

# A Study on Creating Agriculture International Brands by Industrialization: The Case of “Guanxi Pomelo” in China

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## Abstract

Since the 21st century, brand has become one of the most important competitive factors in the agricultural trade area. Under the precious chance of “One Belt And One Road”, to strengthen brand building will be promising in trade promotion and the competition of Chinese agricultural products. In the case of “Guanxi Pomelo”, this paper concentrates on the strategy study of the building of international agricultural brand in China. Proceeding from the present situation of brand building of “Guanxi Pomelo in Pinghe”, the article analyzes what industrialization problems constraint its brand building. Besides, the factors influencing the building of “Guanxi Pomelo” are assessed through Analytic Hierarchy Process. And accordingly several necessary measures are put forward specifically, in order to provide the reference and advice for the building of international agricultural product brand in China, including developing agricultural industrialization management, strengthening technological innovation, strengthening the brand maintenance and publicity, and emphasizing the role of government and industry associations to guide development. Ultimately, wish some useful methods could be done to promote China's agricultural products to create international brands and improve the competitiveness of Chinese agricultural products by means of the analysis.

**Keywords:** agricultural brand, industrialization, AHP model

## 1. Introduction

The research on the creation of international brands of agricultural products has attracted much attention in the theoretical circles. The international competitiveness of agricultural brands affects the import and export trade of a country. The one who owns the brand will master the initiative in the market competition. China's agriculture has a long history, and its potential famous agricultural resources are rich. But in the international market, China is a large producer of agricultural products, but not a strong agricultural country, which lacks strong agricultural brands, so its market position is still low. Data shows that in 2013 China's agricultural exports accounted for 4% of world trade share, while the United States as the industrial power has reached 10.1%. Accounting for the situation, the main reason is that a large number of China's specific agricultural products lack brand building, and lack tight industrial chain. Therefore it can only occupy the low-end market, and cannot bring a higher premium. Needless to say, it is imperative for China's agricultural products to create an international brand.

Guanxi pomelo is famous for "well-known trademark of China" and "well-known agricultural products of China", which in 2007 became one of the top ten European geographical indications on protecting agricultural products and contributing to the successful registration of international trademarks. However, the Guanxi pomelo resembles other Chinese agricultural products which face the bottleneck to promote brand development.

In this paper, it analyzes the problems existing in the development of agricultural product brand by means of a case study of "Pinghe Guanxi pomelo", explores its causes, and puts forward the strategic measures to establish the international product brand with agricultural industrialization as the breakthrough point. Eventually it may contribute to providing ideas to create international brands for China's famous agricultural products.

## 2. Literature Review

### 2.1 Brand Connotation of Agricultural Products

Bai (2006) considers that the agricultural brand refers to the name and mark on their agricultural products or

agricultural services projects which agricultural producers or operators use to distinguish the same and similar agricultural products or agricultural services. The benefits of branding include improved market segmentation, increased consumer loyalty, increased repeat business, ease of new product introduction, and improved corporate image (Beierlein & Woolverton, 1991).

Compared with the brand of industrial products and other service products, the brand of agricultural products has its own uniqueness which mainly reflects in:

(1) Large natural dependence.

The production of agricultural products is closely related to the natural environment. Agricultural products have features such as seasonal, regional, cyclical, unstable quality so that the branding of agricultural products will be dependent on nature to some extent (Cai, 2010).

(2) The pluralism of the main participators of the brand construction.

In the parties of agricultural brand building, especially for the regional brand and national brand, government departments, industry associations and other subjects besides farmers and enterprises will play their respective functions to enhance the competitiveness of the brand (Wang, 2012).

(3) The brand of agricultural products possesses externality and has the possibility of being imitated (Fan, 2011).

Based on the analysis of the literature, this paper defines the international brand of agricultural products is a kind of agricultural product brand which is based on the country's superior agricultural product brand, and whose core competitiveness in the world is built by the main participants through joint efforts. The international brand of agricultural product has the characteristics such as natural dependence, various participants, long-term construction, wide influence in the world, policy impact and other particular attributes, so the construction of the agricultural brand needs to combine all parties to make joint efforts.

