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Formation of Homestay Clusters and Their Impact on Business Performance

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Abstract: Based on cluster theory and service industry agglomeration perspectives, this study examines how homestay clusters form in Guizhou and how clustering affects operators business performance and competitiveness. Using a two-round Delphi process (n=9 experts), we identified three dimensions of cluster formation, including overall environment, homestay industry characteristics, and element conditions, and developed measurement items. Survey data from 120 Guizhou Tourism Homestay Association members were analyzed via factor analysis and regression models. Results indicate that cluster formation is positively associated with business performance and overall competitiveness ($p < 0.05$), and operator demographics (gender, age, education, and monthly income) are linked to significant differences in perceived performance and competitiveness. These findings provide evidence for resource integration and policy/managerial strategies to enhance homestay competitiveness in emerging destinations.

Keywords: Homestay, industrial clusters, business performance, Guizhou Province.

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1. Introduction

In recent years, public interest in operating tourist homestays has grown rapidly, accompanied by supportive national and provincial policies. On July 8th, 2022, the Ministry of Culture and Tourism, jointly with ten other departments, issued Guidance for Promoting High-Quality Development of Rural Homestay Industry. To further promote the high-quality development of Guizhou's homestay industry, on February 16th, 2023, the Guizhou Provincial Government issued Guidance for Promoting High-Quality Development of Guizhou's Homestay Industry. Therefore, various types of homestays are springing up all over the country, especially in Guizhou Province, where they grow fastest and most densely. Under the continuous investment from operators, it has formed an industrial cluster of the homestay industry. By April 2024, according to statistics from the Guizhou Tourism Homestay Association, there were more than 12,000 homestay business entities in Guizhou Province, forming clusters of homestay industry such as Wanfenglin, Fanjing Mountain and Huangguoshu Waterfall. It is expected that by 2025, new homestay market entities will increase by 5,000, while the number of limited liability companies will reach 150, rated homestays will be 600, including 30 five-star homestays and 90 four-star ones.

Why has this force of cohesion been formed in Guizhou's homestay industry? And what factors have caused Guizhou's homestay operators to form a cluster? Scholar's discussions on clusters are mostly focused on how innovation systems affect clusters (Zhu and Cheng, 2025) or how regional development strategies based on high technology influence science park clusters (Yoon, 2017). However, there is still a lack of deep discussion about why service industries form clusters and how cluster effects impact business operations. The performance of enterprises directly affects their future development.

This study is based on a literature review and uses the Delphi expert opinion method to propose factors of the Guizhou homestay industry cluster. Then, questionnaires are distributed to Guizhou homestay operators using survey methods, after which quantitative data are collected for regression analysis to understand the formation of industry clusters and their impact on homestay operations. That is, the degree of influence of service management, human resources, finance, marketing activities and other operational aspects of cluster homestays on homestay operators in Guizhou. This research aims to find out the greatest benefits brought about by cluster phenomena to Guizhou homestay operators, assess the mutual business network relationships and overall competitive capabilities of Guizhou homestay operators, and provide a reference for Guizhou homestay operators to integrate resources.

2. Literature review

2.1. Definition of Homestay

Homestay-type accommodation emerged in parts of Europe and gradually spread to other countries, evolving from early forms of farm-based lodging and leisure stays. In international research, "homestay" is often discussed under the umbrella of B&B (Bed and Breakfast) and conceptually related terms such as family hotel, family inn, guesthouse, and similar forms of small-scale lodging (Lynch, 2005).

In China, there was no authoritative and accurate concept of homestay for a long time. Therefore, when studying issues related to homestays, many terms emerged, such as "homestay," "family inn," "rural tourism," and "residential inns" (Lee et al., 2020). It wasn't until February 1st, 2023, that the National Standard "Basic Requirements and Classification of Tourist Homestays" officially implemented by the Ministry of Culture and Tourism of the State Council came into effect. The standard defines tourist homestays as small-scale accommodation facilities providing tourists with local natural environment, culture and production lifestyle experiences through using idle resources such as local residences, where owners participate in reception. The owner of the homestay refers to the owner or manager of the homestay.

2.2. Cluster of Industries

The industry cluster theory originated in the 1950s. Scholar Perroux (1950) proposed a special development zone for industrial development. The concept of "Industrial Development Blocks" is used to study the growth and evolution process of industries. He believes that successful cluster formations lie in the effective combination within production chains and spontaneous technological flows between forward and backward production links in industrial complexes. Porter's term "Industry Cluster", which was proposed in his book on competitive strategy, has since been highly regarded by academia, industry, and research institutions, supported by the achievements of Silicon Valley's high-tech industry in the United States, making clustering effects gradually become an important theory for the development of industries (Delgado et al., 2016). Bahrami and Evans (1995) pointed out in their research that a cluster refers to many regional clusters created due to the relationship between input and output during the economic activities of different industries, and these clusters are formed through various demands and benefits from different industries. Kudratov (2025) stated that internal economies and external economies explain the benefits of clusters based on enterprises as starting points, which is considered a driving factor for an industry cluster. In summary, scholars views suggest that the phenomenon of clusters can be explained as connections among producers who produce similar products or have upstream-downstream relationships with each other. These connections often manifest themselves geographically, where geographical concentration brings many advantages such as information exchange, shared geographic resources, frequent interactions, and competitive cooperation relations, creating space for collaboration and trust among manufacturers (Bahrami and Evans, 1995). Industry clusters also create four types of effects for manufacturers (Chim-Miki et al., 2025):

