Weight Analysis of the Influencing Factors of Homestay Competitiveness in Rural Guangzhou, China

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Abstract: At present, Guangzhou homestay industry is facing a bottleneck. Therefore, it is particularly important to analyze the factors that influence the competitiveness of rural homestays in Guangzhou, determine the evaluation system of competitiveness, and determine the weight of each factor. Based on Porter’s diamond theory, this paper analyzes and summarizes the influencing factors of homestay competitiveness, and divides the influencing factors into 5 primary factors and 34 secondary factors. The analytic hierarchy process (AHP) was used to determine the judgment matrix to form the weight results of each factor, and the results show that product characteristics account for the largest proportion among first level factors. Secondary factors such as theme creativity, personalized brand and the overall score account for a large proportion. The research results can act as a reference for the construction of competitiveness evaluation mechanism and model of local rural quality homestays.

Keywords: Homestay competitiveness; Influencing factors; Weight analysis

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1. Introduction
Globalization has enhanced global knowledge of the natural wonders and manufactured attractions found in various countries. Indeed, in the last few years, an increasing number of travelers have sought out novel and exciting destinations, such as natural tourism attractions [1]. However, the COVID-19 pandemic has had a detrimental effect on service sectors worldwide, most notably the tourism sector [2], as travelers’ trust in destinations’ response to pandemic dangers has been eroded [3]. According to the World Tourism Organization, over 900 million tourists visit major rural destinations each year, implying that homestay tourism could help a place remain competitive during and after the epidemic [4].

2. Current situation of rural homestays in Guangzhou
With the growth of China’s economy and the improvement of the people’s living conditions, the tourism business in China has exploded, and an increasing number of individuals have embraced the homestay tourism concept. To further encourage homestay tourism, Guangzhou has developed programs such as “Beautiful Village” and “Rural Revitalization Strategy.” In 2019, China’s homestay market was worth 20 billion yuan, and as of September 30, 2019, there are 169,800 homestays in mainland China [5].

Guangdong Province’s homestay industry benefits from the province’s economic strength, the large
population of boutique tourism consumers, and the local government’s homestay policies. According to the “2018 National Homestay Industry Development Research Report,” the number of homestays in Guangdong Province increased to 18,441 as of December 23, 2018, ranking first among all Chinese provinces, indicating rapid growth. With the construction of regional tourism and the Guangdong-Hong Kong-Macao Greater Bay Area, the Guangdong homestay industry will continue to grow in lockstep with the province’s tourism economy. 

Notably, this study’s sample includes Guangzhou homestays. As of February 2019, homestays are concentrated primarily in the Pearl River Delta economic zone of Guangdong Province’s 21 cities. With 6,712 homestays, Guangzhou is the city with the most. According to statistics, Guangdong province has a proportion of luxury homestays, boutique homestays (including inns), and standard homestays (including inns) of 24.9%, 18.1%, and 57%, respectively. Compared to the total number of Guangdong homestays, the number of boutique homestay brands that generate word-of-mouth is significantly less. 

As the focal point of rural tourism and a novel business model for cultural tourism integration, homestays have garnered increasing attention and demand from the government, academics, capital, and variety shows. Consumers gradually recognized this, and it developed into a strong trend of brand chain clustering within a specific range. However, with the growth of homestay brands, the need for consumption upgrading, and the government’s standardized management, the homestay industry is about to undergo a reshuffle, with those lacking in quality homestays being gradually phased out by the market. As a result, it is critical to conduct research on homestay tourism’s competitiveness.