## *2.2 Factor Analysis of Forming Agricultural Brands*

Geng (2013) makes a preliminary analysis about the factors influencing the brand of agricultural product, which shows that the agricultural product characteristics such as differences in the quality of agricultural products (including varieties, origin, technology, marketing), main body of market for agricultural products, the scale of production and management modes, will have effects on the formation of agricultural product brands.

At present, some scholars try to establish the index system of brand elements, using quantitative analysis tools, such as AHP, the comprehensive analysis method and the structure model analysis to figure influential factors and their degree of importance which reacts in brand building. Zheng (2015) quantitatively analyzes the factors influencing the international competitiveness of Chinese agricultural products, aimed to put forward some feasible suggestions for the promotion of the competitiveness of agricultural products. However, the current studies on agricultural product brands are more about qualitative analysis while quantitative analysis is still relatively minority and studies on international brand of agricultural products are much less.

## *2.3 Overview of Agricultural Industrialization*

Agricultural industrialization refers to an one-stop operating system which is oriented by the domestic market, considers the improvement of economic efficiency as the center, and also implements the way of regional distribution, specialized production, integrated management, social services and enterprises management in the local agricultural pillar industry and leading products, eventually to realize the situation combining the chain of production-supply-marketing, agriculture-industry-trade, economic-science-education closely (Li, 2006).

There are various forms of agricultural industrialization including bibcock-driving, intermediary-driving, professional market driving and other agricultural business modes, and the mode driven by leading enterprises is in the first place among them. The development of agricultural industrialization can work on driving the construction of brand, enhancing the competitiveness of agricultural products, increasing the income level of farmers, improving the farmers' material and cultural living conditions, but the agricultural industrialization mode is no universal (Liu, 2015).

Zhu (2011) points out that the development of regional brand of agricultural products in China is backward. The development of a lot of geographical indication products remains stagnant due to the low-level organization, decentralized operation, processing ability, also because of marketing enterprises mainly consisting by middle and small-sized enterprises. This kind of enterprises with small scale, weak economic strength and low-level of technology ability, could not lead farmers to proceed specialized and standardized production and industrialized

operation, also lack capacity of integrating resources and strong power to open up the market. According to the literature review, the problem of visible agricultural industrialization is extremely common, and the development of various fruit industries also exist this problem. Owing to backward production modes, the development of agriculture is hindered and the development of rural areas is restricted.

### 3. Present Situation and Problem Analysis about the Brand Development of Guanxi Pomelo

#### 3.1 Brief Introduction of the Development Status

Guanxi Pomelo is a local famous fruit in Pinghe County of Fujian Province. During Qianlong Dynasty it was classified as an imperial tribute, whose cultivated history is for more than 500 years. Since the 1990s, the pomelo industry in Pinghe has continued to develop fast. According to the statistics of China Agricultural Exhibition Association, Pinghe County has been ranked the first county-level administrative region in the pomelo cultivation scale, annual output, annual output value, brand power, market share, export volume these six aspects (Ma, Zheng, & Huang, 2015). In 2015 its pomelo cultivation area reached about 45,866.7 hectares. The total output of pomelo was up to 1.227 million tons, which accounted for one-tenth of the total citrus fruits' outputs, and its direct output value was nearly 5 billion.

In recent years, the highest annual export volume has reached 140,000 tons, which accounted for about 7 percent of the total exports of pomelos, worth 120 million dollars. Therefore, Pinghe County is known as "the world-renowned pomelo town", "the Chinese pomelo capital". Guanxi Pomelo has also become a kind of national geographical indication protection products and one of the ten major protection products in view of China - EU "10 +10" term. Needless to say, Guanxi pomelo market indeed has great potential.

