

Interaction between Agricultural Industrial Clusters and Regional Brands of Agricultural Products

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Abstract: The purpose of this paper is to explore the proposition of building regional brand of agricultural cluster, based on the fact that China is a large agricultural country, but the agricultural industry cluster is still at the end of the world value chain, so as to provide theoretical basis and practical guidance for the transformation and upgrading of the cluster. Through the analysis of the brand competitiveness of agricultural products, the main role played by the agricultural industry cluster, and in the future development process, gradually transform the regional brand of agricultural products into enterprise brand, enhance the scientific and technological content of regional brand, and then enhance the regional brand competitiveness of agricultural products. This paper discusses the interactive relationship between the development of agricultural industry cluster and the cultivation of regional brand of agricultural products, and further establishes the corresponding game model according to the different stages of the establishment of regional brand. It proves that the agricultural regional brand, as a public product, often faces the problem of the lack of investment subjects and the damage of brand image in the process of formation and operation. Through the experimental game analysis conclusion and case empirical test, this paper puts forward two kinds of strategies to build regional brand and maintain regional brand of agricultural products, kmo and Bartlett sphericity test on the data. The former improves the scale growth of 69% of agricultural industry clusters and plays the role of each participant, The latter improves the quality requirements of 78% of regional agricultural products and improves the brand protection system of agricultural regions.

1. Introduction

The competitive advantages of agricultural industrial clusters provide a way for many countries

and regions to develop agricultural economies. During the development of agricultural industrial clusters, in order to promote the transformation and upgrade of its transformation period, experts proposed the strategic idea of building agricultural regional brands based on agricultural industrial clusters [1]. Countries around the world develop local agricultural economies, tap regional advantages, cultivate characteristic agriculture, create agricultural industrial clusters, and build agricultural regional brands based on agricultural industrial clusters, such as: Dutch flowers, French wine, American corn, and Hokkaido, Japan. Yubari melon, Chinese tea, etc. These regional brands are the "gold business cards" of a region. The establishment of a regional brand image and the increase in value promote the development of the local economy and enhance the competitiveness of the local economy. [2]. As an agricultural country in China, the agricultural industry cluster is still at the end of the world value chain. There are still many problems in the formation and maintenance of regional brand construction in various agricultural industry clusters. Sectoral regions have advantageous agricultural product resources, but the brand awareness of agricultural regions is still It is relatively weak, which requires us to strengthen regional brand awareness, deepen the theoretical exploration of regional brand management, and provide a theoretical basis for giving full play to and tapping the capital value of agricultural regional brands [3-4].

Industrial cluster theory is a new type of regional development theory that faces the opportunities and challenges of global economic integration following the theory of gradient transfer and growth pole development. It has always been a research hotspot in the Western academic circles, and many scholars have studied industrial clusters from different perspectives, so that the theory of industrial clusters has been continuously enriched and developed [5]. Michael Porter (1998) studies industrial clusters from the perspective of competitive economics. He believes that industrial clusters can not be underestimated to improve the competitiveness of countries and regions. Some poor countries lack a complete regional industrial cluster due to the lack of a complete regional industrial cluster. However, they can only participate in international market competition by virtue of cheap natural resources and labor, and are forced into a vicious circle of poverty. In empirical research on industrial clusters, Dias, C., and Franco, M. explore the important role of regional agglomeration of industries on economic performance, scale, and regional economic growth, and analyze the economic decline of Europe and the rise of the United States from a regional perspective Phenomenon [6]. Paptsov, A. and Nechaev, V., have studied the ways in which the degree of industrial clusters affects the performance of enterprises in industrial clusters [7]. They used the number of employees as an index to measure the degree of industrial clusters and conducted an empirical analysis on dozens of industries in the UK. They concluded that there was a very strong positive cluster effect in the computer, automotive, aviation, and communications equipment manufacturing industries in the UK [8-9].

