

Retraction

Retracted: Promoting Competitiveness of Green Brand of Agricultural Products Based on Agricultural Industry Cluster

Wireless Communications and Mobile Computing

Received 1 August 2023; Accepted 1 August 2023; Published 2 August 2023

Copyright © 2023 Wireless Communications and Mobile Computing. This is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

This article has been retracted by Hindawi following an investigation undertaken by the publisher [1]. This investigation has uncovered evidence of one or more of the following indicators of systematic manipulation of the publication process:

- (1) Discrepancies in scope
- (2) Discrepancies in the description of the research reported
- (3) Discrepancies between the availability of data and the research described
- (4) Inappropriate citations
- (5) Incoherent, meaningless and/or irrelevant content included in the article
- (6) Peer-review manipulation

The presence of these indicators undermines our confidence in the integrity of the article's content and we cannot, therefore, vouch for its reliability. Please note that this notice is intended solely to alert readers that the content of this article is unreliable. We have not investigated whether authors were aware of or involved in the systematic manipulation of the publication process.

Wiley and Hindawi regrets that the usual quality checks did not identify these issues before publication and have since put additional measures in place to safeguard research integrity.

We wish to credit our own Research Integrity and Research Publishing teams and anonymous and named external researchers and research integrity experts for contributing to this investigation.

The corresponding author, as the representative of all authors, has been given the opportunity to register their agreement or disagreement to this retraction. We have kept a record of any response received.

References

- [1] Y. Liu and X. Wang, "Promoting Competitiveness of Green Brand of Agricultural Products Based on Agricultural Industry Cluster," *Wireless Communications and Mobile Computing*, vol. 2022, Article ID 7824638, 18 pages, 2022.

Research Article

Promoting Competitiveness of Green Brand of Agricultural Products Based on Agricultural Industry Cluster

Yishu Liu ^{1,2} and Xia Wang ³

¹School of Economics and Management, Guangzhou City Construction College, Guangzhou 510900, Guangzhou, China

²School of Economics and Management, Nanchang Normal College of Applied Technology, Nanchang, 330108 Jiangxi, China

³School of Economics, Wuhan Business University, Wuhan, 430000 Hubei, China

Correspondence should be addressed to Xia Wang; wangxia@wbu.edu.cn

Received 23 December 2021; Revised 14 February 2022; Accepted 7 March 2022; Published 21 April 2022

Academic Editor: Deepak Kumar Jain

Copyright © 2022 Yishu Liu and Xia Wang. This is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Agricultural industrial clusters are the basis for the formation of regional brands of agricultural products and also an effective way to enhance the regional brand value and competitiveness of agricultural products. Based on the agricultural industry cluster, carry out regional brand building of agricultural products, emphasizing that the production of agricultural products from raw material bases to product sales in specific administrative areas, and even the collaborative production services of relevant agricultural technology research and development institutions are connected to the local network, establishing a regional first-class agricultural product brand. The brand grows with the development of regional production bases. Therefore, this paper is aimed at exploring the research on the promotion of green brand competitiveness of agricultural products based on the theory of agricultural industrial clusters, analyzing the internal connection between agricultural product agglomeration effect and brand competitiveness, and exploring its advantages and disadvantages. Using this strategy, this paper will use the research method of specific analysis of specific problems, design an analysis model construction experiment based on the influencing factors of agricultural industrial clusters, and draw experimental conclusions through the analysis and comparison of experimental data. Through theoretical innovation and exploration, a model for the rapid development of green agricultural product brands can be found. The results show that the use of questionnaires to explore the differences in the planting characteristics of green agricultural products in industrial clusters can account for 35% of the brand competitiveness, promote the rapid development of the brand, and enhance the technological innovation ability by 19%. Therefore, combined with the characteristics of the current era, with the help of the national agricultural aid policy, fully absorb the transformation, actively innovate, and improve the level of agricultural cultivation. Analyze different application difficulties, explore development prospects, give full play to the competitiveness of agricultural products, realize high-yield green crops, use these theories as a guide to innovate and integrate, provide valuable experience clusters for the wide application of agricultural industrialization, and achieve sustainable regional economic structure and ecological environment.

1. Introduction

In recent years, the circulation policy of agricultural products in China has been continuously liberalized, and the market competition has become increasing fierce; in addition to the improvement of the living standard of consumers, increasing attention has been paid to green agricultural products and brand agricultural products, and green agricultural products have a broad stage, which marks

that now it has entered the era of brand competition of green agricultural products. To ensure the sustainable development of green agricultural products, we can not do without adjusting measures to local conditions, making rational use of local advantages, and building new competitiveness with the help of industrial cluster scale.

With China's GDP surpassing Japan's as the world's second largest economy, the purchasing power of consumers has been significantly improved, and the consumption

concept and lifestyle have changed greatly, from price sensitivity to the pursuit of product quality [1, 2]. Especially for agricultural products, green health and safety have become synonyms for consumers' pursuit. Based on this change of consumers, traditional agriculture is gradually replaced by green agriculture and new agriculture, and green agricultural products emerge as the times require. Then, the development of green agricultural industrial clusters is getting better and better and with bright prospects. As a result of the development of agricultural industry clusters, the regional brand of agricultural products is not only a symbol of the production location of strong competitive products but also a comprehensive embodiment of the aggregation and synergy effect of the industrial chains in the market. Based on the agricultural industry cluster, the regional brand construction of agricultural products is carried out, which emphasizes the one-stop production and service of agricultural products from raw material base production to product sales in a specific administrative region, and even the relevant agricultural technology research and development institutions are all in the local supporting network, and the first-class brand of agricultural products in the region is created. The brand grows up with the development of regional production base and is excellent in industrial agglomeration, growing up in the trend and using the formed regional agricultural product brands to strengthen the agglomeration advantage, so that the agricultural product producing areas form a competitive advantage [3, 4]. Green agricultural products are different from traditional agricultural products, which will not cause harm to the human body and environment in the whole industrial chain. To a certain extent, it not only meets the dual purpose of people's pursuit of health and environmental protection but also represents the future development direction of agriculture. From the perspective of green agricultural production and processing enterprises, the overall strength of most green agricultural production and processing enterprises is relatively weak. Due to the weak strength of scientific and technological innovation, the comprehensive quality of green agricultural products for production and processing needs to be improved. In the sales process of green agricultural products, the marketing creativity is not valued, and the selection and application of marketing mix strategies are often inappropriate from the perspective of government guidance and policy-making; there is a lack of protection system for brand green agricultural products. The implementation of policies is not open and transparent, leading to adverse selection. The phenomenon of international trade barriers is serious [5, 6]. Therefore, we should take advantage of our unique natural ecological resources to provide a basis for the green agricultural product brand to gain competitive advantage. Through the brand agglomeration effect, we have established the overall competitive advantage of the green agricultural product brand. The strength of the whole green industry has steadily increased the competitiveness of the green agricultural product brand. Finally, the quality supervision system is the guarantee for the promotion of brand competitiveness.

With the vigorous development of market economy in China, people's consumption level has been greatly improved.

The pursuit of "brand" changes the consumption concept, making brands become the core competitiveness of enterprises in the fierce market competition. With the development of modern agriculture and the rise of green agriculture, increasing attention has been paid to green food brands. Many experts and scholars have begun to study green food brand construction. Throughout the research and development process of brand, different times, different countries, different experts, and scholars have carried out a lot of researches on brand from different perspectives [7]. The development process of brand research from the initial stage to the final stage of mature innovation step by step. In the process of brand research and development, it has experienced from single to complex, from concrete to abstract, from generalization to detail, from qualitative to quantitative, and so on. According to the existing research results, most scholars at home and abroad have studied from the aspect of improving the brand competitiveness of green food, while the research on improving the brand competitiveness of green agricultural products including "three products and one standard" is less [8]. Moreover, the research on the brand competitiveness of green food is only at the theoretical level, which is difficult to use in the practical operation. Compared with the research of foreign experts and scholars, the research of domestic scholars on brand competitiveness started relatively late, starting in the early 1980s and 1990s, and many of the research results on brand competitiveness are based on the research of overseas scholars and then combined with the actual situation of our country, on this basis, refined and refined. The research on brand competitiveness of agricultural products mainly focuses on the market performance of agricultural products, mainly taking the market share of agricultural products as a hard index to evaluate whether the brand of agricultural products is competitive [9, 10]. This is only measured in terms of quantity. The production capacity of agricultural product enterprises, the quality of operation and management, and technological innovation will affect the market share of agricultural products. In addition, the government and consumers are also the influencing factors of brand competitiveness of agricultural products. On the government level, the integrity of government policies, the strength of special fund support, and regional protectionism will indirectly affect the competitiveness of agricultural product brands [11, 12]. From the perspectives of agricultural scientific research institutes, agricultural service institutions, agricultural administrative departments, and agricultural enterprises, this paper discusses the internal mechanism of agricultural industry clusters to enhance the competitiveness of regional brands of agricultural products and designs an analysis model based on the influencing factors of agricultural industry clusters experiment, and on this basis, it is proposed to transform the regional brand of agricultural products into corporate brand, establish an interactive mechanism, implement the strategy of regional brand umbrella of agricultural products, improve the technological content of regional brands of agricultural products, then increase the value of brand assets on the basis of agricultural industrial clusters, and improve the competitiveness of regional brands of agricultural products.