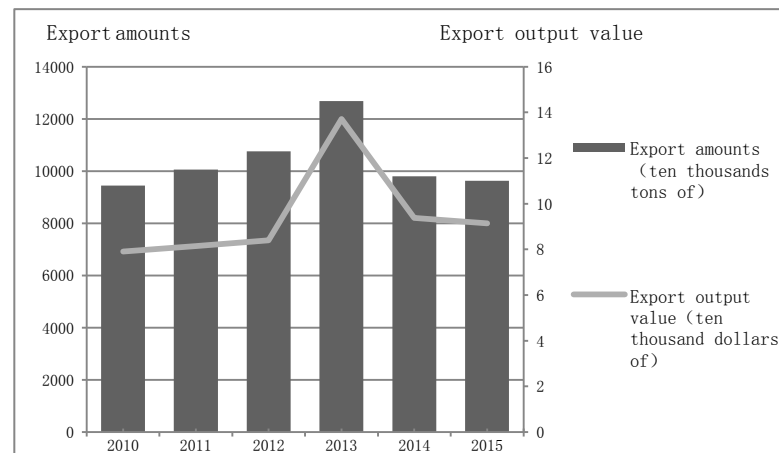


Figure 1. The export data of Guanxi pomelos in Pinghe nearly six years

Sources: Economic and Trade Bureau of Pinghe County in Fujian, China

But seeing the export amount of Guanxi pomelos in the past few years, the path of the pomelo industry development is not smooth. At present the total export of pomelo tend to be reposeful rather than sustained growth, manifesting that its foreign market is not straightforward to exploit. According to internal statistics from Economic and Trade section in Pinghe, when it comes to the export volume of Pinghe Guanxi pomelos, it achieved 108,000 tons in 2010, 115000 tons in 2011, 123 000 tons in 2012. In 2013 its exports volumes amounted to 140000 tons. However, after two years it appeared to reduce, its exports reduced to 112000 tons in 2014, and 110000 tons in 2015. Accounting for the situation, first of all, quality and safety are still the key problem to restrict the development of foreign markets, because foreign countries' thresholds continue to improve, and it's of much more difficulty to open up foreign markets for the higher non-tariff barriers, including US, Japan, Australia and other high-end market still difficultly to get involved. In addition, it's the global economic downturn that leads to the decline in the purchasing power from foreign consumers. Even at this situation national enterprises keep non-directional and unstable foreign partners, which elevate the export risk.

#### 3.2 Analysis on the Main Development Problems of Guanxi Pomelo

The main development problem of Pinghe County's pomelo industry is attributed to the low-level agricultural

industrialization. It only relies on the individual development of each single household, which has a single power, difficult to bring in advanced variety, and technology. Therefore, the brand marketing cannot be carried out and the overseas market cannot be expanded either. As for the detailed analysis for Guanxi Honey Pomelo's development, it is indicated as follows.

### 3.2.1 Backward Production Mode, Low-degree Agricultural Industrialization

The Guanxi Pomelo industry of Pinghe County mainly adopts the production mode of individual farming of small farmers. Each single peasant household carries out the production and operation activities of planting and sales, which has the problems of small scale, weak financial resources, lack of infrastructure construction and low-degree standardization for production. Moreover, its agricultural science and technology is difficult to popularize among the small farmers, thus leading to a low-rate of the good quality pomelo fruit. The secondary product accounts for over 20% of the total fruit output and the fruits which reached the export standard only account for about 15% (Cai, 2011). The backward production mode has influenced the Guanxi Pomelo's quality, economic benefit and competitiveness and also influenced the popularization of production's science and technology, the brand promotion and brand management.

### 3.2.2 Backward Production Technology

Because of the low-level industrialization of Guanxi Pomelo, the production technology can only follow the traditional technology of planting, preservation, pest control. The technology of reducing pesticide residue is still behindhand. Likewise, it's known that the preservation technology is an important guarantee for maintaining the products' quality, however, the enterprises of Pinghe County still can't make breakthrough on the technology of this aspect. At present, the main pomelo export in Pinghe County is fresh fruit. As for a seasonal fruit, the pomelo's mature period is from October to December yearly and keeps reserve for about three months at large. Some pomelo enterprises take advantages of controlled atmosphere store technology to lengthen the pomelo's supply period, but they still can't reach the supply for the full year and the preservation technology has not been overcome yet. In terms of processing technology, in 2006, the pomelo's deep-processing bureau is established in Pinghe County, which carried out the preferential policy to encourage the development of deep processing. However, it is difficult to break through the technology problems and the pace of deep processing is slow. Most enterprises mainly produce the elementary products, with low additional value. The year-processing proportion is less than 1% of the total output, which is in a backward level compared with other developed countries. Although the Fujian Jinxi Group has already developed the canned pomelo and has successfully exported to the U.S., there exists limited sales volume. The industrial benefit is not so obvious, which is difficult to support the branding of agricultural products.