3. Problems faced by rural homestays in Guangzhou
With the continuous development of the homestay industry, affected by internal competition, the increase of operating costs, demand upgrading and other pressures, as well as the market continues to mature, the original decentralized, small-scale extensive homestay business model, gradually transformed into a brand, chain, characteristic based quality homestay model. However, most domestic and foreign research on homestay tourism focuses on motivation, decision-making, and satisfaction of tourists choosing homestay from the perspective of homestay tourists. Moreover, much research has been done on the competitiveness of tourist destinations, but not much on the competitiveness of homestay. At present, the theoretical analysis of the competitiveness of the development of homestay in a certain area becomes a mere formality. The general method of research is to interpret the concept and characteristics of homestay, analyze the status quo and development conditions, and put forward suggestions. The management path to effectively enhance the competitiveness of homestay has not been explored. There are various factors affecting the competitiveness of homestay. Considering the current situation of homestay in Guangzhou, the main problems are explained below.

3.1. Environmental choice
People who have lived in cities for a long time have a keen interest in natural beauty and country life. It is critical for consumers to choose a homestay that they can physically and mentally liberate themselves from the shackles of daily life. Air quality, the beauty of the natural landscape, the diversity of plants, and the distinctiveness of local conditions and customs have all become critical components for people to enjoy varied lifestyles. “The brimming waves delight the eyes on sunny days, and the dimming hills present rare view in a rainy haze” is the homestay’s primary selling point. Location is the most critical factor affecting the operation of homestay. Environmental elements affecting homestays with tourist and lodging characteristics, such as the natural environment, cultural environment, and manufactured environment, all contribute to the growth of homestays. The environmental factors surrounding the homestay are not replicable. In other words, moving a homestay in the old town of Lijiang to a town in front of your house
may not have the same economic effect. Homestays with a good environment will attract more consumers and have greater competitiveness. For example, in the analysis of the competitiveness of homestays in different areas of Gulangyu, Xiamen, the homestays with better external environmental conditions and commercial services, and more scenic spots around have more obvious competitive advantages. Thus, this study aims to find out how the environment affects the competitiveness of rural homestay tourism.

3.2. Operators’ quality
According to McIntosh and Siggs, a homely feeling is a critical component of homestay, which is founded on emotions, personal touch, and hospitality [13]. Homestays is different from traditional hotels, restaurants, and guesthouses, in which they provide tourists with more “home” comfort and freedom. As the homestay is set up directly in the operator’s home, it is more like visiting the host’s home than staying in a particular type of hotel. Tourists can eat and live together with the host, have sufficient time and opportunity to communicate and interact, and even participate in the production and daily activities of the host family, which can shorten the psychological distance between each other and build interpersonal relationships. This is an excellent opportunity for visitors to immerse themselves in local life, a feature that no other hotel or lodge has. Besides, Lowe emphasizes that participation of operators’ houses and a homey ambiance for tourists is an inherent aspect of homestay [14]. According to Marcus, a home is a reflection of its owner’s personality, lifestyle, cultural values, social standards, religious views, and historical background [15]. The overall quality of Chinese operators is not high, and the general reception and service level needs to be improved. While the number of homestays in China has increased, most of them are developed by the local people that have low level of education and have not undergone professional business training. As a result, they are lacking in aspects like management and business thinking; the operator operates solely on their own subjective consciousness, only care about their own operating conditions, and ignore the overall economic environment, and they lack scientific management systems and methods. Hence, this study intends to find out how operator considerations affect the rural homestay tourist industry’s competitiveness.

3.3. Lack of unique characteristics
In China, the development of homestay products has progressed from an exploratory stage to the point of severe uniformity and little innovation [16]. “A high volume of assimilations” generates aesthetic fatigue in consumers, and homestays with the same style become unappealing. Diversification and creativity are critical components of homestay development. Only when the surroundings and cultural ambiance are coherent can a homestay develop its own distinct personality and qualities that will entice tourists [17]. Therefore, this study intends to find out how product characteristics affect the rural homestay tourism industry’s competitiveness.