In recent years, the development of agricultural industrial clusters has become the main way to improve agricultural competitiveness, enhance the advantages of agricultural development, and improve the comprehensive agricultural production capacity. It is also a strategy to deepen agricultural structural adjustment and build modern agriculture [10]. The agricultural industrial cluster is formed and developed based on the formation and development of regional brand of agricultural products, which is one of its effective development approaches. Due to the particularity of agricultural production and the low level of agricultural modernization and agglomeration in our country, the number of regional brands of agricultural products is small and the brand effect is weak. Therefore, it is necessary to discuss the agricultural industry cluster and the regional brand strategy of agricultural products, strengthen the agricultural industry cluster's position in economic development, and make it an important way to promote the development of modern agriculture [11]. Industrial clusters rely on the advantages of the following aspects to make themselves have a strong competitive advantage. The first aspect is geographical concentration, the second aspect is an

innovative environment, the third aspect is cooperative competition, and the fourth aspect is flexible professional [12]. This industry group stimulates the sense of innovation by reducing production costs and constant competition, which can enhance the competitiveness of the entire area. Because industrial clusters have these advantages, it has become an indispensable content in the research of competitiveness.

Based on the definition of concepts and the review of the theoretical review, this article comprehensively applies relevant theoretical knowledge such as industrial clusters, regional brands, marketing, and strategic management, and uses a combination of theoretical research and empirical analysis to introduce marketing theory. Three modes of promoting regional brands through industrial clusters are presented; and the marketing strategy of industrial clusters to promote regional brands is proposed creatively. Based on the full-text research, from the perspective of marketing, taking the Chengdu furniture industry cluster as an example, combined with the aforementioned industrial clusters to enhance the marketing strategy of regional brands, it analyzed how to cultivate the competitive advantage of the Chengdu furniture industry and enhance the regional brand of the Chengdu furniture industry.

2. Proposed Method

2.1. Intrinsic Links between Agricultural Product Clusters and Regional Brands

In the concentration of agricultural industry, its main feature is the regional clustering of enterprises, which in turn achieves a scale-efficient development mode. The agricultural industry cluster refers to, based on the unique local conditions and human environment, targeting a leading industry in a specific area, such as plantation and aquaculture, using it as a basis and contacting relevant business organizations or scientific research institutes are concentrated in the region, gradually increasing the competitiveness of the industry. However, the regional brands of agricultural products have different meanings. It mainly refers to the fact that in a specific environment, based on more special natural resources and cultivation and harvesting methods, it has gradually been accepted by everyone after a long period of accumulation. Affected regional agricultural products. For example, we are familiar with crabs in Yangcheng Lake and black soil in the cold. These are the brands formed by the local unique regional environment.

Therefore, we know that there is a close relationship between the two, which is manifested in:

(1) Agricultural industry clusters are the basis for brand formation. The necessary conditions for forming agricultural industry clusters are generally the following two, one is rich agricultural resources, and the other is the long history of humanities. Therefore, we can think that agricultural industrial clusters are mainly developed from agricultural products with unique natural resource advantages. For example, the Korla Fragrant Pear Industrial Cluster can fully illustrate this point. The agricultural industry cluster has the following two characteristics. The first characteristic is a high degree of agglomeration, and the other characteristic is embeddedness. A high degree of agglomeration means that there are a lot of agricultural production-related production bases and farmers and other organizations in a certain area. Embeddedness means that there are many companies in the region relying on, and then a regional industrial structure is gradually formed, and a localized network is formed on the basis of professional division of labor and cooperation. Based on continuous competition and cooperation, In the past, each enterprise gradually formed an innovative mechanism through cooperation with each other to jointly promote the development of the enterprise, which in turn gave the agricultural industry cluster a strong competitive advantage. This particularity of the agricultural industrial cluster is well known in the continuous development process, and then promotes the formation of agricultural product brands. Therefore, the agricultural industry cluster is the basis of regional brand formation.