### 3.2.3 Poor Maintenance and Mismanagement for Brand

The public brand is on the brand's initial stage with the leading of governmental power where the enterprise's brand is immature (Shen & Su, 2010). Guanxi pomelo in Pinghe is a public agricultural product as the geographical indication. The right to use the trademark belongs to all the farmer households and distributors within the Pinghe County. Because of lacking large enterprises to own, run and manage the brand, the business entity is scattered and the function of each side has uncertainty, which easily leads to the "tragedy of the commons", meaning that "everyone possesses it, while everyone possesses nothing; everyone should be responsible while everyone shouldn't be responsible for it" (Ye, Xu & Pan, 2012). The brand is difficult to get the positive and effective maintenance and management, which is particularly reflected on the dealer with weak brand awareness. Thus the brand imitation phenomenon is difficult to restrain. The dealers who are not the original manufacturers recklessly use the original mark "Guanxi Pomelo of Pinghe County" at random, thus leading to the "Lemon Market Effect". It seriously affected the good reputation of Guanxi pomelos.

### 3.2.4 Insufficient Publicity, Monotonous Tools for Marketing

Because of the low-degree industrialization of Guanxi Pomelo industry, the small farmers don't have enough capital to shoulder the heavy responsibility of brand publicity. Some individual enterprises couldn't effectively popularize the brand due to the small scale and single power. Furthermore, there are overflowed with the free-rider problem, so each side lacks the enthusiasm and efforts for brand publicity. In terms of product marketing, because of lacking the drive of the leading enterprises and powerful sale network, the small enterprises struggle to expand the market alone. It's known that with fierce market competitions, if the featured products don't accelerate its publicity, the products will be in an inferior competitive position. The world famous agricultural enterprises attach great importance to the brand publicity and marketing promotion, aimed to urge the global customers to understand and accept the brand, eventually to enhance the brand viscosity. In contrast, although Guanxi pomelo in Pinghe County has exported to

many countries of European Unions, its brand seldom has a continuous publicity in the overseas market. The brand has not been established a reliable marketing channel yet. With the intensifying industry competition, the market position of Guanxi Pomelo will certainly face a serious challenge.

**4. Analysis on the Influencing Factors of Creating Brands Based on AHP Model**

Analytic Hierarchy Process (AHP) is a comprehensive analysis method which is effective in combination with system analysis and operational research. It is suitable for multi-scheme, multi-standard and multi-factor comprehensive analysis and trend forecast. In the analysis of the problem, the hierarchical structure of "indicator layer + criterion layer + target layer" is used to change the complex problems into multiple single-criterion problems. On this basis, the model is to determine the relative importance of factors. That is, calculate the weight value, and ultimately sort the order of merits and demerits according to the weight value.

*4.1 Select Factors which Effect on Building GuanXi Pomelo's International Brand*

The AHP which has the subjective experience and subjectivism may be more convincing when views of experts and scholars are accepted, so that we mainly conducted questionnaires into local government workers and relevant pomelo companies' managers. Due to the limited resources and capacities, in this survey, we issued 26 copies questionnaires and recovered 22 copies. The percentage of efficient questionnaire is 84.61%. To an extent, it ensures that the data can be worth reference.