Starting from the meaning and characteristics of green agricultural products and brand competitiveness, this paper explores the development prospect of agricultural industry clustering to improve the scientific prediction of green brand competitiveness and to better solve the problems encountered in the actual process, in-depth expounds the research process and technical difficulties of planting regional restrictions and brand building, and mainly analyzes the technical difficulties according to the industrial agglomeration rules. The characteristics of law in the use of agricultural products in the process of the difficulties encountered and solutions to the problems determine the rational use of methods, and in line with the law of natural growth of the balance of the basic point, the organic combination of the two, the development level of green agricultural products may achieve the results of classification and discussion, for the future green brand competitiveness to provide valuable technical experience and to the development direction of an objective outlook. At the same time, to better play the role of brand effect and reflect the goal of promoting the development of specialized and refined agriculture, it is also necessary to vigorously improve the comprehensive quality of planting personnel and strengthen the specialization and accuracy of information technology. At the same time, it is necessary to guarantee the improvement of the evaluation technology. In view of the differences in the sequence of technological research, it is necessary to analyze the comparative advantages to determine the similarities and differences between Chinese and western research directions, learn advanced experience, put forward improved methods and paths, and combine with new development methods, hoping to provide theoretical basis for the new model of modern agricultural development.

2. Method

2.1. Core Concepts

2.1.1. Green Agricultural Products. Green food is a kind of food that is approved to use the green food mark by the relevant national organizations [13]. It needs to be produced in a certain way, and its basic characteristics are pollution-free, pollution-free, green, and safety. No matter in production, processing, or transportation, green food must be strictly monitored to keep a high awareness of pesticide residues, bacteria, heavy metals, and radioactive substances. On the basis of high internal quality level, it is necessary to ensure that the external packaging level is clean and pollution-free. In the world, organic food is a unified method for natural and pollution-free food. It needs to be certified by an independent agency. It is produced according to the production requirements and standards of organic agriculture in the world, and no synthetic substances are added to the production. Pollution-free agricultural products, green food, and organic food are linked, complemented, and focused on each other. They are all safety agricultural products certified by quality and belong to the category of safety agricultural products. Pollution-free agricultural products are the primary stage of the development of green food, and the

basis of the development of green food and organic food, that is, green food and organic food, is further developed and improved on the basis of pollution-free agricultural products. Green agricultural products are not the agricultural products produced by crops with green color that people usually understand, nor the wild agricultural products that grow naturally in the wild. Strictly speaking, green agricultural products refer to those agricultural products that are recognized by special agencies and allowed to use the green agricultural products logo, conform to the theory of sustainable development, and are produced in accordance with the standard environment, health, technology, and other conditions. In this paper, the concept of green agricultural products not only covers the three concepts of pollution-free agricultural products, green food, and organic food but also includes geographical identification products.

2.1.2. Brand Competitiveness. Brand refers to the name, design or mark, logo, etc. of a product that can be different from other similar products. Brand competitiveness reflects the unique ability of an enterprise to surpass its competitors and keep consumers loyal through reasonable and effective allocation of resources [14]. This unique ability can make the enterprise's products stand out in the complex market competition environment, show the internal quality and performance of the products, and make consumers associate with the brand. According to the general law of economics, the stronger the brand competitiveness, the stronger the irreplaceable. The brand competitiveness of green agricultural products is a unique ability of green agricultural product production and processing enterprises based on their own advantages, which makes the brand not only maintain the sustainable growth of the enterprise but also surpass the competitive brand, bringing economic benefits to the enterprise. No matter from the scale of production, the level of science and technology, or from the market share and profitability, the brand competitiveness of green agricultural products has an absolute advantage. In the fierce market competition environment, the brand competitiveness of green agricultural products can not only show the unique internal product elements of green agricultural products, such as nutrition, safety, and green, but also reflect the external product elements such as packaging, name, logo, etc. In order to meet the basic needs of consumers for green agricultural products, we should enhance consumers' recognition of enterprises and then loyalty to enterprises [15].

2.2. Characteristics of Agricultural Industry Cluster

2.2.1. Strong Regional Embeddedness. Because the agricultural industry cluster is formed and developed on the basis of the endowment of agricultural resources in a certain region, the agricultural industry cluster often shows obvious regional characteristics; that is, it has certain regional rooting [16]. Generally speaking, when choosing a location, enterprises first consider whether the resource supply is convenient or not. The scarcity of resources makes enterprises gather in areas with rich means of production. In addition, to maximize profits, enterprises will choose places close to

the market and with low transportation costs to engage in production and operation activities. In real economic activities, the production place, raw material place, and market place are often not in the same place. Enterprises often choose the location with the shortest distance and the lowest freight. At this time, as long as the benefit of agglomeration is higher than the cost of agglomeration, the agglomeration phenomenon will happen. For example, the garlic industry cluster in Jinxiang of Shandong Province and the flower industry cluster in Dounan of Yunnan Province both reflect the regional rooted characteristics of the industry cluster. Such agglomeration will undoubtedly have obvious geographical advantages. Therefore, regional embeddedness is not only an important factor in the formation and development of agricultural industry clusters but also one of the main characteristics of agricultural industry clusters.

2.2.2. High Degree of Agglomeration of Related Industries. Agricultural industrial cluster is centered on agricultural activities. There are not only enterprises engaged in agricultural production such as agricultural product processing enterprises but also organizations and institutions providing corresponding services for agricultural production activities, such as agricultural research institutes, financial institutions, and relevant agricultural management departments of the government [17]. These enterprises and supporting institutions related to agricultural production are concentrated in the space by their symbiosis and complementarity, forming another significant feature of the agricultural industry cluster, which is support. For regional brands of agricultural products, their products are formed in the unique local geographical environment or relying on the rich resources of agriculture and animal husbandry owned by the region. With the improvement of people's living standards, the requirements for food are also increasing. To meet the requirements of consumers for agricultural products, the cultivation of new varieties is imperative. The cultivation of new varieties can not only retain the excellent characteristics of the original products but also meet the needs of consumers in taste, nutrition, and other aspects. Not only that, the formation of new varieties is also the further extension and development of regional brands.

2.2.3. Strong Innovation Ability. In the agricultural industry cluster, due to the close geographical proximity and close cooperation between enterprises, face-to-face business can be done, which is conducive to the spread of various new ideas, new ideas, new technologies, and new knowledge, thus forming the spillover effect of knowledge, obtaining "learning economy," and forming a positive innovation culture atmosphere [18]. In addition, due to the high concentration of related industries, government departments and scientific research institutes can communicate with enterprises more conveniently, so that they can formulate the policy support needed by enterprises in time, provide the necessary technical support for enterprises, and effectively turn scientific research achievements into productivity, to enhance the scientific and technological innovation ability of enterprises. The promotion of the regional brand competitiveness of

agricultural products processing enterprises focuses on the promotion of brand equity value and then enhances the competitiveness of the brand. First of all, enterprises can carry out intensive processing of brand products to improve the added value of products. Most of the regional brand products enter the consumer market in the form of primary products or original ecological products, so their market share is extremely limited, and their brand competitiveness is often in a disadvantageous position. If these products can be further processed, the scientific and technological content of the products can be increased, and the added value of the products can be increased. Thus, the products can meet the needs of more consumers and gain more market share.

2.3. Connection between Industrial Clusters and Green Brands of Agricultural Products

2.3.1. Agricultural Industry Cluster Is the Precondition of Brand Formation. To a great extent, the formation of agricultural industry clusters depends on the agricultural economic situation and the history of a certain region [19]. It can be concluded that the formation of agricultural industry cluster needs to be based on local agricultural characteristics, and local agricultural products need to have certain advantages and characteristics in the regional or national scope. Generally speaking, an agricultural industry cluster needs to have the following two characteristics: first, aggregation. Aggregation refers to the large-scale production of agricultural products in a certain region or a large number of relevant agricultural product growers, research units, and processing plants in a certain region. Second is embeddedness. Embeddedness refers to the existence of a large number of agricultural product processing enterprises in a certain region, which are classified based on the local agricultural product planting structure, undertake different processing procedures, respectively, and form a certain scale of price network in the region [20]. Such a mode of production and operation can promote the rapid development of local enterprises, maintain a good competitive relationship between enterprises and regions, and ultimately promote the overall development of the local agricultural industry. At this stage, the agricultural industry cluster has gradually been recognized by the masses of people and has become an effective way to promote the development of China's agricultural industry at this stage, and the local brand effect formed by the agricultural industry cluster can further promote the progress and development of the industry. It can be seen that the agricultural industry cluster has a strong regional and brand nature. After a long-term development, it is bound to form an agricultural brand economy with local characteristics, and even the agricultural industry in some areas has become a synonym for the city.

2.3.2. Agricultural Industry Cluster Is the Carrier of Developing Brands. From a certain point of view, the regional brand of agricultural products belongs to one of the assets of a certain region, and its influence ability is often relatively large. If the regional brand of agricultural products

wants to reflect its invisible value, it must rely on the local agricultural industry to achieve and finally transform the intangible assets into tangible assets. The agricultural industry cluster is a part of tangible assets in terms of the nature of assets. Only when the two are effectively combined, we can further improve the cultural value and market value of agricultural products and ultimately help farmers to achieve the purpose of increasing economic income. Although the regional brand of agricultural products can promote the progress of agricultural industry cluster and improve the value of local agricultural products, if the regional brand of agricultural products is separated from the agricultural industry cluster, it means that it will not achieve its own value. In essence, the development of an agricultural industry cluster determines the development of the regional brands of agricultural products, and it is also the main carrier of the regional brands of agricultural products.

3.2.3. Improve the Market Competitiveness of Regional Brands of Agricultural Products. The characteristics of scale and specialization of agricultural industry cluster mean that it belongs to a kind of formed market system. Both the production cost and utilization rate have reached the mature stage, and driven by the brand reputation, the income brought by local agriculture will enter the high-speed development stage. In addition, the local government's investment and research work in the early stage for the establishment of regional brands of agricultural products can become the basic conditions for the development of regional brands of agricultural products. The competitive advantage of agricultural industry cluster is an important source of regional brand competitive advantage of agricultural products. Agricultural industry cluster, especially the developed agricultural industry cluster, is conducive to the creation of regional brand value of agricultural products. On the one hand, the aggregation effect of agricultural industry cluster strengthens the value of regional brands of agricultural products and makes the brand value transfer to products at a faster speed and then improves the competitiveness of the brand. On the other hand, the developed agricultural industry cluster has some obvious competitive advantages.