1. Increased interaction among companies.

2. Displaying cooperative partnerships with main competitors.

3. Increasing and circulating information.

4. Feeling like belonging to the same group.

2.3. Business Performance

Performance is of great significance to every enterprise organization, and the goal of any business activity is to improve performance and increase profits. The same applies to the homestay service industry. Quinn and Rohrbaugh (1983) proposed 30 economic performance indicators, which are represented by three aspects: 1. The organization's core area of focus, which includes encompassing internal and external dimensions, productivity, profitability, job satisfaction, and growth potential. 2. Part of the organization's preference for structure, emphasizing control and flexibility indicators, such as the flexibility index, adaptability, conflict, and cohesion. 3. The results pursued by the organization, including adopted methods and their outcomes. General performance indicators are mostly measured by financial performance and corporate performance indicators. Organizational effectiveness is less used.

Therefore, its definition on organizational performance measurement, respectively investment return rate, cash flow from investments, market share, stability of market share and employee productivity (Amhalhal et al., 2021). For the business performance of enterprises, it should be measured from an economic perspective, with asset turnover ratio and sales growth rate being the main indicators (Vintilă et al., 2025). This study summarizes the above research, measuring indicators include subjective performance, objective performance, financial performance, non-financial performance,

market performance, comparative performance and six types. Most scholars believe that performance is a measure of how well an organization achieves its goals, indicating unanimous agreement (Ariaini and Satrya, 2024; Aguilera et al., 2024; Serbinenko and Ludviga, 2025).

In terms of performance measurement for the tourism industry, hotels and homestays are most similar in nature. Both belong to service industries, with their products having characteristics such as intangibility, inseparability, variability and perishability, which are common to service industries. Therefore, hotel management performance is used as a reference to develop indicators for homestay management performance. In terms of performance measurement indicators for tourist hotels, room number, employee number, total operating expenses, and the dining department's total floor area are used. The occupancy rate and total revenue are performance indicators (Sampaio et al., 2025; Varelas and Tsoupros, 2024).

3. Research Framework and Methods

3.1. Research Framework

The research framework is developed from the problem context described in Section 1 and is informed by the literature review and expert consultation presented in Section 2. The framework examines the main factors driving the formation of homestay clusters in Guizhou and their associations with business performance and overall competitiveness. Cluster formation is conceptualized through three domains, including overall environment, homestay industry characteristics, and element conditions, while outcomes focus on business performance and overall competitiveness. The research framework is presented in Fig. 1