By interviewing pomelo enterprises in Pinghe, agriculture bureau, Economic and Trade Bureau, pomelo association, agricultural cooperatives and other experts and scholars, managers and farmers, and also summarizing the relevant literature research, this paper will divide factors that effect on branding into four parts: "agricultural products itself", "the foundation power of brand", "the support power of brand", "the competition potential of brand". Quality, species differences and brand image, production cost, natural endowments directly reflect the advantage of product and also effect sales, so these indicators are attributed to "the product itself". The ability of operation and management of enterprises, the ability of industrial agglomeration, the level of production systematization, the spread and promotion of brand, the infrastructure level effect the industry's internal foundation strength, so attribute them to "the foundation power of brand". R&D, support from government and the associations, the construction of laws and regulations, the maintenance of market order all are the support index for the development of products and brand, therefore they can be assigned to "the support power of brand". It's domestic and international market demand, and the ability to deal with trade barriers that reflect the potential of brand market expansion potential. Namely, they belong to "the competition potential of brand". These influencing factors that facilitates branding are sorted in the following Table 1.

Table 1. Factors system that facilitates branding

<b>Target Layer A</b>	<b>Criteria layer B</b>	<b>Indicator Layer C</b>
<b>Creating international brand of agricultural products</b>	<b>the product itself B<sub>1</sub></b>	Product's quality C <sub>1</sub> Production cost C <sub>2</sub> Species differences and brand image C <sub>3</sub> Natural endowments C <sub>4</sub>
	<b>the foundation power of brand B<sub>2</sub></b>	Enterprise's management skills and operational competency C <sub>5</sub> Industrial clustering ability C <sub>6</sub> The agricultural production systematization C <sub>7</sub> Brand publicity C <sub>8</sub> Infrastructure level C <sub>9</sub>
	<b>the support power of brand B<sub>3</sub></b>	R&D capability C <sub>10</sub> The support force from government and association C <sub>11</sub> Construction of laws and regulations C <sub>12</sub> Market order maintenance C <sub>13</sub>
	<b>the competition potential of brand B<sub>4</sub></b>	Domestic and international market demand C <sub>14</sub> Ability to deal with trade barriers C <sub>15</sub>

4.2 Using Model to Assess the Importance of the Influential Factors

According to the importance of each factor of the criterion layer B relative to the total target layer A, assign to them, then obtain the judgment matrix of the four factors of the criterion layer B with regard to the total target layer A.

$$\bar{W}_i = \sqrt[n]{\prod_{j=1}^n a_{ij}}, (i = 1, 2, 3, \dots, n)$$

Multiply the elements in the i-th row in judgment matrix A and extract a root, then

$$\bar{W}_i = \frac{\bar{W}_i}{\sum_{j=1}^n \bar{W}_j}, (i = 1, 2, 3, \dots, n)$$

And calculate its normalized weight, namely

$$W = \begin{bmatrix} W_1 \\ W_2 \\ W_3 \end{bmatrix}$$

At last the weight vector of matrix W can be got, that is

Table 2. Relative weights of importance for each factor on Criterion Layer B

Criterion layer B	B <sub>1</sub>	B <sub>2</sub>	B <sub>3</sub>	B <sub>4</sub>
Weight	5	3	3	2

$$W = \begin{bmatrix} 1 & 5/3 & 5/3 & 5/2 \\ 3/5 & 1 & 1 & 3/2 \\ 3/5 & 1 & 1 & 3/2 \\ 2/5 & 2/3 & 2/3 & 1 \end{bmatrix}$$

Table 3. Geometric mean and weight of the Criterion Layer B relative to the Target Layer A

Target layer A	B <sub>1</sub>	B <sub>2</sub>	B <sub>3</sub>	B <sub>4</sub>	Σ
Geometric mean	1.71	1.03	1.03	0.68	4.45
Weight	0.39	0.23	0.23	0.15	1

$$\lambda_{\max} = 4.0000$$

Table 4. The weight about the importance of each factor on Indicator Layer C relative to the Criterion Layer B<sub>1</sub>