3.4. New marketing strategies
Rural homestay tourism has gradually demonstrated its vitality and attraction in recent years, owing to the vital tourism demand of urban inhabitants to reconnect with nature. However, regardless of their quality, rural homestay tourism products require marketing. Because Internet marketing is a product of the network era, the combination of Internet and rural homestay tourism product marketing represents a new marketing model, paving the way for rural homestay tourism product marketing. This new marketing strategy is based on the Internet as a platform for marketing; it breaks through the traditional marketing model’s high production costs and limited visibility, lowering the marketing costs of rural homestay tourism products, increasing their popularity, and ultimately promoting sustainable development of rural homestay tourism [18]. That is why this study intends to find out the degree to which marketing strategies influence the competitiveness of rural homestay tourism.
3.5. Low customer satisfaction

With the ongoing appearance of new types of homestays and severe competition, it is critical for homestays to maintain and improve customer satisfaction in order to capitalize on market opportunities and sustain competitive advantages. Practitioners should do an in-depth analysis of their existing conditions and work to enhance their competitiveness on all fronts, including customer happiness, which is critical for achieving competitive advantages in homestay [19]. In light of China’s growing demand for tourism consumption and the low level of tourist satisfaction, it is crucial to explore and analyze consumer assessment and satisfaction in order to increase the competitiveness of boutique homestays in the homestay market [20]. Hence, this study intends to find out how customer satisfaction affects the rural homestay tourism industry’s competitiveness.

Homestay is a segment of the expanding tourism sector. The market was saturated between 2013 and 2018, and the growth trajectory was short. The homestay business concept is primarily decentralized and small-scale. Internal rivalry, rising operating costs, and demand upgrading can quickly jeopardize the fragile homestay business, and the business model for efficiently boosting competitiveness has yet to be explored. To overcome bottlenecks in the development of the homestay industry, it is necessary to identify competitive advantages through environmental resources and operator characteristics, as well as to promote the competitiveness of homestay individuals and the industry as a whole through the characteristics of homestay and the diversification of publicity means. Simultaneously, the general situation and individual differences in the homestay’s competitiveness in different tourist destinations must be thoroughly evaluated to develop reasonable management and optimization plans, and the state of homestay’s competitiveness with different level gradients should serve as the foundation and premise for decision-making [10]. Thus, there is a relationship between environmental factors, operator consideration, product characteristic, customer satisfaction and marketing strategies, and rural homestay tourism competitiveness.

A few studies examined all the five factors (environmental factors, operator factors, product characteristic, marketing strategies, and customer satisfaction) in one study.

The purpose of this study is to research homestay’s competitiveness and to ascertain the impact of five different influencing factors on the competitiveness of boutique rural homestay tourism in Guangzhou. Environmental factors, operator factors, product characteristics, and marketing and customer satisfaction are ideas that helped us in evaluating and establishing a competitive model for boutique rural homestay tourism.

4. Influencing factors of homestay competitiveness

There is almost no clear definition of the competitiveness of rural homestay market in domestic and foreign literature. Most of them summarize and analyze the measures to improve the competitiveness of the rural areas based on case studies. As Lin mentioned, in order to enhance the competitiveness of rural tourism market, it is necessary to distinguish the differences between rural tourism in different regions and general tourism [21]. The significance of differentiable refers to the significant uniqueness of rural tourism from other forms of business. Once this uniqueness becomes the core competitiveness of rural homestay, it will become the representative and driving force of its sustainable development. Komppula argues that rural homestay enterprises play an extremely important role in the competitiveness of the rural tourism market, and that no tourist destination can thrive without rural entrepreneurs who have the courage to innovate and take risks [22]. Yang et al. studied the competitiveness of different types of rural homestay tourism and found that the market competitiveness and strategic development direction of rural homestay tourism in different regions were inconsistent due to the personalized characteristics of each area [23]. The relatively simple qualitative description was biased to the theoretical content at the macro level and was not detailed.

In this study, homestay competitiveness refers to the ability of the homestay to stand out despite the
challenges of internal and external factors. External factors include coping with demand changes and uncertain social risks, while internal factors include survival of the fittest among competitors.