3. Experiment

3.1. Construction of an Analysis Model Based on the Influencing Factors of Agricultural Industrial Clusters to Enhance the Competitiveness of Agricultural Green Brands. Based on the analysis of the impact of the four static factors of region, brand, industry, and support on the competitiveness of agricultural green brands, this article will build an evaluation index for the competitiveness of agricultural green brands from 16 specific elements based on the above 4 static element system. This article quantifies qualitative indicators through expert scoring and questionnaire surveys, thereby establishing a green brand competitiveness evaluation system for agricultural products. The evaluation system is shown in Table 1.

In Table 1, the main criterion level is the basic factor level (first-level index), and the subcriteria level is the specific factor level (second-level index). Among them, X11 to X14 represent resource base, organizational management capabilities, agricultural ecological environment, and brand social value; X21 to X24 represent innovation capabilities, market positioning, price and quality, and popularity and reputation, respectively; X31 to X34 represent cluster development, the number of leading enterprises, the number of small- and medium-sized enterprises, and the level of industrialization; X41 to X44 represent the security system, credit environment, technical level, and the participation of the association. All subcriteria layers adopt the form of five one-way choices of the questionnaire, such as excellent, good, average, poor, poor or high, high, average, low, and low.

3.1.1. Setting of Model Function. The regional brand competitiveness of characteristic agricultural products is expressed as a fuzzy set X , and the influencing factors of the regional brand competitiveness of characteristic agricultural products are set as a subset K of X ; then, the function of the n th influencing factor can be expressed as

$$K = \{x, \mu(x)\}. \quad (1)$$

Among them, $x \in X$, $\mu_k(x)$ is the degree of membership of x to K .

$\mu_k(x) \in [0, 1]$, the higher the degree of subordination, the higher the competitiveness of the regional brand of characteristic agricultural products.

3.1.2. Setting of Membership Degree. Index variables are divided into three types: virtual dichotomous variables, virtual qualitative variables, and continuous variables. The formulas are as follows:

Virtual dichotomous variables:

$$\mu_k(x) = \begin{cases} 0, & x_{ij} = 0, \\ 1, & x_{ij} = 1. \end{cases} \quad (2)$$

Virtual qualitative variables:

$$\mu_k(x_{ij}, a, b) = \begin{cases} 0, & x_{ij} = a, \\ (x_{ij} - a)/(b - a), & a \leq x_{ij} \leq b(a, \text{bis max, min}), \\ 1, & x_{ij} = b. \end{cases} \quad (3)$$

Continuous variables:

$$\mu_k(x_{ij}, a, b) = \begin{cases} 0, & 0 \leq x_{ij} \leq a, \\ (b - x_{ij})/(b - a), & a \leq x_{ij} \leq b(a, \text{bisparameter}), \\ 1, & x_{ij} \geq b. \end{cases} \quad (4)$$

3.1.3. Obtaining Weight. Using the expert survey method, by

TABLE 1: Evaluation index system of regional brand competitiveness of agricultural products.

Target layer	Evaluation of regional brand competitiveness of agricultural products X															
Main criterion layer	Regional factor X1				Brand factor X2				Industrial factor X3				Support factor X4			
Subcriteria layer	X11	X12	X13	X14	X21	X22	X23	X24	X31	X32	X33	X34	X41	X42	X43	X44

issuing a matrix questionnaire, 30 experts are selected from the agricultural government departments, leading enterprises, colleges and universities, and the Academy of Agricultural Sciences to conduct investigations to obtain the judgment weight. Construct a judgment matrix by comparing each index pair by pair

$$A = A = \begin{bmatrix} 1 & a_{12} & \cdots & a_{1n} \\ a_{21} & 1 & \cdots & a_{2n} \\ \cdots & \cdots & 1 & \cdots \\ a_{n1} & a_{n2} & \cdots & a_{nn} \end{bmatrix}, \quad (5)$$

where A is the discriminant matrix, the comparison result of the importance of a_{ij} , element i , and element j , and

$$a_{ij} = \frac{1}{a_{ji}}, \quad (6)$$

and use the method root to calculate the weight of each indicator.

3.2. Fuzzy Comprehensive Evaluation Analysis Model Based on Agricultural Industrial Clusters to Enhance the Competitiveness of Agricultural Green Brands. Based on the evaluation system of agricultural industry clusters, to improve the competitiveness of agricultural green brands, three factors are mainly considered: one is the brand's market share (U1); the other is the brand's ability to obtain excess profits (U2); the third is the brand's development potential (U3). For the brand's market share ability, it is mainly tested using the following two indicators: (1) the market share of the test crystal brand is recorded as (X11), and (2) the sales (traffic) amount is recorded as (X12). The ability to obtain excess profits of a brand can be tested with the following two indicators: (1) the amount of profit obtained by the brand is recorded as (X21), and (2) the reciprocal of the cost of building the brand is recorded as (X22). The potential of brand development can be tested from four aspects: (1) comprehensiveness recorded as (X31), (2) density recorded as (X32), (3) technology leadership recorded as (X33), and (4) innovation speed marked as (X34).

The fuzzy comprehensive evaluation method uses the abovementioned index system to establish the following analysis model:

(1) Let U be the set of factors

$$U = \{U_1, U_2, U_3\}. \quad (7)$$

Among them:

$$\begin{aligned} U_1 &= \{X_{11}, X_{12}\}, \\ U_2 &= \{X_{21}, X_{22}\}, \\ U_3 &= \{X_{31}, X_{32}, X_{33}, X_{34}\}. \end{aligned} \quad (8)$$

V is the set of comments

$$V = \{Y_1, Y_2, Y_3, Y_4\}. \quad (9)$$

Among them, Y_1 represents strong, Y_2 represents strong, Y_3 represents weak, and Y_4 stands for weak.

(2) Comprehensive evaluation of each. Due to the ambiguity of the index X_{ij} , the specific value $U_i (i = 1, 2, 3)$ cannot be obtained X_{ij} , but the degree of membership in the t th comment Y can be obtained by Delphi method or random survey method r_{ij} , and the judgment matrix can be constructed from this R_i

$$\begin{aligned} R_1 &= \begin{bmatrix} r_{111} & r_{112} & r_{113} & r_{114} \\ r_{121} & r_{122} & r_{123} & r_{124} \end{bmatrix}, \\ R_2 &= \begin{bmatrix} r_{211} & r_{212} & r_{213} & r_{214} \\ r_{221} & r_{222} & r_{223} & r_{224} \end{bmatrix}, \\ R_3 &= \begin{bmatrix} r_{311} & r_{312} & r_{313} & r_{314} \\ r_{321} & r_{322} & r_{323} & r_{324} \\ r_{331} & r_{332} & r_{333} & r_{334} \\ r_{341} & r_{342} & r_{343} & r_{344} \end{bmatrix}. \end{aligned} \quad (10)$$

In addition, through the analysis of Delphi method or random survey method, the weights of X layer to U layer can also be obtained as $N_i (i = 1, 2, 3)$, where:

$$\begin{aligned} N_1 &= [N_{11}, N_{13}], \\ N_2 &= [N_{21}, N_{22}], \\ N_3 &= [N_{31}, N_{32}, N_{33}, N_{34}]. \end{aligned} \quad (11)$$

Let U 's first-level evaluation vector be B_i , then

$$B_i = N_i, R_i = [b_{i1}, b_{i2}, b_{i3}, b_{i4}]. \quad (12)$$

By weighted average method, we get

$$b_{it} = N\Gamma_{i1} \oplus N_{i2}\Gamma_{i2t} \oplus \cdots N_{in}\Gamma_{int}. \quad (13)$$

- (3) Carry out secondary evaluation. Consider each U_i (i , 2, 3) as a factor. In this way, U is another factor set, and the single factor judgment matrix of U is $U = \{U_1, U_2, U_3\}$

$$R = \begin{bmatrix} B_1 \\ B_2 \\ B_3 \end{bmatrix} = \begin{bmatrix} b_{11} & b_{12} & b_{13} & b_{14} \\ b_{21} & b_{22} & b_{23} & b_{24} \\ b_{31} & b_{32} & b_{33} & b_{34} \end{bmatrix}. \quad (14)$$

According to the Delphi method or random survey method, the weight of the U layer to the A layer is obtained: $[a_1, a_2, a_3]$; then, the secondary evaluation vector can be obtained

$$B = A, R = (b_1, b_2, b_3, b_4), \quad (15)$$

and finally got

$$bt = a_1 \cdot b_{1t} \oplus a_2 \cdot b_{2t} \oplus a_3 \cdot b_{3t}. \quad (16)$$

- (4) $B = A, R = (b_1, b_2, b_3, b_4)$ will be normalized, and then, b_1 and b_2 will be added together. If the sum of the two is greater than 0.5, it means that the brand's competitive ability to be judged has a high brand market share ability and the combination of super value and profit-making ability and the development potential of the brand. Therefore, the possibility of making it a core competitiveness is higher; on the contrary, the possibility is lower

3.3. Data Source. In this study, we investigated some agricultural product processing enterprises in my region and selected dozens of enterprises in different development periods, different types, different scales, and different brand strategic orientations as interview research samples with the key words of business scope, cluster effect, and farmers' wishes. The interviewees involved the basic situation of enterprise development. According to the research content, this survey focuses on the development direction of brand promotion and sets the influencing factors of brand competitiveness of green agricultural products as the target layer. The middle layer is the criteria layer. There are four criteria layers in the questionnaire, namely, the basic core competence of brand, the market-oriented operation competence of brand, the resource competence of brand, and the support competence of brand. The bottom layer is the scheme layer or the indicator layer. In this paper, seven index levels are constructed, 200 questionnaires are distributed, 180 valid questionnaires are recovered, and the survey results are valid. The investigation content decomposes the decision-

making-related elements into objectives, criteria, index, and other levels and calculates the single and total order of levels through the fuzzy quantitative method of qualitative index as the systematic method of objective optimization decision-making. The experimental data sources of this study are obtained, as shown in Table 2.