(2) Agricultural industry cluster is the carrier of regional brand development

The regional brand of agricultural products belongs to the intangible assets of a region, and its development needs to be realized by tangible assets. Through the development of agricultural industrial clusters, we can see that industrial clusters are carriers of regional brand development. And industrial clusters as tangible assets can also get greater benefits. For example, the Chinese wolfberry industry cluster in Ningxia is well known because of the popularity of the "Ningxia wolfberry" brand. Although regional brands have won everyone's recognition and established an image for the industrial cluster within a certain range, it cannot be said that regional brands can separate from the industrial cluster and cannot exist independently.

(3) Industrial clusters can enhance brand competitiveness

Industrial clusters can promote the value of brands. First of all, industrial clusters can form a kind of agglomeration effect, and this agglomeration effect can enhance the value of the brand, and can quickly transfer the value of the brand to the product, so that it can greatly enhance the competitiveness of the brand. Secondly, developed industrial clusters have more obvious and stronger competitive advantages, such as the ability to promote cost savings, the formation of a professional transportation service system, and the formation of network connections.

2.2. Research Hypothesis and Model

Based on the analysis of domestic and foreign factors affecting regional brand of agricultural products and referring to related research, this paper constructs an eight-factor model of agricultural product brand competitiveness, as shown in Figure 1, and proposes hypotheses based on the impact of the eight elements of the model on regional brand competitiveness.

(1) Relationship between resource base and regional brand competitiveness of agricultural products

The regional brand resource base of agricultural products includes natural resources, social resources, human resources, and resource development and utilization. Unique natural resources are the material basis and fundamental reason for the formation of regional brand of agricultural products. Unique natural resources and effective allocation of social and human resources are often beneficial to the formation of well-known brands. Therefore, combining the advantages of agricultural resources, this paper proposes that the resource base has a positive impact on the competitiveness of agricultural product brands, that is, the richer the resource base, the higher the utilization rate, and the stronger the regional brand competitiveness of agricultural products.

(2) The relationship between industrial development and regional brand competitiveness of agricultural products

The regional brand of agricultural products is formed by industrial clusters and develops on the basis of industrial development. Regional brands can also promote industrial development. The two are interdependent and mutually promoted. The strong industry's driving ability, the stronger the industry's sustainable development ability, the broader the development prospects, and the more it can attract investment and participation, so that the industry scale continues to increase and promotes the regional brand competitiveness of agricultural products. Agricultural products have gradually formed a regional industry driving effect, and promoted the promotion of agricultural product brand competitiveness. Therefore, it is proposed that the industrial development has a positive impact on the competitiveness of agricultural product brands, that is, the higher the industrial competitiveness, the stronger the driving role of the industry, the broader the development prospects, and the stronger the regional brand competitiveness of agricultural products.

(3) Relationship between government responsibilities and regional brand competitiveness of agricultural products

The public attributes of regional brand of agricultural products make the government department play a very important role in its development process. The input of administrative and public management power and financial power are closely related to the development of regional brand. The government department not only assumes the core role of regional brand creation and development, but also supervises and coordinates the industry in the region, optimizes the development environment, promotes the development of the industry, and enhances the enthusiasm of industrial development through rewards and punishments to create a fair market environment. Therefore, combined with the current state of government management, it is proposed that government duties have a positive impact on the competitiveness of agricultural product brands, that is, the more significant the government department 's role in supervising, coordinating, rewarding and punishing agricultural industry development, the stronger the regional brand competitiveness of agricultural products.

(4) Relationship between the role of industry associations and regional brand competitiveness of agricultural products

As a third party organization, the industry association is the application implementation and holding manager of the regional brand. The association plays an active role in promoting the development of regional brands in formulating industry standards and organizing coordination services. Therefore, based on the characteristics and functions of Xinjiang Industry Association, it is proposed that the role of industry association has a positive impact on the competitiveness of Xinjiang agricultural product brands, that is, the more significant the role of industry associations in coordinating and guiding the development of agricultural industry, the stronger the regional brand competitiveness of Xinjiang agricultural products.