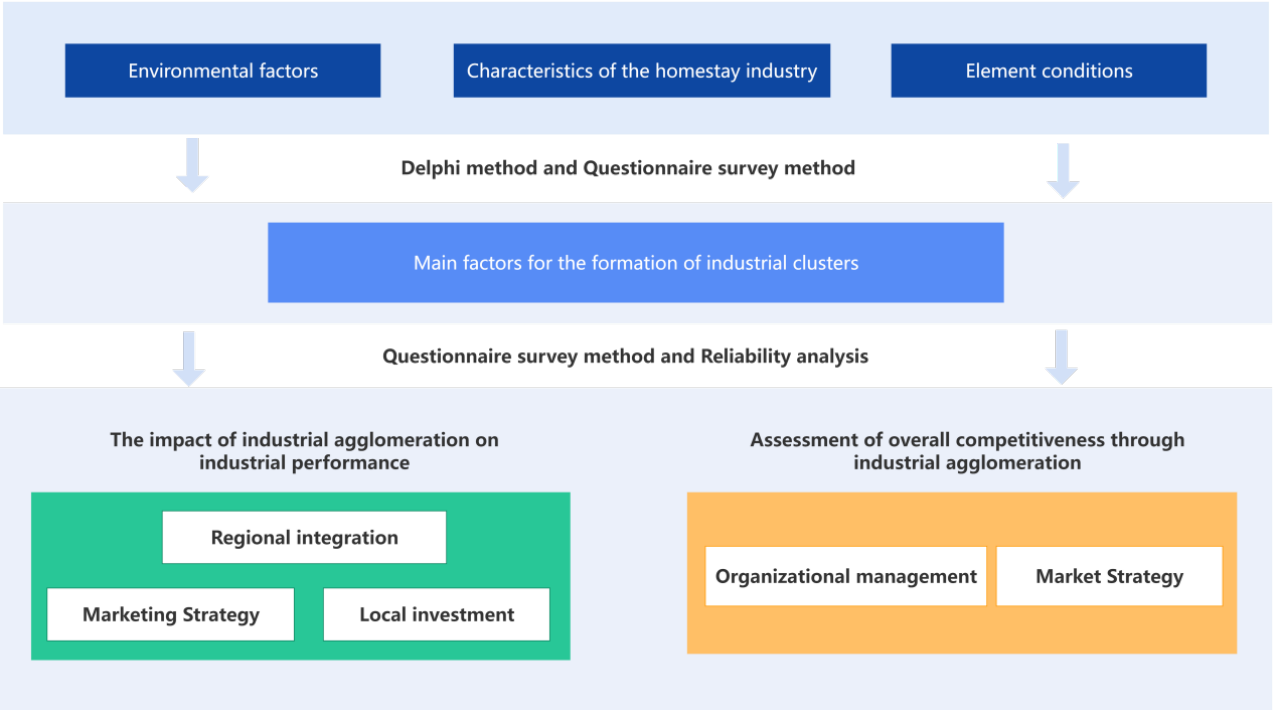

Fig. 1. Research architecture diagram

3.2. Research Methods

Using Guizhou's homestay sector as the empirical context, this study combines qualitative and quantitative evidence. We first drew on the literature to develop an initial pool of items and then used the Delphi method to consolidate expert judgments and refine the measurement structure. Based on the Delphi results, we constructed a structured questionnaire and administered it to Guizhou homestay operators. The resulting survey data were analyzed using factor analysis and regression-based methods to examine how factors related to cluster formation relate to business performance and overall competitiveness. The approach is intended to provide evidence that may be informative for other tourism destinations where homestay clusters or similar service-industry agglomerations are emerging.

(1) Delphi method

The purpose of this study is to find a way to obtain consistent and reliable opinions from experts in groups, which is a structured group communication process that allows each member to fully express their opinion on an issue and be treated equally so as to reach consensus on complex issues (Zhu and Cheng, 2025). This research invited experts who must have high enthusiasm and expertise related to the topic. The expert group included industry leaders, scholars, and operators from relevant bed-and-breakfast associations, totaling nine people (Table 1).

Table 1. List of experts consulted by Delphi questionnaire

Serial number	Field	Unit	Title	Number of people
1	Enterprise	Laobang River Youjianfang Homestay	Manager	1
2	Enterprise	Twelve Back Shuanghe Inn	Manager	1
3	Enterprise	Laran Homestay	Manager	1
4	Association	Guizhou Tourist Homestay Association	Vice President	1
5	Association	Qiannan Homestay Association	President	1
6	Association	Anshun Homestay Association	President	1
7	Colleges and universities	Guiyang Vocational and Technical College	Professor	1
8	Colleges and universities	Guizhou Normal University	Professor	1
9	Colleges and universities	Guizhou University of Finance and Economics	Professor	1

(2) Questionnaire survey method

The questionnaire survey method uses questionnaires to collect data, understand respondents opinions on social facts, and analyze their behavior. Trained researchers conducted on-site interviews and administered structured questionnaires to homestay operators to ensure item comprehension and completeness.

3.3. Statistical Analysis of Delphi Questionnaire

(1) First-round questionnaire design

This study is based on a literature review, and open-ended questionnaires are designed for each topic. The main purpose of this questionnaire is to collect opinions from experts about various topics to serve as the basis for subsequent closed-ended questionnaires. The first part of the questionnaire includes two aspects: one is the main factors that form the cluster of the homestay industry in Guizhou Province. Another is the impact of the cluster of the homestay industry on the operational performance and overall competitiveness of the homestay industry.

(2) Second round questionnaire design

After completing the first round of questionnaires, we sorted out each experts opinions on each issue and deleted inappropriate questions. We designed a questionnaire using the Likert 5-point scale as the measurement instrument for the second round of questionnaires. A total of nine questionnaires were sent by email and personally interviewed in the second round, with a return rate of 100%. After the second-round questionnaires were returned, statistical analysis was used to sort out the results and add new suggestions from experts, which would be used as reference material for filling out questionnaires in the third round. The standard for statistics is a 4.0 average. If the average score does not reach 4.0, it means that the entire group of experts has not yet reached consensus on this topic, so all items whose averages are below 4.0 will be removed.

(3) The selection of convergence process

The process of convergence and selection for the second-round Delphi method questions was used to sort out experts cognition and differences on these questions, and then explain the results of question selection. First, quantitative statistical data were judged. If they did not meet the standard, qualitative expert opinions were analyzed to determine their suitability. The order of selection is as follows: 1. When all experts reach a consensus on the consistency of the question at a rate of 100%, it indicates high consistency and will be selected. 2. For those who do not achieve high consistency, if the average score exceeds 4.0, with more than 80% of experts reaching an important consensus, indicating moderate consistency, it will also be selected. 3. If the average score is below 4.0, it will be deleted. After analyzing the results of the second round, there are 35 questions that have reached an agreement among experts, while one has been deleted. All factors in each dimension were designed using a Likert 5-point scale as questionnaire scales. A survey of Guizhou homestay operators had already been conducted, utilizing mutual verification between academia and industry to identify the main factors affecting the business performance of homestays due to the formation of a cluster of homestays in Guizhou.