3.4. Experimental Method. Based on the research results of brand competitiveness at home and abroad, this paper combines social demand and scientific research, qualitative analysis, and quantitative analysis by using the relevant theories and methods of management, economics, and other disciplines, and mainly uses the following research methods.

First of all, in the process of research, using the literature research method, we have learned a lot of knowledge from books, literature, and the Internet; searched for topics from different perspectives and based on the insights and views of different scholars on brand competitiveness, we have determined the research direction of brand competitiveness improvement of green agricultural products in different regions. Secondly, the questionnaire survey of this paper mainly includes two aspects. Firstly, through the questionnaire survey of experts, the weight of each factor affecting the brand competitiveness of green agricultural products is determined; secondly, the status of each factor affecting the brand competitiveness of green agricultural products is scored through the way of an online questionnaire, to determine the green of the author's research area. Thirdly, on the basis of the questionnaire survey, the qualitative analysis and quantitative analysis are combined to process the relevant data by using the analytic hierarchy process and the fuzzy comprehensive evaluation method, and the various indicators in the evaluation system are sorted according to the importance degree, and the current brand competitiveness is evaluated, which lays the foundation for the countermeasures, as shown in Table 3.

3.5. Determine Index Weight and Consistency Test

- (1) Construction of criterion-level judgment matrix and calculation of index weight

As shown in Figure 1, calculate the above judgment matrix through data processing:

$$X = (0.53, 0.25, 0.12, 0.09),$$

$$\lambda \max = 4.15,$$

$$RI = 0.89,$$

$$CR = \frac{\lambda \max - n}{(n - 1) \times RI} = \frac{4.15 - 4}{3 \times 0.89} = 0.056 < 0.1. \quad (17)$$

The consistency test passed, and the weight distribution was reasonable.

- (2) The construction of the judgment matrix of each index of the brand's basic core competence and the calculation of the index weight are shown in Table 4

TABLE 2: Hierarchy of brand competitiveness of green agricultural products.

Target layer	Criterion level	Index level	Proportion
Brand competitiveness of green agricultural products	Basic core competence of brand	Comprehensive quality of green agricultural products	26%
		Technological innovation capability	19%
	Brand marketing operation ability	Marketing analysis ability	8%
		Market share	16%
		Natural ecological resources	5%
	Brand support	Patent protection intensity	11%
		Education level	15%

TABLE 3: Construction of criterion-level judgment matrix and calculation of index weights.

Target layer (X)	Brand basic core competence	Brand market operation ability	Brand resource capability	Brand support	Weights
Brand basic core competence	1	3	5	4	0.53
Brand market operation ability	1/3	1	3	3	0.25
Brand resource capability	1/5	1/3	1	2	0.12
Brand support	1/4	1/3	1/2	1	0.10

Construction of criterion-level judgement matrix and calculation of index weight

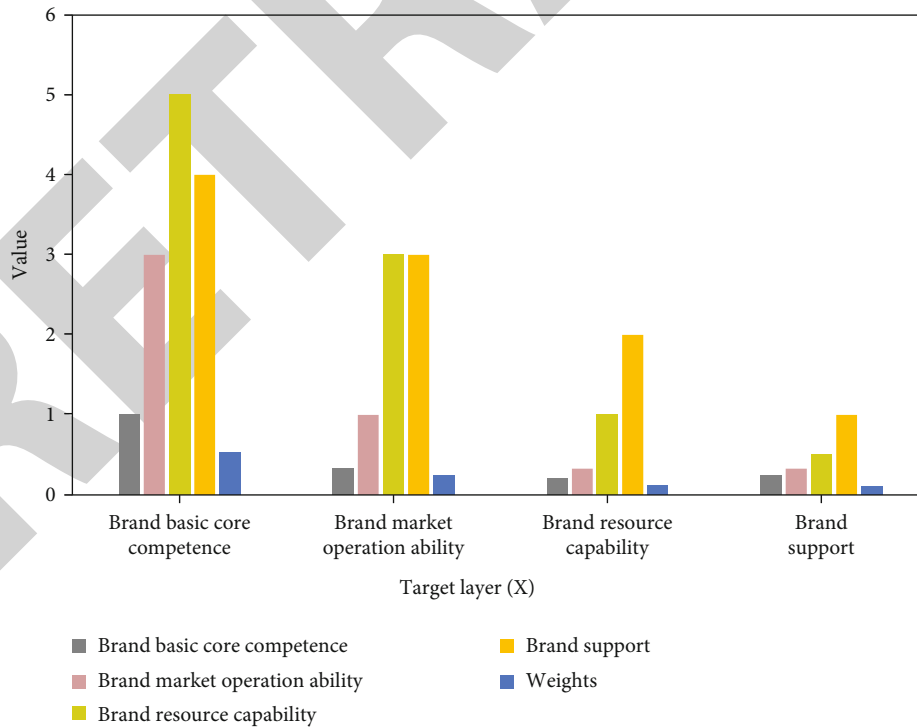


FIGURE 1: Construction of criterion-level judgement matrix and calculation of index weights.

TABLE 4: Construction of the judgment matrix of each indicator of the basic core competence of the brand and calculation of indicator weights.

Brand basic core competence (X1)	Comprehensive quality of green agricultural products	Technological innovation ability	Product differentiation ability	Enterprise comprehensive strength	Weights
Comprehensive quality of green agricultural products	1	3	2	3	0.44
Technological innovation ability	0.33	1	2	3	0.26
Product differentiation ability	0.5	0.5	1	2	0.18
Enterprise comprehensive strength	0.33	0.33	0.5	1	0.11

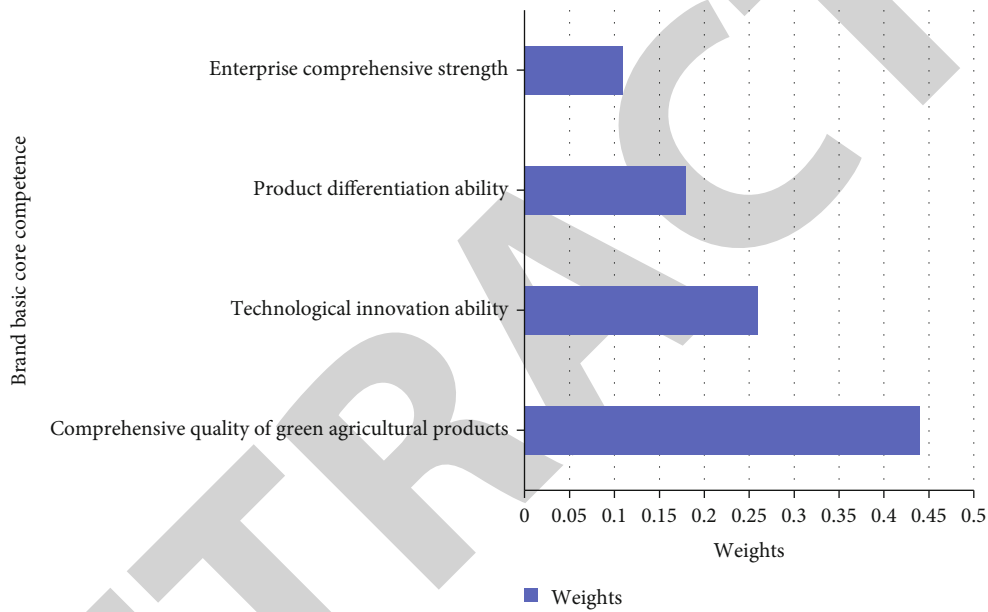


FIGURE 2: Weights of basic brand core competence indicators.

As shown in Figure 2, calculate the above judgment matrix through data processing:

$$\begin{aligned}
 X1 &= (0.44, 0.26, 0.18, 0.11), \\
 \lambda \max &= 4.16, \\
 RI &= 0.89, \\
 CR &= \frac{\lambda \max - n}{(n - 1) \times RI} = \frac{4.16 - 4}{3 \times 0.89} = 0.06 < 0.1.
 \end{aligned} \tag{18}$$

The consistency test passed, and the weight distribution was reasonable.

- (3) The construction of the judgment matrix of each indicator of brand resource capabilities and calculation of indicator weights are shown in Table 5

As shown in Figure 3, calculate the above judgment matrix through data processing:

$$\begin{aligned}
 X3 &= (0.205, 0.090, 0.341, 0.364), \\
 \lambda \max &= 4.05, \\
 RI &= 0.89, \\
 CR &= \frac{\lambda \max - n}{(n - 1) \times RI} = \frac{4.05 - 4}{3 \times 0.89} = 0.019 < 0.1.
 \end{aligned} \tag{19}$$

The consistency test passed, and the weight distribution was reasonable.

3.6. Purpose of the Experiment. Agricultural industrial cluster is a further extension of the theory of industrial cluster in the field of agriculture. It is a new mode of combining the application of organizational form with agricultural production. As one of the forms of industrial cluster, agricultural industrial cluster not only conforms to the general rules of

TABLE 5: Construction of the judgment matrix for each indicator of brand resource capabilities and calculation of indicator weights.