Although Porter’s diamond model is relatively mature, this model focuses on the macro level, which is suitable for evaluating national competitiveness. Therefore, when determining factors, the macro characteristics of factors are obvious, such as enterprise strategy, structure, and peer competition, which reflects the integration consideration of industrial scale and enterprise scale. However, rural homestay tourism has its own characteristics, and the diamond model needs to be improvised based on the characteristics of rural homestay tourism. Based on porter diamond model theory, this paper re-deconstructs and improves the five factors that affect the industrial competitiveness and are suitable for the rural homestay tourism market.

4.1. Environmental factors
Environmental factors have a positive impact on the competitiveness of homestay. The environment plays a significant role in determining the competitiveness of homestays. Chin et al. used the Hannah Rais homestay as a case study to examine the relationship between homestay competitiveness and environmental characteristics. They discovered that the natural and cultural heritage environments contributed to the homestay’s competitiveness [24]. Additionally, the created environment, such as delectable food resources and rural infrastructure development, would affect the competitiveness of homestay tourist projects [25]. Therefore, this study proposes the hypothesis that environmental factors have a significant impact on the competitiveness of homestay.

4.2. Operator factors
The burgeoning market demand leads individuals with principles and emotions to invest in homestay. There are a variety of investors interested in the homestay market, including owners of traditional industries, teachers, decorators, café proprietors, and travel agency operators, and many others. Since homestay operators serve as both hosts and managers, they themselves contribute significantly to the competitiveness of the homestay industry. Therefore, this study proposed the hypothesis that operator factors have a significant impact on the competitiveness of homestay.

4.3. Product characteristics
A feature is a characteristic of an object or a class of objects that distinguishes it from other objects. It is determined by the specific environmental circumstances that influence the generation and development of the object and is unique to the object to which it belongs [26]. The most appealing feature of a homestay is its uniqueness, and consumers aspire to come across a unique homestay along their travel route. Therefore, this study hypothesized that product characteristic factors have a significant impact on the competitiveness of homestay.

4.4. Marketing strategies
Marketing strategies are critical for increasing homestay’s competitiveness. Rural homestay tourism should also keep up with the times, utilizing a range of new media, network platforms, We-Media software, and other means to bolster propaganda efforts and marketing innovation, allowing rural homestay tourism to grow even further [27]. Therefore, this study proposed the hypothesis that marketing strategies have a significant impact on the competitiveness of homestay.

4.5. Customer satisfaction
Customer satisfaction is a critical indicator of a rural homestay’s quality. Customer satisfaction has a
significant impact on tourists’ return rate, which is also an intuitive expression of tourists’ opinion of homestay, making it beneficial to study the components of their competitiveness [28]. Therefore, this study proposes the hypothesis that customer satisfaction has a significant impact on the competitiveness of homestay.

5. Weight analysis

5.1. Fundamental

AHP (Analytic Hierarchy Process) involves qualitative and quantitative factors combined with the multi-objective complex problems, through mathematical, modelling, and systematic analysis, decomposed into multi-level and multi-factors. The weight values of these decomposed factors are obtained through comparison and scientific calculation, and then these weight values are used for calculation and evaluation, so as to select the optimal scheme. The relative importance of each factor in the hierarchy was determined by pairwise comparison. The judgment matrix was constructed, mathematical processing was carried out, and consistency test was carried out. After consistency test, the relative weight of each index was obtained. Finally, the comprehensive ranking of index factors was determined according to the final weight value of each index.

5.2. Evaluation indicators

(1) Target layer A

Target layer A is the evaluation index system for the competitiveness of boutique homestays in Guangzhou, which is used to measure the overall competitiveness of boutique homestays in Guangzhou.

(2) Criterion layer B

By consulting the relevant literature, the we drew on the relatively influential competitiveness model of industrial clusters — factors of production, demand conditions, relevant supporting industries, corporate strategy and competition status, government policies and opportunities in Porter’s diamond theoretical model. These main influencing factors were also proposed by combining the basic characteristics of the homestay tourism industry and the factors influencing the competitiveness of Guangzhou boutique homestays. After consulting experts repeatedly, we finally determined the five evaluation factor layers, which are environmental factors, operator factors, product characteristics, marketing strategies, and customer satisfaction as shown in Figure 1, which can comprehensively reflect the competitiveness of Guangzhou boutique homestays.