2.3. Interactive Relationship between Industrial Clusters and Regional Brands

(1) Impact of industrial clusters on regional brands

The industrialization characteristics of industrial clusters promote the development of regional economy. The economic development of a region will show its own characteristics, and will choose the strategy suitable for the development of the local area according to the local actual situation. Then, after the development of the regional economy accompanied by the industrialization of industrial clusters, the advantages and disadvantages between different industries will appear, so the focus will be on the advantageous industries suitable for the development of the region. It can be said that the industrialization development of industrial clusters and the specialized division of labor help the regional economy to carry out the natural selection process of survival of the fittest among different industries, thereby putting more energy, financial resources and material resources on advantageous industries, and focusing on important tasks. Therefore, large-scale production can be formed as soon as possible in order to enjoy the cluster effect brought about by scale economy and promote regional economic development.

The "magnetic field effect" of industrial clusters promotes regional economic development. Under the influence of the inherent laws of the market economy, the agglomeration of industrial clusters can be continuously enhanced, and resources with regional characteristics can be continuously aggregated and brought together to form an industrial chain with regional characteristics. It can be continuously developed and expanded by adjusting the industrial structure and other forms. Eventually, it will reach a high degree of industrial clustering. In the process of resource agglomeration, all aspects of economic development and resources will be absorbed to participate in the process of industrial agglomeration and regional development, so that resources will follow the market economy in this process. Guiding constantly presents the development trend of mutual combination, complementary advantages, and reasonable flow, integrating resources

naturally and promoting the development of regional economy.

(2) Impact of regional brands on industrial clusters

The construction of regional brands can enhance the competitive advantage of industrial clusters. Although China's economic development level has made certain achievements, it has a certain gap compared with the countries sent to the world. Especially the late start of high and new technology, few enterprises, poor independent innovation ability, low technology content of products, mostly in the low-level, extensive economy business model of the industry chain, insufficient industrial concentration, low profitability and other characteristics. Regional brands are developed based on industrial clusters, which can enhance the visibility of industrial clusters, enable enterprises to have more opportunities for investment and investment, and to win opportunities for corporate reputation and development, thereby enhancing the competitive advantage of industrial clusters. Highlight the advantages of the overall brand of the industrial cluster. Regional brands are developed on the basis of industrial clusters, and are realized after the industrial clusters have reached a certain degree of development and concentration. In this way, the formation of regional brands can be said to condense and refine the essence of industrial clusters to a certain extent. It represents the image of industrial clusters. Through the integration of resources in the cluster, large enterprises highlight their own advantages through development and expansion, and cultivate well-known regional brands with characteristics. Most of the enterprises in the cluster are small and medium-sized enterprises. At this time, they can also enjoy the effects brought by regional brands and take certain measures. Tracking development strategy. From this perspective, regional brands have certain public attributes, public brand attributes and brand synergies, highlighting the overall advantages of the industrial cluster.

Promote the internationalization of brands in cluster areas. People in the industry said that in order to build a well-known international brand, the first requirement is that economic development must reach scale. It is difficult for a single company to operate a brand. Even a backbone company, the regional brand it creates is not comparable to the popularity of international brands. Well-known regional brands can not only open the international and domestic markets, but also increase customer loyalty and enhance product competitiveness. Using the synergistic effect of regional brands, companies in the cluster can enjoy the advantages of scale and branding. This is difficult for enterprises outside the cluster to obtain.