Brand resource capability (X3)	Natural ecological resources	Human capital	Financial resources	Cultural environment	Weights
Natural ecological resources	1	3	0.5	0.5	0.21
Human capital	0.33	1	0.33	0.25	0.09
Financial resources	2	3	1	1	0.34
Cultural environment	2	4	1	1	0.36

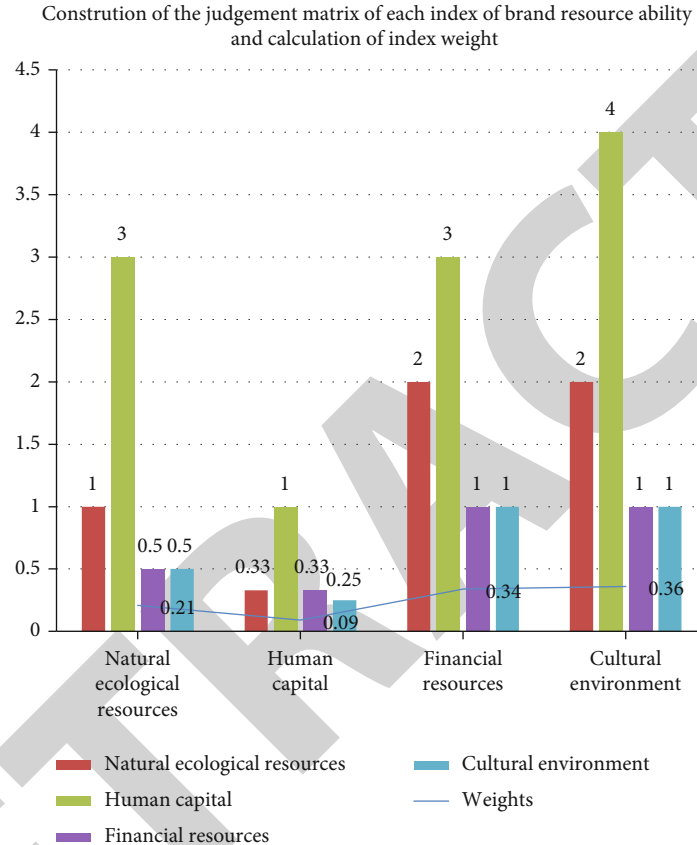


FIGURE 3: Construction of the judgment matrix of each indicator of brand resource capability and calculation of indicator weights.

industrial cluster formation but also has its own characteristics. Throughout the development of agricultural industry cluster at home and abroad, agricultural resource ticket is the material basis for the survival and development of agricultural industry cluster and the internal inducement for its formation. Aggregation effect, division effect, and cooperation effect are the market determinants of the formation of agricultural industrial clusters, and consumption demand is the determinants of the formation of agricultural industrial clusters. The leading enterprises and the government are the promoting factors of the agricultural industry cluster, and the path dependence is the institutional factor of the formation of the agricultural industry cluster. In a word, the agricultural industry cluster is an industry system group that evolves gradually under the action of the corresponding dynamic mechanism on the basis of certain resources' tickets. As a new form of industrial spatial organization in economic society, industrial

cluster has become an important strategic means for a country or region to gain competitive advantage and meet the challenges of globalization. The research shows that industrial cluster, as a new theory of regional development, not only emphasizes the importance of regional division of labor but also further emphasizes the role of integration of regional resources, especially the role of technological progress and technological innovation, which is a regional development theory suitable for China's national conditions. Agricultural industrial cluster is the application of industrial cluster in agricultural industry and the innovation of industrial cluster mode in agricultural production organization mode. The agricultural industry cluster adapts to the needs of the development of large-scale agriculture and is a new shortcut to realize the rapid economic development of regions with advantageous agricultural resources. This new organization form of agricultural industrialization will show a strong

TABLE 6: Evaluation results of Y agricultural green brand competitiveness.

First-level evaluation index	Secondary evaluation index	Evaluation situation				
		Excellent	Good	General	Poor	Very bad
Regional elements (0.57)	X11 (0.42)	0.35	0.23	0.25	0.16	0.01
	X12 (0.11)	0.02	0.13	0.34	0.40	0.11
	X13 (0.17)	0.15	0.28	0.30	0.16	0.11
	X14 (0.30)	0.10	0.29	0.33	0.21	0.07
Brand elements (0.23)	X21 (0.18)	0.01	0.12	0.42	0.38	0.07
	X22 (0.08)	0.05	0.24	0.40	0.25	0.06
	X23 (0.56)	0.2	0.31	0.35	0.13	0.01
	X24 (0.18)	0.15	0.34	0.31	0.17	0.03
Industrial factors (0.14)	X31 (0.14)	0.14	0.30	0.41	0.13	0.02
	X32 (0.31)	0.17	0.28	0.33	0.16	0.06
	X33 (0.07)	0.15	0.10	0.44	0.30	0.01
	X34 (0.48)	0.02	0.12	0.54	0.26	0.06
Supporting elements (0.06)	X41 (0.66)	0.01	0.10	0.39	0.41	0.09
	X42 (0.05)	0.01	0.11	0.52	0.29	0.07
	X43 (0.22)	0.05	0.14	0.38	0.34	0.09
	X44 (0.07)	0.03	0.12	0.40	0.30	0.15

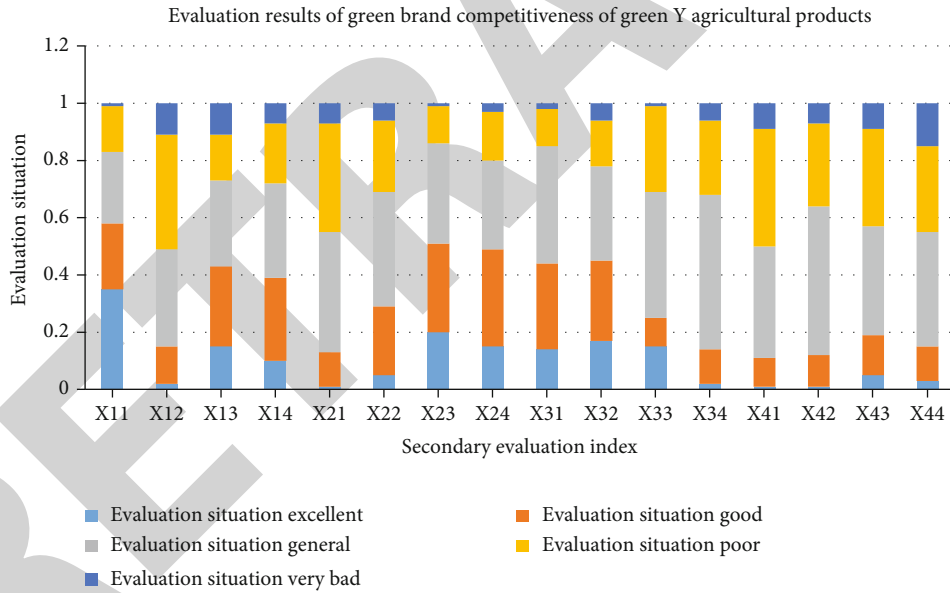


FIGURE 4: Evaluation results of green brand competitiveness of green Y agricultural products.

competitive advantage under the background of China’s agriculture entering the international market. At present, agricultural industry cluster has become an effective means to enhance the competitiveness of agricultural industry in some areas of China and gradually become a new strategic measure to enhance regional competitiveness.

4. Discussion

4.1. Measure the Competitiveness of Green Brands of Agricultural Products Based on Agricultural Industrial Clusters

(1) Comprehensive score of agricultural green brand competitiveness is shown in Table 6

From the data in Table 6 and Figure 4, it can be calculated that the evaluation result of Y agricultural green brand competitiveness on the regional element is $B1 = (0.198\ 3, 0.247\ 4, 0.305, 0.192\ 7, 0.056\ 6)$; the evaluation result on the brand element is $B2 = (0.172\ 2, 0.249\ 0, 0.359\ 5, 0.182\ 1, 0.027\ 2)$; the evaluation result on industrial factors is $B3 = (0.099, 0.187, 0.446\ 2, 0.212\ 3, 0.053\ 7)$; the evaluation result on supporting factors is $B4 = (0.031\ 9, 0.098\ 9, 0.396\ 0, 0.379\ 6, 0.174\ 6)$. From Figure 4, we can see the weight ratio of the combined elements of each indicator.

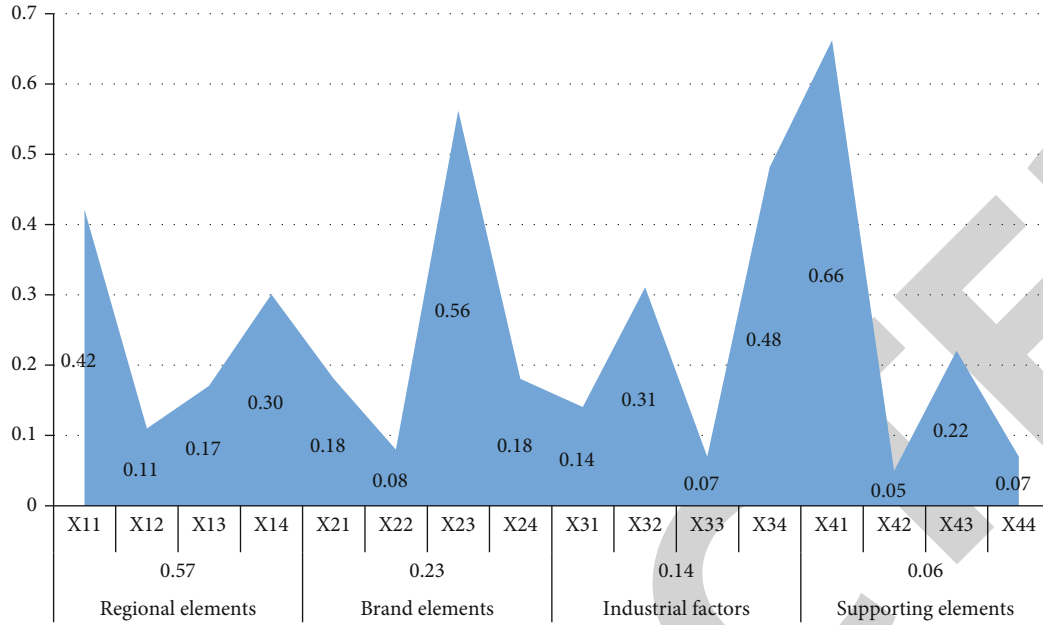


FIGURE 5: First-level and secondary evaluation index.