![Flowchart](Figure1.png)

**Figure 1** Competitiveness evaluation index chart of Guangzhou boutique homestay
(3) Evaluation factor layer C

According to the index of the criterion layer, the evaluation factor layer is selected in a targeted manner, and the index content of the criterion layer is further refined and improved comprehensively and systematically.

The indicators are shown in Table 1, which includes the following: the starting price of the guest room, the total construction area of the homestay, the number of homestay rooms, the number of beds in the homestay, the walking distance from the station, the number of core attractions within 1 km, the number of commercial points within 1 km, the number of homestay reviews, overall rating, user recommendation rate, location scores, facility scores, service scores, and hygiene scores, which were selected with reference to the index system established by Huang [10]; government support, related industry support, inter-enterprise cooperation, and inter-enterprise competition with reference to the index system established by Liu [29] and Li [30]; the level of education and management of employees with reference to the index system established by Ran [31] and Dong [32]; the number of A-level tourist scenic spots and the richness of rural tourism products with reference to the index system established by Qiao [33]; the investment of enterprises, the operator’s sense of identity, the participation of the host, and the construction of personalized brands; several indicators were selected with reference to the indicator system established by Zhao [34]; the number of online platforms, the degree of publicization through WeChat short video platform and shooting of popular TV programs, and product preferential policies were selected with reference to Chen [18]; local culture, theme creativity, characteristic catering, and characteristic tourist souvenirs were selected with reference to the index system established by Fan [35].

The selection of the above 34 evaluation indicators is explained as follows:

Table 1. Competitive index system of rural quality homestay

<table>
<thead>
<tr>
<th>Hierarchy of objectives</th>
<th>Criterion layer</th>
<th>Subdivision criterion layer</th>
<th>Index level</th>
</tr>
</thead>
</table>
| A. Rural boutique homestay competitiveness | B1. Environmental factors | Natural environment | C1. Number of A-level scenic spots  
C2. Rural tourism products |
| | | Basic information | C3. Starting price of rooms  
C4. Total construction area of the homestay  
C5. Number of rooms  
C6. Number of beds |
| | | Locational conditions | C7. Distance to the station by foot  
C8. Number of core scenic spots within 1 kilometer  
C9. Number of commercial spots within 1 kilometer |
| | | Social environment | C10. Government support  
C11. Relevant industry support  
C12. Degree of cooperation among enterprises  
C13. Degree of inter-enterprise competition |

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5.3. Weight analysis result
The method of consulting relevant literature was used to determine the influencing factors. A total of 10 respondents were interviewed and consulted. The data obtained from 10 questionnaires were averaged for consistency analysis, and the weight of the index system was obtained, which is shown in Table 2.

Table 2. Weight analysis of target layer A

<table>
<thead>
<tr>
<th>Criterion layer</th>
<th>Weighted value</th>
<th>Maximum eigenvalue</th>
<th>Consistency ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environmental factors</td>
<td>13.435%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operator factors</td>
<td>3.482%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Product characteristics</td>
<td>50.282%</td>
<td>5.243</td>
<td>0.061</td>
</tr>
<tr>
<td>Marketing strategy</td>
<td>6.778%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Customer satisfaction</td>
<td>26.026%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
When the random consistency ratio is smaller than 0.1, the results of AHP are considered consistent, which means that the weight distribution is reasonable. It can be seen from Table 2 that CR = 0.061, which is smaller than 0.1. After consistency test, the weight value of environmental factors, operator factors, product characteristics, marketing strategy, customer satisfaction are 13.435%, 3.482%, 50.282%, 6.778%, 26.026%, respectively.