3.4. Statistical Analysis of Questionnaire Survey Method

This study used a questionnaire survey method to investigate operators in Guizhou. The titles of questions were determined after a Delphi expert opinion survey, sorting out and reducing opinions on each issue by this research, and a stability analysis was conducted. Further pre-survey testing was carried out for questionnaires; according to the results, it was

revised as formal questionnaires. The content of the formal questionnaire included basic information about operators in Guizhou in the first stage, including gender, age, education level and income. The second part is the main factors forming the homestay cluster (twenty-two items). The third part is the impact of the homestay cluster on business performance and the overall competitiveness of the homestay industry (thirteen items).

(1) Pre-survey test

To understand whether the questionnaire content is available for respondents and to avoid ambiguous or unclear wording in the questionnaire, a pre-questionnaire test was conducted before distributing the formal questionnaire. The results of the survey were then modified and adjusted based on the feedback from the pre-questionnaire testing. Below are explanations regarding the pre-questionnaire testing and the distribution of the formal questionnaire.

Pre-questionnaire testing. In terms of sample size for pilot testing, this study follows the principle that three to five times as many people are used in a questionnaire with the largest number of items (Zhu and Cheng, 2025). The factors causing the formation of Guizhou homestay clusters were found to be eleven questions in total in the pilot test questionnaire, so 33 to 55 homestay operators were surveyed. A total of 55 pilot test questionnaires were distributed and returned. After excluding two invalid questionnaires, a total of 53 valid questionnaires were obtained, and the effective rate was 96.36%.

Formal questionnaire. Since this study's main body is the operators of homestays in Guizhou, it can be used as a sample for this research to assess members of the Guizhou Tourism Homestay Association. Based on the 12,000 homestay operating subjects currently registered with the Guizhou Tourism Homestay Association, this study limits itself to time, ability and funds, randomly sampling 1% (120 rooms) as survey objects. The basis for sampling was based on the proportion of homestay operating subjects in each municipality and prefecture-level city across the province, ensuring spatial distribution according to proportions. A total of 120 formal questionnaires were issued, all of which were recovered, resulting in 120 valid questionnaires, with a recovery rate and an effective rate both at 100%.

(2) Factor analysis

Factor analysis confirmed that the researcher designed validation processes for certain latent traits and clarified their internal structure. This study used factor analysis with the principal component method for factor extraction and the varimax maximum variance) method for rotation. Factors greater than one were retained, and the rotated component matrix was used to determine the composition of each factor.

(3) Questionnaire survey

This study used factor analysis to reduce a large amount of data into five factors, which can retain a lot of information provided by the original data structure. Principal component analysis and the maximum variance method were adopted for data simplification in this research. The environmental factors, characteristics of the homestay industry, elements conditions, business performance and overall competitiveness were analyzed using factor analysis. Cronbach's alpha coefficient was used as an index to judge each factor, verifying internal consistency and stability of items.

Analysis of the main factors influencing the formation of the homestay industry cluster in Guizhou (Fig. 2). This study takes factor loadings greater than 0.6 as a criterion, and names each component according to its content. After factor analysis on the main factors for the formation of the Guizhou homestay industry cluster, three components are divided from the rotated component matrix, with six items included in Factor One, whose eigenvalue is 2.401, explaining 40.226% of variance, named Overall Environment. Five items included in Factor Two, whose eigenvalue is 1.781, explaining 68.659% of variance, are named Homestay Industry Characteristics. Eleven items included in Factor Three, whose eigenvalue is 1.043, explaining 88.621% of variance, are named Element Conditions.

Factor analysis of business performance (Fig. 3). Before factor analysis, the Bartlett test and KMO were used. KMO was 0.627. In addition, the Bartlett test value was 257.304, and the P value was significant. After factor analysis, the component matrix was divided into two components. The first factor contained three topics, with a characteristic value of 3.329 and an explanatory variance of 59.523%, and was named organizational management. Factor two contained two items, with an eigenvalue of 1.635 and an explanatory variance of 29.137%, and was named market strategy. It can be seen from the comparison of explanatory variance that organizational management has the highest explanatory power for business performance variables, followed by market strategy.

Factor analysis of overall competitiveness (Fig. 4). After factor analysis, the component matrix of characteristic variables of overall competitiveness was divided into three components. The first factor contained two questions with a characteristic value of 2.362 and an explained variance of 38.864%, which was named regional integration. The second factor contained three questions with a characteristic value of 1.289 and an explained variance of 63.774%, which was named marketing strategy. The third factor contained two questions with a characteristic value of 1.049 and an explained variance of 81.672%, which was named local investment. From the comparison of explained variance, local investment has the highest explanatory ability for the variable of overall competitiveness, followed by marketing strategy.