3. Experiments

3.1. Experimental Data Collection

Based on the summary of relevant literature, this article designed a questionnaire for influencing factors of regional brand competitiveness of agricultural products. The questionnaire used a seven-point Likert scale, with options and corresponding assignments: completely disagree (1) Disagree (2), some disagree (3), some agree (4), more agree (5), largely agree (6), and fully agree (7) to measure. After the preliminary draft of the questionnaire was designed, 70 questionnaires were distributed to the relevant experts and enterprises for pre-investigation. A total of 64 valid questionnaires were recovered. Through pre-investigation and data processing, Cronbach's had no less than 0.6 test items, indicating that the problem design was reasonable. Therefore, 29 items were finally determined.

This article conducts surveys through the questionnaire star website, and issues surveys to relevant experts in universities and scientific research institutions and consumers who have a certain understanding of agricultural products. A total of 847 questionnaires were recovered, of which 766 were valid questionnaires, with an effective rate of 90.4%. 83.42% of the staff work in Xinjiang, 55.48% are men, 44.52% are women; 47.52% are 35-44 years old; 25.07% are 25-34 years old, and

20.89% are 45-54 years old; undergraduate or college The above accounted for 95.56%, and the monthly average income was 4,000 ~ 5999 yuan, accounting for 43.34%. The number of valid questionnaires exceeded the questions by 20 times, which could meet the needs of this study.

3.2. Experimental Environment

The most commonly used statistical analysis software used in this experiment is SPSS 21.0 and AMOS 20.0 software as the experimental simulation competition model. The hardware configuration of the experimental platform is as follows: Windows 10-based Intel Core i7 6700 @ 3.4GHz quad-core CPU operating system.

4. Discussion

4.1. Reliability Analysis

(1) Input the collected data into SPSS21.0 software, and first do the reliability test of the total table. The Cronbach 'S α coefficient of the total table is 0.905, which is greater than 0.7. Secondly, the CITC project analysis is performed on the observations. The geographical factors and the initial CITC coefficients are greater than 0.40, the initial CITC coefficients of the cluster supply chain are all greater than 0.50, and the initial CITC coefficients of the other observation variables are all greater than 0.60. The a coefficient after deleting the project is basically 0.6-0.8. Finally, the reliability of the latent variable is tested. The α coefficients of Cronbach 'S are all greater than 0.7. The reliability test is shown in Figure 1. Overall, the scale and questionnaire indicators have strong credibility. The specific analysis is shown in Table 1.

Table 1. Reliability test of variables

Project	Initial CITC	α system after deleting this item	Cronbach'S α
X1	0.432	0.703	0.732
X2	0.452	0.604	
X3	0.541	0.654	
X4	0.643	0.678	