Indicator layer C	C <sub>1</sub>	C <sub>2</sub>	C <sub>3</sub>	C <sub>4</sub>
W <sub>1</sub>	7	5	2	1

$$W_1 = \begin{bmatrix} 1 & 7/5 & 7/2 & 7 \\ 5/7 & 1 & 5/2 & 5 \\ 2/7 & 2/5 & 1 & 2 \\ 1/7 & 1/5 & 1/2 & 1 \end{bmatrix}$$

$$\lambda_{\max} = 4.0000$$

Table 5. The weight about the importance of each factor on Indicator Layer C relative to the Criterion Layer B<sub>2</sub>

Indicator layer C	C <sub>5</sub>	C <sub>6</sub>	C <sub>7</sub>	C <sub>8</sub>	C <sub>9</sub>
W <sub>2</sub>	5	5	4	3	1

$$W_2 = \begin{bmatrix} 1 & 1 & 5/4 & 5/3 & 5 \\ 1 & 1 & 5/4 & 5/3 & 5 \\ 4/5 & 4/5 & 1 & 4/3 & 4 \\ 3/5 & 3/5 & 3/4 & 1 & 3 \\ 1/5 & 1/5 & 1/4 & 1/3 & 1 \end{bmatrix}$$

$$\lambda_{\max} = 5.0000$$

Table 6. The weight about the importance of each factor on Indicator Layer C relative to the Criterion Layer B<sub>3</sub>

Indicator layer C	C <sub>10</sub>	C <sub>11</sub>	C <sub>12</sub>	C <sub>13</sub>
W <sub>3</sub>	3	5	2	1

$$W_3 = \begin{bmatrix} 1 & 3/5 & 3/2 & 3 \\ 5/3 & 1 & 5/2 & 5 \\ 2/3 & 2/5 & 1 & 2 \\ 1/3 & 1/5 & 1/2 & 1 \end{bmatrix}$$

$$\lambda_{\max} = 4.0000$$

Table 7. The weight about the importance of each factor on Indicator Layer C relative to the Criterion Layer B<sub>4</sub>

Indicator layer C	C <sub>14</sub>	C <sub>15</sub>
W <sub>4</sub>	2	4

$$W_4 = \begin{bmatrix} 1 & 1/2 \\ 2 & 1 \end{bmatrix}$$

$$\lambda_{\max} = 2.0000$$

The consistency of the matrix W on total target layer is checked as follows:

(1) The consistency check index CI is:

$$CI = \frac{\lambda_{\max} - n}{n - 1} = 0$$

(2) Find the corresponding average random consistency index RI, as shown in Table 8.

Table 8. Matrix dimension and value

Matrix dimension <i>n</i>	1	2	3	4	5	6	7	8	9	10	11	12	13	14
index RI	0.00	0.00	0.58	0.90	1.12	1.24	1.32	1.41	1.45	1.49	1.51	1.54	1.56	1.57

From the data in the table, the result can be got. That is  $RI = 0.90$ , then  $CR = \frac{CI}{RI} = 0 < 0.1$ .

Through the consistency test, the weight vector is the normalized eigenvector of the largest eigenvalue. That is

$$\omega = (0.3846, 0.2308, 0.2308, 0.1538)^T.$$

Calculate the eigenvalues and eigenvectors of the pairwise comparison matrix  $P_1$ 、 $P_2$ 、 $P_3$ 、 $P_4$ 、 $P_5$

between the index layer and the criterion layer, and the consistency tests are carried out at the same time. The results are as followed in the Table 9:

Table 9. Consistency test results of pairwise comparison matrix

matrix of pair-comparison	the maximum eigenvalue	Corresponding to the normalized eigenvector	CI	CR
W <sub>1</sub>	4	(0.4667,0.3333,0.1333,0.0667) <sup>T</sup>	0	0
W <sub>2</sub>	5	(0.2778 0.2778 0.2222,0.1667,0.0556) <sup>T</sup>	0	0
W <sub>3</sub>	4	(0.2727,0.4545,0.1818,0.0909) <sup>T</sup>	0	0
W <sub>4</sub>	2	(0.3333,0.6667) <sup>T</sup>	0	0

When CR <0.1, it is considered that the consistency estimation of the judgment matrix A is satisfactory and acceptable. On the contrary, the calculation step should be re-examined or the matrix should be readjusted. After the calculation is less than 0.1, the judgment matrix is valid.