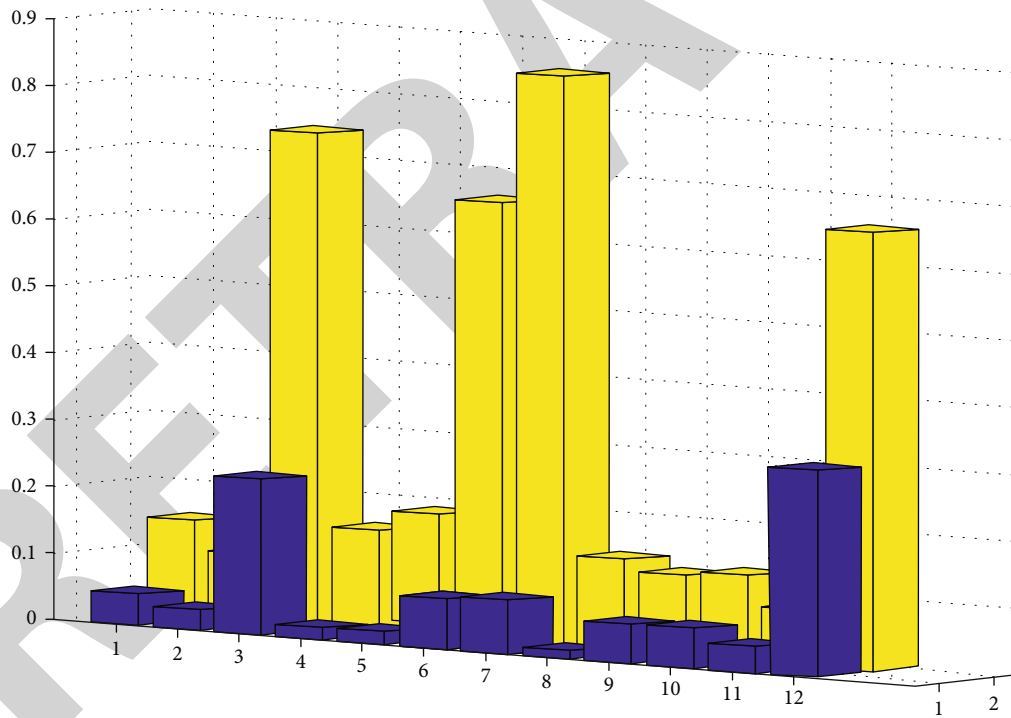


FIGURE 6: Single order and total order of each indicator level.

Combined with the weights of the four first-level evaluation indicators, the degree of membership of the green brand competitiveness of *Y* agricultural products in the evaluation set $U = (\text{excellent, good, average, poor, poor})$ at each level can be calculated as $B = (0.1698, 0.2330, 0.3477, 0.1899, 0.0568)$, keep two decimal places, that is, $B = (0.17, 0.23, 0.35, 0.19, 0.06)$.

It can be seen from Figure 5 that combined with the comment set $V (100, 85, 70, 60, 50)$, the comprehensive

score $F = B \times V = 75.03$ points for the green brand competitiveness of *Y* agricultural products can be calculated. The overall score is close to the “average” (70 points) of the comment set. It can be seen that the green brand competitiveness of *Y* agricultural products is at a general level and needs to be further improved, as shown in Figure 5.

(2) Judgment matrix and its calculation

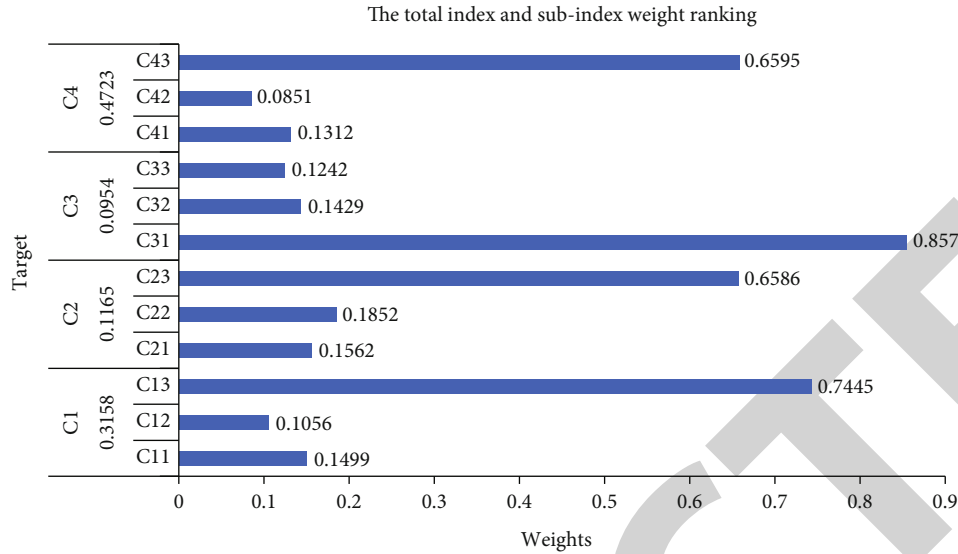


FIGURE 7: The total index and subindex weight ranking.

It can be seen from Figures 6 and 7, according to the evaluation system of agricultural product brand competitiveness established through consulting expert opinions, a judgment matrix of all levels of indicators can be constructed, and its characteristic roots and characteristic vectors can be calculated and tested for consistency. The final calculation results are shown in Table 7.

TABLE 7: The weight of each indicator to the total indicator.

Level total	Weights		Hierarchical single sort ranking (relative to the weight of the total index)	
Main target C	C1	C11	0.1499	0.0473
		C12	0.1056	0.0333
		C13	0.7445	0.2351
	C2	C21	0.1562	0.0182
		C22	0.1852	0.0216
		C23	0.6586	0.0767
	C3	C31	0.8571	0.0818
		C32	0.1429	0.0136
		C33	0.1242	0.0587
C4	C41	0.1312	0.0620	
	C42	0.0851	0.0402	
	C43	0.6595	0.3115	

(3) Analysis of basic brand core capabilities

According to the scores of 16 three-level indicators in the score table of brand competitiveness influencing factors, the scores of each indicator under the basic core competence of the brand can be obtained, as shown in Figure 8.

Among the indicators under the brand’s basic core capabilities, the overall quality of green agricultural products scored 80.95 points, the lowest score, but the composite weight of its indicators was 0.236, which not only ranked first in the basic core capabilities of the brand but also in the entire evaluation. The system is also the most important influencing factor. Y green agricultural products can only guarantee the safety and greenness of their food at present, but they are not very innovative in terms of taste and quality. Based on the attributes of agricultural products, their comprehensive quality has the greatest impact on brand competitiveness. Without quality, everything is empty talk. The technological innovation ability scored 81.3 points, ranking second from the bottom, and its index layer composite weight was 0.140, ranking second in the entire evaluation system. Today’s era can be said to be an era of innovation, and technological innovation cannot be ignored by any enterprise. At present, my country’s green agricultural product production and processing enterprises do not have very advanced production lines, and the production process is carried out in accordance with traditional methods. The limited technology has led to weak deep processing capabilities of green agricultural products, low added value of products and brands, and weak competitiveness. The product differ-

entiation ability and the company’s comprehensive strength score are equivalent at a relatively good level and should be maintained. On the basis of technological innovation, they further enhance the product differentiation ability and product differentiation and compare the company’s green agricultural products with competitors, the difference between the two, forming a competitive advantage.

(4) Analysis of brand resource capability

According to the scores of 16 three-level indicators in the score table of brand competitiveness influencing factors, the scores of each indicator under the brand resource capability can be obtained, as shown in Figure 9.

Among the indicators under the brand resource capability, the score of humanistic environment is only 77.85, which is the lowest score in this level. My country has a long history and culture of agricultural product planting, but there

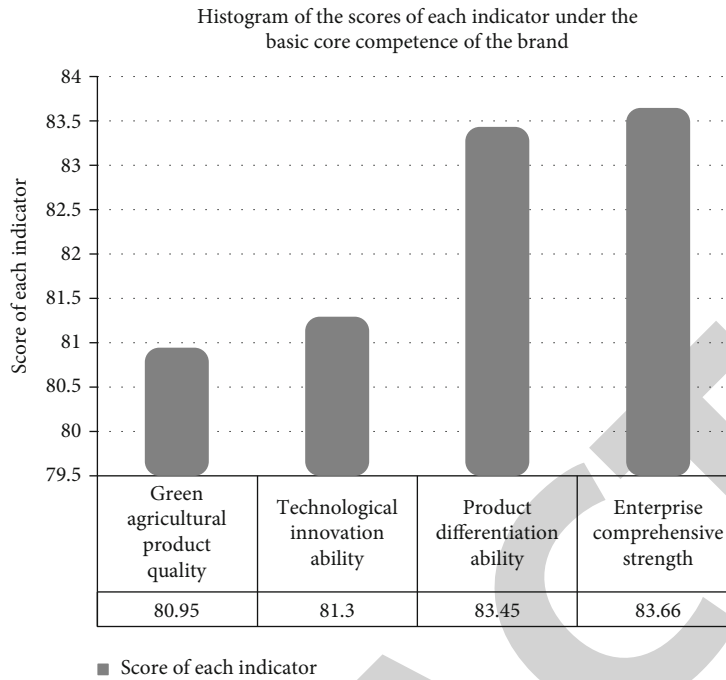


FIGURE 8: Histogram of the scores of each indicator under the basic core competence of the brand.