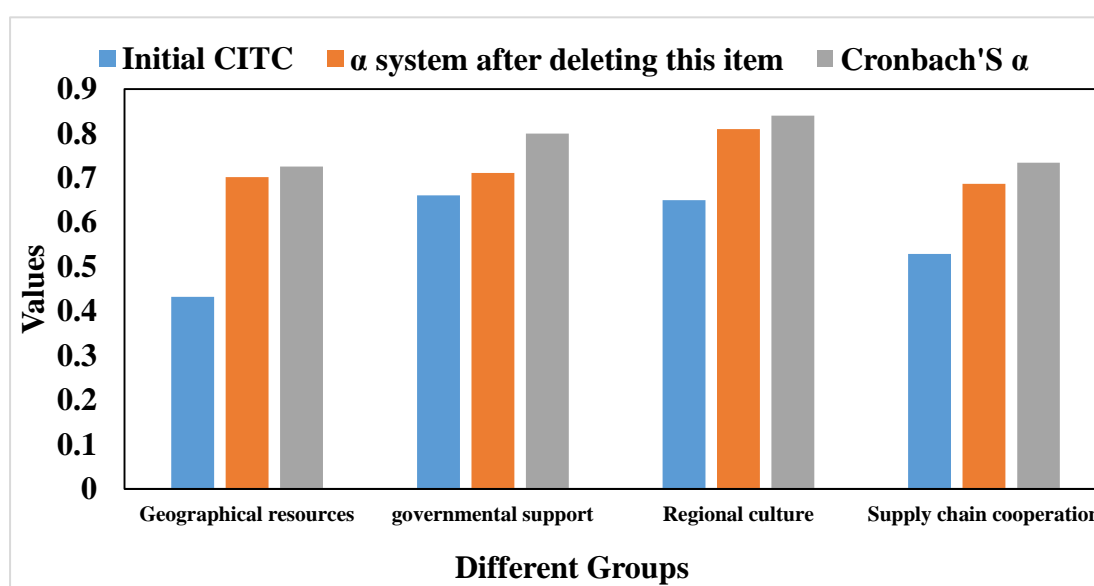


Figure 1. Reliability test of variables

(2) The KMO and Bartlett sphericity tests are performed on the data. The sample adequacy KMO

test coefficient is 0.964, which is greater than 0.7. The approximate Chi-square value of the Bartlett spheric test of the sample is 20881.897, the degree of freedom is 406, and the significance is 0. The data is suitable. Perform a factor analysis. SPSS was also used for factor analysis of the 29 variables in the valid questionnaire that was retrieved. The rotated factor matrix showed that the load corresponding to each factor was less than 0.5 except X1, and the rest of the factor loads were greater than 0.5. The questionnaire was effectively explained, and the cumulative amount of variance reached 70%, which was in accordance with the latent variables set in advance. The above description shows that the data has good validity as shown in Figure 2.

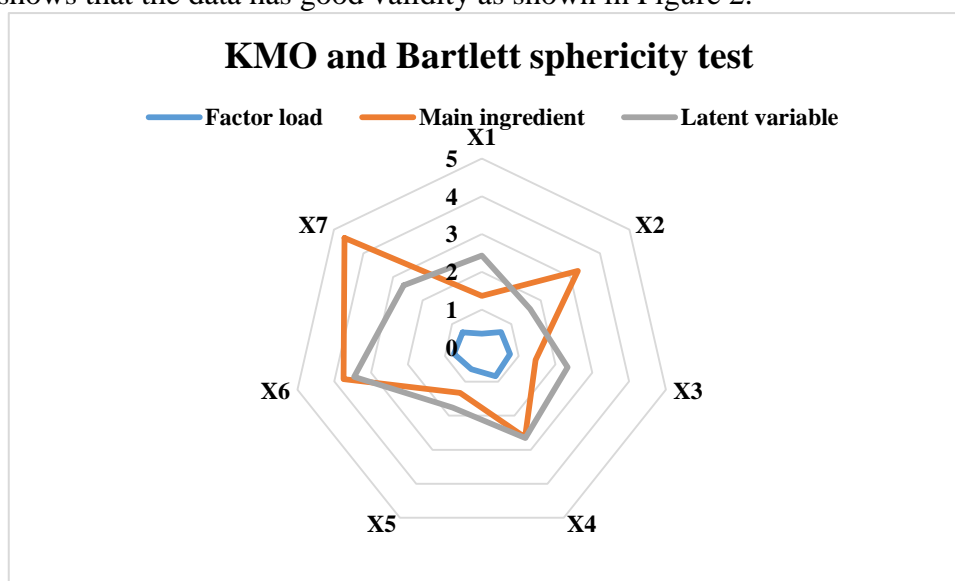


Figure 2. Factor loadings in the model

4.2. Competition Model Experiment Results and Comparison

(1) In this paper, using the structural equation model (SEM) method and AMOS20.0 software, three competitive models of supply chain brand collaboration drive, regional culture drive, regional culture and supply chain brand collaboration are established. The maximum likelihood estimation method is used for calculation. The parameter estimation results are shown in Table 2. Although the overall adaptation indexes of the three models are not much different, the negative path coefficient -0.047 appears in Model 2 Hypothesis 4, which is obviously inconsistent with the theoretical assumptions. Most of the latent variables in Model 3 have low correlations, differ greatly from theoretical assumptions, and have poor applicability. On the whole, Model 1 is ideal, so Model 1 is the preferred model as shown in Figure 3.