According to the results in Table 2, the weight of product characteristics (B3) among the five first-order influencing factors was 50.282%, accounting for the highest proportion, making it a highly influential factor. This could be due to the increasing preference for personalized and characteristic homestay design in recent years. The weight of operator factors (B2) was 3.482%, accounting for the lowest proportion, which may be related to the impact of the business model of homestay chain brands on traditional family homestay.

Table 3. Weight analysis of evaluation factor layer C

<table>
<thead>
<tr>
<th>Criterion layer</th>
<th>Subdivision criterion layer</th>
<th>Index level</th>
<th>Weight analysis of evaluation factor layer C</th>
</tr>
</thead>
<tbody>
<tr>
<td>B1. Environmental factors (13.435%)</td>
<td>Natural environment (55.495%)</td>
<td>C1. Number of A-level scenic spots (75%)</td>
<td>5.592%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>C2. Rural tourism product richness (25%)</td>
<td>1.864%</td>
</tr>
<tr>
<td></td>
<td>Basic information (9.670%)</td>
<td>C3. Starting price of rooms (64.268%)</td>
<td>0.835%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>C4. Total construction area of the homestay (10.104%)</td>
<td>0.131%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>C5. Number of rooms (20.827%)</td>
<td>0.271%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>C6. Number of beds (4.800%)</td>
<td>0.062%</td>
</tr>
<tr>
<td></td>
<td>Locational conditions (9.670%)</td>
<td>C7. Distance to the station by foot (8.331%)</td>
<td>0.108%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>C8. Number of core scenic spots within 1 kilometer (72.351%)</td>
<td>0.940%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>C9. Number of commercial spots within 1 kilometer (19.319%)</td>
<td>0.251%</td>
</tr>
<tr>
<td></td>
<td>Social environment (25.165%)</td>
<td>C10. Government support (26.335%)</td>
<td>0.890%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>C11. Relevant industry support (5.689%)</td>
<td>0.192%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>C12. Degree of cooperation among enterprises (55.789%)</td>
<td>1.886%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>C13. Degree of inter-enterprise competition (12.187%)</td>
<td>0.412%</td>
</tr>
</tbody>
</table>

(Continued on next page)
According to the results in Table 3, among the 34 second-level influencing factors, theme creativity (C22) and personalized brand (C23) accounted for 20.951%, accounting for the highest proportion. They were the most influential factors. The weight of second-level influencing factor, overall review (C29) of first-level influencing factor, customer satisfaction (B5), was 15.844%, accounting for a relatively high proportion, which was also a factor with a relatively large influence. The weight of operators’ sense of identity with local resources (C15) of operator factors (B2) was 0.061%, accounting for the lowest proportion.
proportion. Among the first-order factors, environmental factors (B5), the weight of second-order factor, which was the number of beds (C6), was 0.062\%, which was relatively low.

6. Conclusion
Based on the combination of Porter’s diamond model theory and the current situation of Guangzhou’s rural homestay industry, this article reorganized the six influential factors of diamond model that affects the competitiveness of Guangzhou homestay through literature research, which includes the following: environmental factors, operator factors, product characteristics, marketing strategy, customer satisfaction, which was illustrated with an example. The factors were further subdivided into 34 second-level factors, forming the evaluation index system of homestay competitiveness. Based on this, combined with the survey opinions of experts, tourists, and homestays operators, the comprehensive weight of each factor index was analyzed through AHP. The results show that the most influential first-level factor affecting rural homestays in Guangzhou is product characteristics, while the secondary factors with great influence were theme creativity, personalized brand, and the overall score.

This research deeply analyzed the concept and characteristics of rural boutique homestay, through summarizing the research literature of domestic and foreign scholars and sorting and determining the concept of rural boutique homestay. Strive to solve the current lack of boutique homestay’s competitiveness evaluation model. In the process of studying the rural boutique homestay in Guangzhou, this research the indicators that affect the competitiveness evaluation of the boutique homestay in Guangzhou were analyzed based on from five influencing factors, which will be helpful and complementary to the competitiveness evaluation mechanism and model of the local rural boutique homestay.

Disclosure statement
The authors declare no conflict of interest.

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