the most significant difference between clustered homestay and single homestay, refers to the mutual support between clustered homestay and the related industries in the tourism destination. It includes: availability of various and high-quality catering services, availability of entertainment and activities, availability of major scenic area and traffic convenience. There are no significant differences in the contribution rates of those three indicators to the dimension. Therefore, the cooperation between homestay operators and business owners of other related industries in the tourism industrial chain is significant to the development of the core competitiveness and the economic effect of the agglomeration of tourism industry. **References**

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