Table 2. Test and comparison of competition models

Evaluation index	Model 1	Model 2	Model 3
PGFI	0.606	0.621	0.621
GFI	0.958	0.932	0.954
AGFI	0.943	0.934	0.932
NFI	0.932	0.922	0.952
CFI	0.992	0.993	0.994
IFI	0.993	0.995	0.993

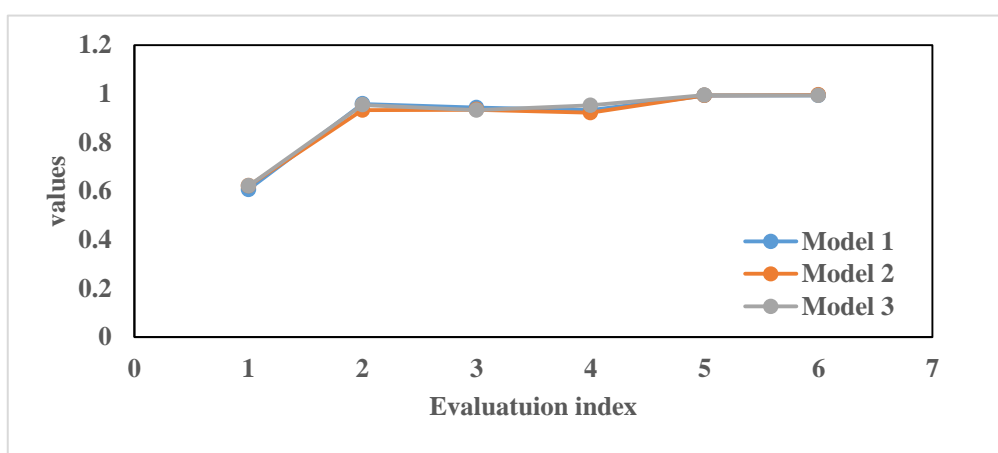


Figure 3. Comparison of different models

(2) Of the 10 hypotheses proposed, Hypothesis 8 and Hypothesis 10 exist only in Model 2 and Model 3. Since Model 1 was selected as the preferred model, these two hypotheses were not verified. Tested in model 1. In Model 1, except for the assumption that the government supports a regional brand reputation and the supply chain brand collaboration that a regional brand reputation fails, the 6 hypothetical CRs are all greater than 1.96, and the significance probability is less than 0.05.