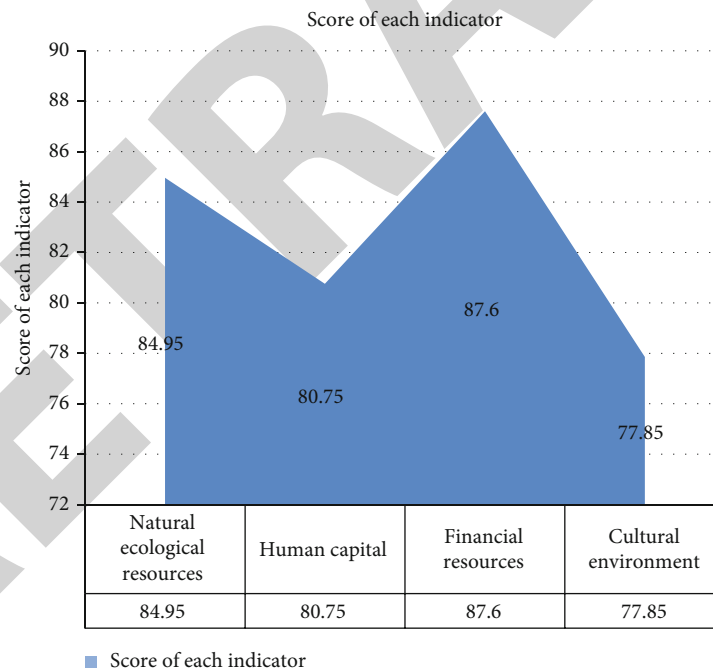


FIGURE 9: Histogram of the scores of each indicator under the brand resource capability item.

is no cultural tradition for brands. Consumers often lack brand awareness. The brand awareness of green agricultural product production and processing enterprises has only just emerged in recent years, so in a lack of brand awareness in the big environment, it is difficult for a certain company or individual to improve brand competitiveness. Human capital scored 80.75 points, ranking second from the bottom. Due to the impact of economic conditions and other general

circumstances, human capital in green agricultural product production and processing enterprises is relatively scarce. Many companies and employees lack the awareness of human capital, but simply recruit and hire workers, without implementing corresponding equity incentive mechanisms or profit sharing plans. This has led to a phenomenon that the policies formulated by green agricultural product production and processing enterprises cannot be properly

uploaded and issued, and the brand awareness of senior management personnel cannot be communicated to grassroots workers through policy formulation, but the green agricultural product brand competitiveness is biased. The formation and promotion of the brand are inseparable from the operating standards of the grassroots workers, etc., which also leads to its weak brand competitiveness. Natural ecological resources scored 84.95 points, ranking second. My country's unique geographical location and natural ecological resources provide good external conditions for the formation of green agricultural products.

4.2. Problems of Green Brand Competitiveness

(1) The comprehensive quality of green agricultural products needs to be improved. First of all, in the production process of green agricultural products, to pursue high profits, some enterprises use excessive chemical fertilizer and feed, which will not only pollute the environment but also weaken the flavor of green agricultural products. Secondly, the more fine and deep processing of green agricultural products, the more value-added green agricultural products. At present, one of the main reasons for the lack of high-end green agricultural products is the low added value and low quality. As shown in Figure 10, there are many factors that affect the competitiveness of green brands, and the quality of products is essential in the early stage of brand building, as shown in Figure 10

(2) Improper use of marketing mix strategy. According to the marketing theory, the product is composed of three parts: core product, packaging form, and accessory product. The focus of green agricultural production enterprises is only on the level of core products. They do not pay much attention to the packaging form and the ancillary products and values attached to the core products and often ignore the impact of the concept of product design on consumers' purchase choices. Promotion will play a great role in expanding the sales volume of green agricultural products, but at present, green agricultural production enterprises mainly use traditional ways such as TV broadcasting and flyers to promote the promotion, which is very backward and single

(3) The strength of scientific and technological innovation is weak. The core of the brand competitiveness of green agricultural products is the competition of quality, and the innovation of quality comes from science and technology. Most of the agricultural producers have not received higher education; most of them have accumulated experience from practice. Limited by people's inherent concepts, a large number of talents are unwilling to engage in agricultural related work, which leads to the serious problem of the aging of agricultural producers, becoming green barriers to brand building of agricultural products.

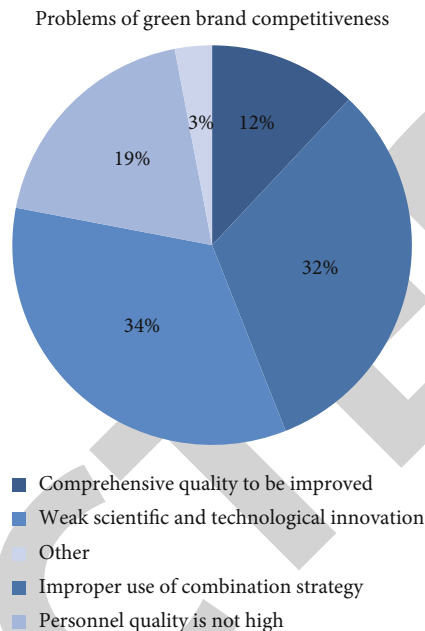


FIGURE 10: Problems of green brand competitiveness.

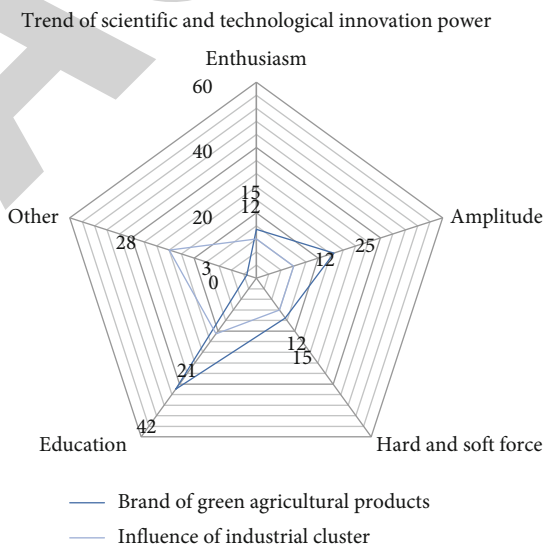


FIGURE 11: Trend of scientific and technological innovation force.

As shown in Figure 11, the change of education level and self-concept has a direct impact on the cultivation of talent in green agricultural product brand construction. To improve competitiveness, we must increase investment in scientific and technological innovation

4.3. Strategies to Enhance the Competitiveness of Green Brands

(1) Transform the regional brands of agricultural products into an enterprise brands, maintain brand development, and enhance its competitiveness. As the regional brand of agricultural products has the

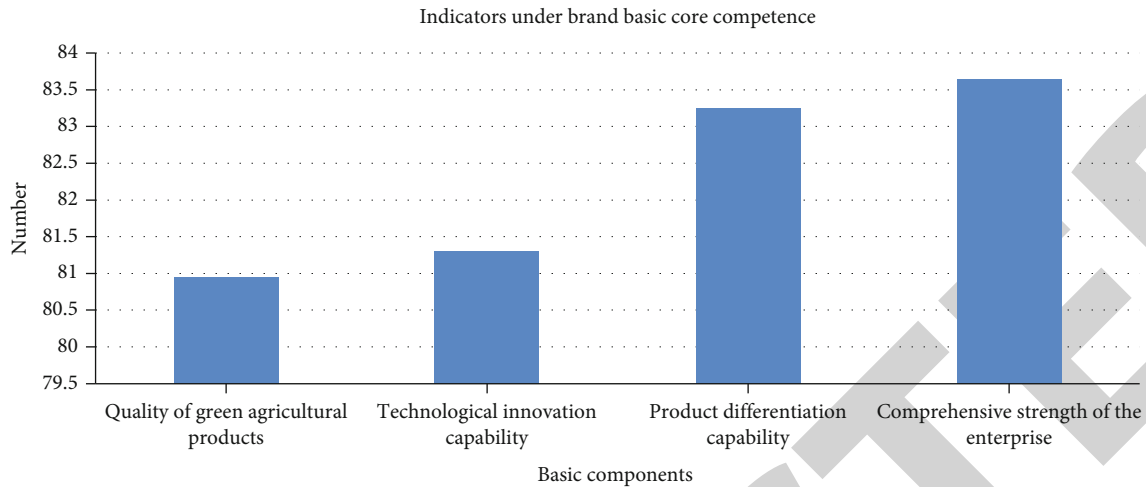


FIGURE 12: Indicators under brand basic core competence.