3.5. Reliability Analysis

This study adopted Cronbach's alpha coefficient as an evaluation method, and Cronbach's alpha values above 0.60 indicate acceptable internal consistency, and values above 0.70 indicate good reliability. In this variable, 35 items were selected for formal scales, divided into three factor dimensions, with Cronbach's internal consistency coefficients in order of 0.736,

0.815, 0.769 and 0.778, respectively. The total Cronbach's alpha coefficient of the scale is 0.822. Jia et al. (2022) stated that the satisfactory level of reliability measurement should be no lower than 0.6. And the results of this research showed that all factors have good reliability, so we can judge that each factor dimension has good reliability.

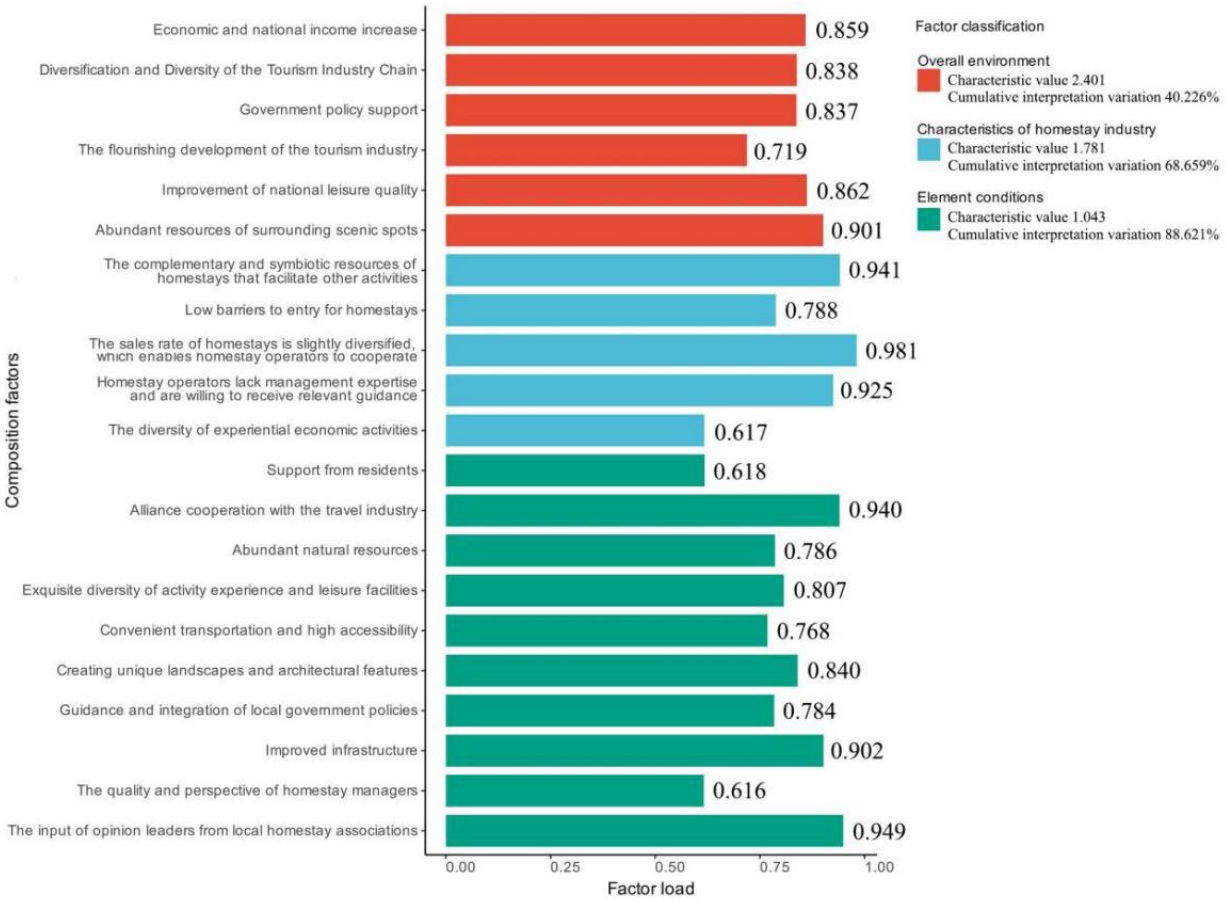

Fig. 2. The factors of cluster formation in homestay industry

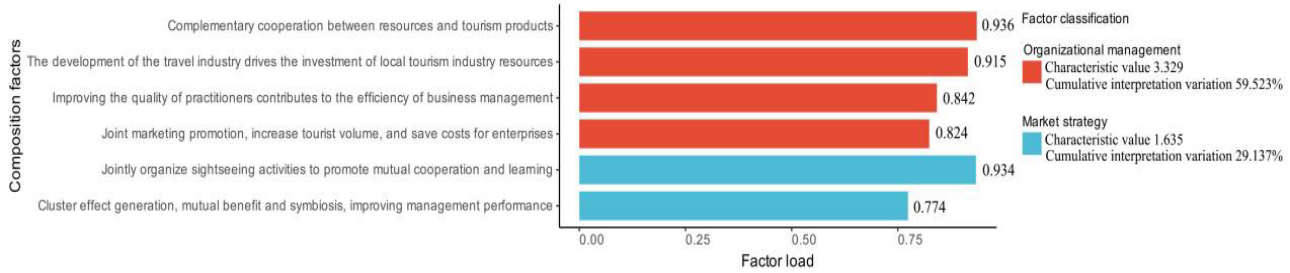

Fig. 3. The factors of business performance

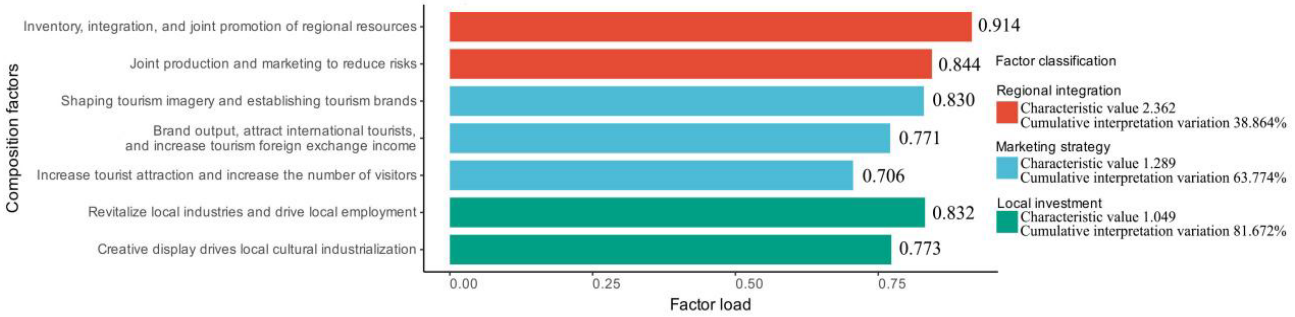

Fig. 4. The factor of overall competitiveness

3.6. Analysis Method

All questionnaires were coded and entered a computer for statistical analysis using SPSS 27.0 software. The main analytical methods included descriptive statistics, independent sample t-test, one-way ANOVA, and path analysis.

4. Results of Research

4.1. Analysis of Key Factors Affecting Business Performance and Competitiveness of Guizhou's Homestay Cluster

(1) Analysis of the current situation of the main factors for the formation of the homestay industry cluster by the operators of homestays in Guizhou

This study used a questionnaire survey to investigate the business performance of homestays, and then analyzed it with descriptive statistics to understand the current situation of the main factors that form clusters in Guizhou Province's homestay industry. The higher the average score for each dimension of the main factors that formed the cluster in Guizhou Province's homestay industry, the more highly the operators of Guizhou Province's homestays value these main factors. According to Table 2 analysis, the overall mean score for the main factors that formed the cluster in Guizhou Province's homestay industry was 4.169, with a standard deviation of 0.451, indicating that participants were inclined towards very agreeable on the main factors that formed the cluster in Guizhou Province's homestay industry, while their commonality tended toward consistency.

(2) Analysis of the current situation of the impact of Guizhou homestay operators on the business performance of the homestay