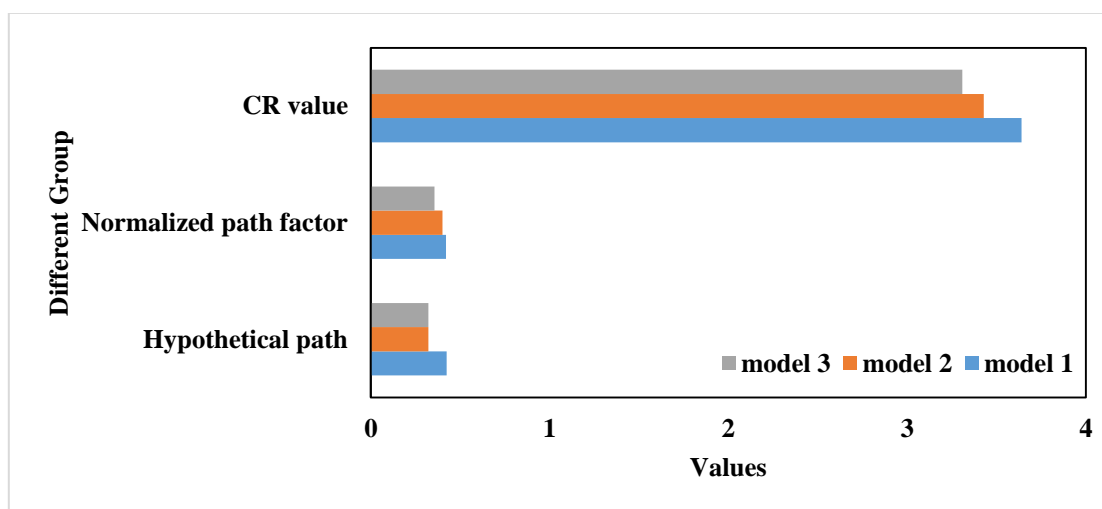


Figure 4. Model fitting results

5. Conclusion

The test results also show that in the Turpan cluster regional brand formation model driven by supply chain brand collaboration and regional culture joint, the main driving force for grape regional brand formation comes from regional culture, which is an original traditional path based on resource advantages. The promotion role of the cluster supply chain based on product advantages has not played a significant role as a modern path. This further explains why Turpan grape regional brands are limited to primary agricultural products, and cluster development is slow, and regional brands are not very competitive. The effects between the latent variables and the observed variables output by AMOS20.0 software are shown in Table 4-9. The four factor coefficients of geographical resource endowment are 0.547, 0.534, 0.628, and 0.740, which indicates that these four factors are closely related to resource endowment. The development of facility agriculture and the introduction

and improvement of cluster grape varieties have a greater impact on resource endowment. , Indicating that people's use of geographic resources has continued to improve; the relationship between regional culture and the four factors are 0.749, 0.776, 0.815, and 0.697, respectively, indicating that these four factors are closely related to regional culture. A series of traditional characteristic cultural activities have the greatest impact on regional culture: the relationship between supply chain brand collaboration and three factors is 0.695, 0.690, and 0.698, indicating that these three factors have a close relationship with supply chain brand collaboration. The impact of logistics collaboration, market development collaboration, and technology collaboration on the cluster supply chain is not much different, which indicates to a certain extent that the cluster supply chain has not yet established outstanding advantages.

In recent years, the development of China's agricultural industry cluster has developed rapidly. Many provinces and cities have regarded the development of agricultural industrial clusters as an important measure to strengthen the basic status of agriculture and improve the competitiveness of agricultural industries. Formulate relevant policies to advance. And take action to carry out government marketing. Overall planning, by accelerating the development of agricultural industrial clusters, fostering brand awareness, improving the overall competitiveness of the cluster, participating in the international division of labor, giving full play to regional comparative advantages, and improving the international competitiveness of China's agricultural products. There is no shortage of effective ways to enhance China's comprehensive economic competitiveness.

As a large agricultural country, China's agricultural development is facing an urgent situation that needs to be accelerated. The theory and practice prove that the development of China's agricultural industrial clusters has entered a development period. In this period, cultivating regional brands is undoubtedly a good way to optimize and upgrade agricultural industrial clusters. However, as a public product, agricultural regional brands are non-competitive and non-exclusive, which makes them face the problems of lack of investment subjects and vulnerable brand image. To solve these problems, the government, enterprises, farmers, Intermediary organizations such as associations and other participants must coordinate and cooperate to create a brand together. These views were confirmed theoretically by the game analysis in Chapter 3, and also empirically tested through the case analysis in Chapter 4. Therefore, to build a regional brand for the agricultural industry cluster, it is necessary to focus on giving play to the government's leadership role in the formation process, strengthen the support of intermediate organizations such as enterprises, farmers, associations and other stakeholders, and strengthen supervision during the maintenance process. To improve product quality requirements and improve various regulatory systems. Only in this way, in the process of creating regional brands in agricultural industrial clusters, less detours and more value can be created.

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Data Availability

Data sharing is not applicable to this article as no new data were created or analysed in this study.

Conflict of Interest

The author states that this article has no conflict of interest.

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