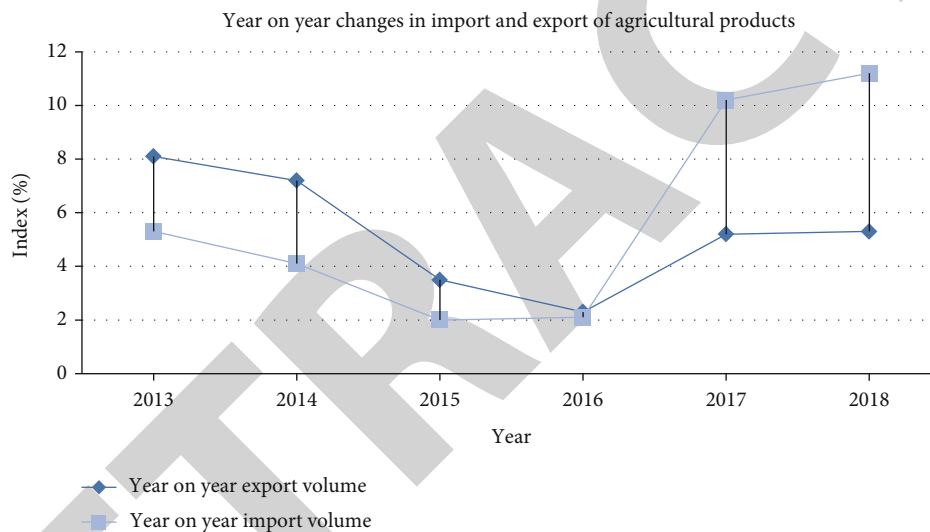


FIGURE 13: Year to year changes of agricultural products import and export.

attribute of public goods, the regional brand of agricultural products has obvious economic externality and nonexclusiveness. To avoid this phenomenon, it is essential to transform a regional brands of agricultural products into an enterprise brands. As shown in Figure 12, to build the brand competitiveness of enterprises, we need to increase the investment in product quality, technological innovation, comprehensive strength, and other aspects, of which the basic core competence is the most important. Because of the agricultural competitive advantage of the agricultural industry cluster, it will inevitably promote the continuous development and growth of the enterprise brand

industry cluster, a large number of enterprises and related departments and institutions centered on agricultural activities gather, forming a high concentration of related industries. The establishment of this mechanism can make enterprises, governments, and scientific research institutions in a state of joint interaction, carry out in-depth discussion and research around regional brand agricultural products, and jointly formulate plans and specific implementation plans conducive to the future development of regional brand agricultural products. According to Figure 13, the fluctuation of agricultural exports in recent years shows that if agricultural products cannot form a stable interactive development system, the market share will be very fragile

- (2) Establish the interactive mechanism of “government, production, learning and research” to jointly promote the healthy and sound development of regional brands of agricultural products. In the agricultural
- (3) Take the regional brand of agricultural products as the umbrella brand, rely on the agricultural industry

cluster to cultivate the subbrand, and improve the competitiveness of the regional brands of agricultural products. We should emphasize the regional brand of agricultural products as an umbrella brands and constantly establish the umbrella brand through the continuous development and growth of the umbrella brands, to enhance the competitiveness of the umbrella brands. Agricultural industry cluster is formed and developed on the basis of agricultural resource endowment, which lays a good foundation for the formation of regional brands of agricultural products

5. Conclusion

Agricultural industry cluster is not only the foundation of green brands of agricultural products but also the important carrier of protecting and developing regional brands of agricultural products. Agricultural industry cluster can increase the brand value of green brand of agricultural products, enhance the competitive advantage of brand, and enhance the brand competitiveness through the interaction of agricultural research institutes, agricultural activities, related service institutions, agricultural enterprises, and agricultural-related administrative departments. Therefore, agricultural industry cluster is one of the effective ways to enhance the competitiveness of regional brands of agricultural products.

At present, different countries or regions have made a lot of efforts in the development of ecological agriculture and accumulated rich experience. According to the characteristics of industrial clusters, based on the selection of leading industries, reasonable layout, overall planning, and development of hardware and technical conditions, while paying attention to the cultivation of software environment, strengthening and improving the policies, regulations, and system construction related to ecological agriculture clusters, we should do a good job in the quality and brand building of ecological agricultural products and actively guide the public to enhance their recognition of ecological agricultural products. Local relevant departments need to take a correct view of the relationship between the two and constantly seek a balance point on the basis of promoting the development of the two, to avoid uncoordinated development.

On the whole, there is an interdependence between the agricultural industry cluster and the regional brands of agricultural products. The scale and development of the agricultural industry cluster determine the development height of the regional brand of agricultural products. The competitiveness of the regional brands of agricultural products can not only reflect the position and value of the regional brands of agricultural products in the market but also reflect the strong vitality of the regional brands of agricultural products, which is of great significance to the development of regional agricultural economy. Therefore, it is particularly important to explore the ways to enhance the regional brand competitiveness of agricultural products from different perspectives and formulate strategies to enhance the regional brand competitiveness of agricultural products.

Data Availability

No data were used to support this study.

Conflicts of Interest

The authors declare that they have no conflicts of interest.

References

- [1] V. Zvarych, A. Nakonechna, M. Marchenko, O. Khudyi, and V. Novikov, "Hydrogen peroxide oxygenation of furan-2-carbaldehyde via an easy green method," *Journal of Agricultural and Food Chemistry*, vol. 67, no. 11, pp. 3114–3117, 2019.
- [2] P. A. Larbi and S. Green, "Time series analysis of soybean response to varying atmospheric conditions for precision agriculture," *Precision Agriculture*, vol. 19, no. 6, p. 15, 2018.
- [3] M.-O. Martin-Guay, A. Paquette, J. Dupras, and D. Rivest, "The new green revolution: sustainable intensification of agriculture by intercropping," *Science of the Total Environment*, vol. 615, no. 6, pp. 767–772, 2017.
- [4] A. Drabo, "Climate change mitigation and agricultural development models: primary commodity exports or local consumption production?," *Ecological Economics*, vol. 137, no. 1, pp. 110–125, 2017.
- [5] D. Alvarado-Zambrano and C. R. Green-Ruiz, "Assessment of the pollution status and human health risk in soils from an agricultural valley in Northwest Mexico," *Water Air and Soil Pollution*, vol. 230, no. 9, p. 36, 2019.
- [6] M. J. Villaseñor and Á. Ríos, "Nanomaterials for water cleaning and desalination, energy production, disinfection, agriculture and green chemistry," *Environmental Chemistry Letters*, vol. 16, no. 3, pp. 11–34, 2017.
- [7] L. Wang, G. Yang, L. Yuan et al., "Green tea catechins effectively altered hepatic fibrogenesis in rats by inhibiting Erk and Smad1/2 phosphorylation," *Journal of Agricultural and Food Chemistry*, vol. 67, no. 19, pp. 5437–5445, 2019.
- [8] R. Fraser, "DieterHelm, 2019. Green and prosperous land: a blueprint for rescuing the British countryside, Harper Collins, ISBN: 9780008304492, hbk, p. 336, £20.00," *Journal of Agricultural Economics*, vol. 70, no. 3, pp. 880–882, 2019.
- [9] W.-C. Huang, D. Zhao, N. Guo, C. Xue, and X. Mao, "Green and facile production of chitin from crustacean shells using a natural deep eutectic solvent," *Journal of Agricultural and Food Chemistry*, vol. 66, no. 45, p. 59, 2018.
- [10] P. Neamatollahi, S. Abrishami, M. Naghibzadeh, M. Hossein, Y. Moghaddam, and O. Younis, "Hierarchical clustering-task scheduling policy in cluster-based wireless sensor networks," *IEEE Transactions on Industrial Informatics*, vol. 14, no. 5, pp. 1876–1886, 2018.
- [11] I. G. U. Pait, S. Kitani, F. W. Roslan, D. Ulanova, and T. Nihira, "Discovery of a new diol-containing polyketide by heterologous expression of a silent biosynthetic gene cluster from *Streptomyces lavendulae* Fri-5," *Journal of Industrial Microbiology & Biotechnology*, vol. 45, no. 2, p. 77, 2017.
- [12] L. Liu, G. Han, S. Chan, and M. Guizani, "An SNR-assured anti-jamming routing protocol for reliable communication in industrial wireless sensor networks," *IEEE Communications Magazine*, vol. 56, no. 2, pp. 23–29, 2018.
- [13] C. H. Zheng and H. L. Huang, "Analysis of technology diffusion in agricultural industry cluster based on system dynamics

- and simulation model,” *Journal of Discrete Mathematical Sciences & Cryptography*, vol. 21, no. 6, pp. 1211–1214, 2018.
- [14] Q. Yang, “Study on the industrial cluster of tropical bananas based on gem model,” *Acta Universitatis Cibiniensis*, vol. 21, no. 1, pp. 69–74, 2017.
- [15] N. Conner, H. Gates, and C. Stripling, “Identifying international agricultural concepts for secondary agricultural education curriculum,” *Journal of Agricultural Education*, vol. 58, no. 1, pp. 118–130, 2017.
- [16] W. Wenjia and H. U. Gaofu, “Inherent rules and development path for marine cultural industry cluster,” *Asian Agricultural Research*, vol. 6, pp. 40–43, 2017.
- [17] S. W. Hwang, “Perceptions of rediscovering inconspicuous urban spaces and recycling embedded green resources: the case of a wholesale flower market in Seoul, South Korea,” *Journal of Architectural and Planning Research*, vol. 35, no. 2, pp. 106–124, 2018.
- [18] Y. Zhan, K. H. Tan, G. Ji, and M. L. Tseng, “Sustainable Chinese manufacturing competitiveness in the 21st century: green and lean practices, pressure and performance,” *International Journal of Computer Integrated Manufacturing*, vol. 31, no. 6, pp. 523–536, 2018.
- [19] W. Xu, L. Jin, and H. Yan, “How to enhance the brand competitiveness of ginseng enterprises?,” *Asian Agricultural Research*, vol. 11, pp. 5–8, 2017.
- [20] H. Winzar, C. Baumann, and W. Chu, “Brand competitiveness,” *International Journal of Contemporary Hospitality Management*, vol. 30, no. 1, pp. 637–660, 2018.