The overall performance average of Guizhou homestay operators is 4.255, and the standard deviation is 0.628. This shows that the degree of influence of Guizhou homestay operators on the homestay's business performance falls between agreement and strong agreement, leaning toward agreement. Its commonality tends to be consistent, and the market strategy factors rank first, and the organizational management factors rank second. Descriptive results indicate that respondents rated market strategy slightly higher than organizational management. This pattern may reflect the prevalence of family-operated homestays, where formal managerial systems are less developed, and operators rely more on external market access and promotion.

(3) Analysis of the overall competitiveness of Guizhou homestay operators

The average performance of Guizhou homestay operators in the overall competitiveness is 4.369, and the standard deviation is 0.611. This shows that the overall competitiveness of Guizhou homestay operators is between agreement and strong agreement, more inclined to agree, and their commonality tends to be consistent. The local input factors rank first, and the marketing strategy factors rank second. The overall competitiveness is ranked first by local input factors, which may be due to the local input for the operators themselves, providing more reasons to increase the number of tourists, through the improvement of local input, to attract more tourists to travel, thereby enhancing revenue, so the local input ranks first.

Table 2. Descriptive statistics on homestay cluster formation and business performance drivers

Content	Factor classification	Mean(M)	Standard deviation (SD)	Sort
The main factors for the formation of homestay industry Cluster	General environment	4.101	0.408	3
	Characteristics of homestay industry	4.176	0.542	2
	Element condition	4.221	0.534	1
	Total samples	4.166	0.511	N=120
The Impact of homestay on business performance	Organizational management strategy	4.261	0.825	2
	Market strategy	4.284	0.601	1
	Total samples	4.273	0.646	N=120
Overall competitiveness	Regional integration	4.311	0.898	3
	Marketing strategy	4.353	0.626	2
	Local input	4.441	0.386	1
	Total samples	4.368	0.611	N=120

4.2. Demographic Differences in Homestay Cluster Formation Factors in Guizhou

This section uses an independent sample t-test and one-way ANOVA to verify the main factors of the formation of the homestay industry cluster, the impact on business performance and overall competitiveness. The differences between the

basic information of Guizhou homestay operators and the variables of the Guizhou industry cluster are compared. If the comparison results reach a significant level, then further use Scheffe's method for post hoc comparisons among groups.