Table 10. The total ranking of the influencing factors

Target layer A	Criteria layer B	Indicator layer C	Weight of each index
The influence degree of the factors that create international brand	The product itself B <sub>1</sub>	Product's quality C <sub>1</sub>	0.182013
		Production cost C <sub>2</sub>	0.129987
		Species differences and brand image C <sub>3</sub>	0.051987
		Natural endowment C <sub>4</sub>	0.026013
	the foundation power of brand B <sub>2</sub>	Enterprise's management skills and operational competency C <sub>5</sub>	0.063894
		Industrial clustering ability C <sub>6</sub>	0.063894
		the agricultural production systematization C <sub>7</sub>	0.051106
		Brand publicity C <sub>8</sub>	0.038341
		Infrastructure level C <sub>9</sub>	0.012788
	the support power of brand B <sub>3</sub>	R&D capability C <sub>10</sub>	0.062721
		The support force from government and association C <sub>11</sub>	0.104535
		Construction of laws and regulations C <sub>12</sub>	0.041814
		Market order maintenance C <sub>13</sub>	0.020907
		the competition potential of brand B <sub>4</sub>	Domestic and international market demand C <sub>14</sub>
	Ability to deal with trade barriers C <sub>15</sub>		0.100005

Known from the weight distribution on criteria layer B, brand building is dominated by the impact of product itself, and brand base power and brand support power are equal important, followed by brand competition potential.

The sorting results about the importance of factors which have an influence on Guanxi pomelos creating the international brand are as follows:



Product's quality; Production cost; The support force from government and association; Ability to deal with trade barriers; Enterprise's management skills and operational competency(as well as industrial clustering ability); R&D capability; Species differences and brand image; The agricultural production systematization; Domestic and international market demand; Construction of laws and regulations; Brand publicity; Natural endowment; Market order maintenance; Infrastructure level.

Through the overall analysis of the results, it can be seen that product's quality, production cost, government and association support, ability to deal with trade barriers, business management strength and industrial clustering ability are the key to the construction of the international brand for Guanxi Pomelo. First, the product is the basis of the brand. Cultivating the product should focus on the quality and reduce production costs. Of course, in order to improve the quality of agricultural products it needs to increase investment in science and technology research to develop new varieties for meeting market demand. Likewise, to reduce production costs and improve economic efficiency needs to be coordinated with advanced production modes, industrial management, and large-scale production operations. Secondly, the support of the government and the association is also crucial. Government and associations can help enterprises overcome trade barriers, give them support, and drive enterprises to open up the market. Finally, reinforcing the construction of laws and regulations and strengthening the maintenance of market order can provide a better environment to more effectively maintain the brand image. Also, conducting brand publicity is conducive to enhance market visibility and broaden market potential.

No matter it is product cultivation, brand maintenance and marketing publicity, market development, etc., all need solid capital, professional talents, and advanced technology for guarantee. However, the production mode is still the small-scale peasant economy in Pinghe, with a serious lack of capital, technology and talents, therefore it is difficult to form a joint effort, not to speak of forming domestic and overseas competitiveness. In a word, gathering every party's strength and implementing industrial management is an important cornerstone for modern agricultural development. Only with industrialization operation may the pomelo industry in Pinghe have enough strength to carry out brand management and even create an international brand.

## **5. Brand Strategy of Agricultural Industrialization**

Brand strategy is the requirements of the marketization, while agricultural market competition has gradually moved from the price competition towards brand competition (Zhang, 2015). Based on the analysis of the current situations and industrialization problems about the brand construction of Guanxi pomelos, and the importance degrees of factors influencing brand building which are obtained by AHP model, this paper specifically concludes with the following strategic measures.