(1) T-test analysis of the main factors of the formation of the homestay industry cluster in Guizhou Province at different genders

The owners of Guizhou homestay operators have significant differences in two factors, namely, characteristics and conditions for the homestay industry. In terms of strength, men are higher than women. This may be because men focus on external public relations when operating a homestay business, so they understand more about the characteristics and peripheral environment elements of homestays, which leads to their greater recognition of these two factors compared with female groups.

(2) Single-factor variance analysis of the main factors of the formation of the homestay industry cluster in Guizhou Province at different ages

There are differences in the main factors that form a cluster of Guizhou homestays. The reason is that most owners of Guizhou homestays are between 41 and 55 years old or over 55, while younger operators account for a large proportion of second-generation innkeepers. Therefore, there are differences in concepts and experience, resulting in differences.

(3) Single-factor variance analysis of the main factors of the formation of the homestay industry cluster in Guizhou Province at the education level

There are clear differences in the main factors that shape Guizhou's homestay industry cluster. The reason may be that the operators in Guizhou have a low level of education, which may cause various topics or concept recognition to differ and thus produce differences. Those with higher education levels, such as junior college and above, will exceed those with other educational levels.

(4) Single-factor variance analysis of the main factors of the formation of the homestay industry cluster in Guizhou Province at the monthly income level

There are observed differences in factors that affect the formation of the Guizhou homestay industry cluster, which may be since the scale of Guizhou's homestays is uneven and thus operators have varying degrees of involvement with clustering factors, resulting in differences.

4.3. Demographic Differences in Homestay Business Performance

(1) T-test analysis of different genders on the business performance of the homestay

Among the factors that affect the performance of homestay operators in Guizhou, the organizational management strategy is significant in terms of gender differences. In this factor, the influence of men is stronger than that of women. The reason may be that men pay more attention to external public relations activities in the operation of a homestay, so they have a deeper understanding of the characteristics and external environment of residential accommodation. As a result, men are more likely to identify with organizational management strategies than women.

(2) One-way ANOVA analysis of different ages on the business performance variables of the homestay

There are significant differences among operators of different age groups in the variables of business performance of the homestay. Further analysis of the reasons, we can find that the operators of the Guizhou homestay industry are concentrated in the age group of 41 to 55 and over 55, while the younger operators are often the second generation successors of the homestay industry. This difference in age structure leads to the difference in concept and experience, and then affects the difference in business performance.

(3) One-way ANOVA analysis of the effect of education level on the business performance of the homestay

There are differences in the impact of different levels of education on the business performance of the homestay. The reason may be that the education level of Guizhou operators is different, resulting in different management of homestay, resulting in differences.

(4) One-way ANOVA analysis of the effect of monthly income on the business performance of the homestay.

Monthly income shows significant differences in the variables of business performance of the homestay. This difference may be due to the size of the homestay and the number of guests received, which will affect the business performance of the homestay, thus leading to these differences.

4.4. Demographic Differences in Homestay Overall Competitiveness

(1) The t-test analysis of different genders on the overall competitiveness of Guizhou

The factors of regional integration and local investment are significant, and their intensity is higher for male operators than for female operators. The reason may be that men focus on external public relations in the operation of homestay, giving them a better understanding of the characteristics and the external environmental factors, resulting in the male group having a higher degree of recognition of regional integration and local investment factors than the female group.

(2) One-way ANOVA of different ages on the overall competitiveness

Different ages have noticeable differences in overall competitiveness. This is due to most of the operators in Guizhou being 41-55 years old, with others from another province who are over 55 years old, and who first developed in Guizhou. Most young operators are the second generation of the homestay industry; the first generation of homestay operators came to Guizhou to start and then moved up the mountain to develop, so the time spent living in Guizhou varies, resulting in different understandings of Guizhou.

(3) One-way ANOVA analysis of education level on the overall competitiveness of Guizhou

Different levels of education are associated with significant differences in the overall competitiveness of Guizhou. The reason may be that operators education levels differ, leading to differences in the study of relevant professional knowledge.

(4) One-way ANOVA analysis of monthly income on the overall competitiveness of the homestay

There are differences in the variables of monthly income and the overall competitiveness of the homestay. The reason may be that the main factor driving the difference in monthly income is the homestay business, and increasing overall competitiveness is the main driver of income growth, so there is a difference.

4.5. Path Analysis of Cluster Formation, Performance, and Competitiveness

This study uses 120 homestay members of the Guizhou Tourism Homestay Association as research subjects to explore the causal relationship between the formation of the homestay industry cluster and their business performance. After regression analysis, we obtained the path relationships among factors affecting the Guizhou homestay industry cluster, homestay business performance and overall competitiveness variables (Fig. 5).

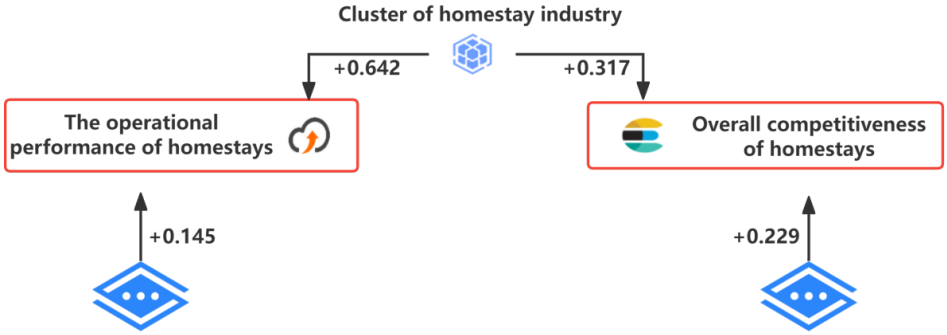

Fig. 5. Path from cluster factors to business performance to homestay competitiveness

5. Conclusion and Suggestions

This study aims to understand how the formation of a homestay industry cluster impacts homestay business performance. The Delphi method and questionnaire survey are used as research tools. First, tourism industry experts and practitioners were invited to use the Delphi method to list cluster-related elements. Then, questionnaires were conducted among local operators in Guizhou Province. Based on this study's objectives, statistical analysis results and discussions, this chapter summarizes the conclusions and proposes recommendations as references for future studies related to the homestay industry cluster.

5.1. Conclusion

(1) Identifying the greatest benefits for operators of Guizhou homestays

This study integrated expert opinions through two rounds of the Delphi method involving nine experts from industry, associations, and universities, and conducted a questionnaire survey on 120 local operators who are members of the Guizhou Tourism Homestay Association. The research systematically constructed three main factors affecting the formation of Guizhou homestay industry clusters, including overall environment, characteristics of the homestay industry and factor conditions, each with clear measurement items verified by factor analysis. In addition, this study identified key benefits that affect the business performance and overall competitiveness of Guizhou homestays, such as resource sharing, joint marketing, and regional integration, which provide practical references for Guizhou homestay operators to optimize resource allocation, enhance operational efficiency, and gain competitive advantages in the increasingly fierce market.

(2) Assessing the mutual business network relationships and overall competitive ability of homestay operators in tourism areas

The theoretical and empirical framework constructed in this study not only systematically reveals the key dimensions and specific influencing factors of homestay industry cluster formation, but also serves as an important evaluation tool for other tourist areas to assess the mutual business network relationships and overall competitive capabilities of their homestay operators. By referring to this framework, other regions can identify the core factors driving their own homestay cluster development, analyze the cooperative and competitive relationships among operators, and evaluate the overall

competitiveness of the local homestay industry. This framework fills the gap in the existing research on service industry cluster evaluation tools and provides a valuable reference for the high-quality development of homestay industries in various tourist destinations.

(3) The results of cluster analysis, performance and overall competitiveness path analysis for the Guizhou homestay industry cluster

The study reveals that there are two significant positive causal paths between the cluster of the homestay industry and their business performance and overall competitiveness, which is verified by path analysis with 120 valid samples. Specifically, homestay cluster formation has a direct positive impact on business performance (path coefficient +0.642) and overall competitiveness (path coefficient +0.317), and business performance also has a positive impact on overall competitiveness (path coefficient +0.229). This indicates that the development of the homestay industry cluster can effectively promote the improvement of homestay business performance by facilitating resource integration and cooperative operation, and further enhance the overall competitiveness of the homestay industry, providing strong empirical evidence for the positive role of industrial agglomeration in the service industry.

5.2. Suggestions

(1) Expanding research scope

Future research could broaden the sampling frame beyond Guizhou Province to include homestay operators across multiple regions in China. This would enable a comparative analysis of whether operators in different destinations perceive cluster-formation factors and their relationships with performance and competitiveness differently. In addition, future studies may consider incorporating multi-source or longitudinal data (e.g., bookings, occupancy, revenue) to strengthen inference and improve robustness.

(2) Constructing a set of indicators for the homestay industry cluster

There are few quantifiable scales for assessing factors of the homestay industry cluster in previous studies, and there is also little discussion on causal relationships between these factors and other concepts. Future research can focus on developing a scale to assess factors of the homestay industry cluster as an effective tool.

Author Contributions

Liang Li and Qin Chen conceived and designed the experiments. Lihong Wan and Wenhong Dan performed the experiments and collected the data. Liang Li analyzed the data. Qin Chen contributed analysis tools. Liang Li wrote the original draft of the manuscript. Qin Chen and Lihong Wan critically revised the manuscript for important intellectual content. All authors discussed the results and contributed to the final manuscript.

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