### *5.1 Develop Agricultural Industrialization*

From the above analysis we can see that the main problem of the development of Guanxi pomelo is due to the low-level agricultural industrialization. Hence, changing the mode of agricultural operation is the primary problem to cultivate the brand of Guanxi pomelo. The leading enterprises are the "locomotive" of agricultural industrialization as well as the link between farmers and domestic and foreign markets (Liu, 2015). Therefore, it's an important task to focus on cultivating a group of leading enterprises with high-level industrialization, relying on leading manufacturers to conduct professional production, integration management and commercialized management.

In order to cultivate leading enterprises, first of all, market competition mechanism should be introduced, which makes it possible to achieve the situation of survival of the fittest through competition. Centralizing these factors including the talent, capital and technology to enterprises that are equipped with effective, excellent management, the market in the allocation of resources can play a decisive role. Next, it is a better choice to make the capital market have a role to play, encouraging profitable companies to list through issuing stocks publicly so as to quickly improve the business strength. What's more, through the capital market restructuring, mergers can achieve the goal of cultivating leading enterprises. Finally, the government should strengthen the guidance to encourage the farmers to carry out joint-stock reform and make good use of joint-stock system to establish a modern agricultural enterprise.

Through the industrialization of agriculture, Guanxi pomelo's problems that are lack of funds, talents and technology can be solved. For example, center on leading enterprises and introduce personnel equipped with high-level management ability to improve industry strength; cultivate and introduce good varieties, implement scientific cultivation as well, consequently to improve the quality of Guanxi pomelos; make rational use of chemical fertilizers and pesticides to reduce pesticide residues; control advanced packing and preservation technology to extend the sales period of pomelos; strengthen the brand advertising of agricultural products to combat fake and shoddy products; establish smooth marketing channels to open up overseas markets, and so on.

### *5.2 Develop Innovative Technology to Enhance Added Value of Products*

Products' quality is the fundamental guarantee of the brand. Only continuously enhancing the value-added products can consolidate the brand loyalty, enhance market reputation of products and expand market share.

Initially, cultivating varieties and pest controls are the basis of pomelos' quality. Keeping improved breeds is a prerequisite for good quality of product. Hence, fruit cultivation should be market-oriented, paying attention to cultivating pomelos with nourishing and technological varieties, and vigorously promoting the cultivation of good varieties to meet market demand. Likewise, it is time to promote the construction of ecological orchards, promote the use of organic fertilizer patterns, the use of biologically controlling pest and disease technology, while reduce the use of highly toxic pesticides to protect the quality of export fruits from the source. In addition, continuous upgrading technology level of fruit storage and preservation is inevitable. At present, the application of fresh-keeping technology extends the sales of fresh pomelos, which promotes Guanxi pomelos in Pinghe to export to the EU and to become the supplier of French Carrefour. To better ensure product quality, enterprises should continue to innovate fresh-keeping and storage technology that keeps more fresh and safe fruit provided for consumers.

Besides, it is necessary to strengthen the deep processing of agricultural products and packaging in order to improve the added-value of agricultural products. With the decline in the direct consumption of agricultural products, the proportion of consuming procession products has increased. Enterprises are responsible for enhancing the process of deep processing to increase the added value of products. For Guanxi pomelo, its peel and fruit flesh with great value, it is worth research and development. Nevertheless, enterprises have successfully developed pomelo juice, pomelo tea, sweetmeat, pomelo wine, pectin and other products, but involved superficially in the pharmaceutical industry and other high added-value industries. Therefore, enterprises should conduct more research and development about pomelo products and increase more investment for promotion in order to enhance the overall industrial value. In addition, the exquisite packaging is like a good "silent salesman", which represents the brand positioning. But the packaging design of Guanxi pomelo still remains in the state for protection, storage and transportation and other basic functions, without systematical and personalized characteristics (Zhang, Du & Zhao, 2012), which makes it hard to form high-end brand image and results in low brand value. So in the brand packaging design, try to use environmentally friendly materials, and fully explore the characteristics from brand culture and regional culture to create a unique image and enhance added value of product.

### *5.3 Improve the Legal Construction, Maintain the Brands*

Conducting special legislation to protect agricultural product brands is an international trend. According to the requirements of the TRIPs Agreement, a country's protection in domestic is a prerequisite for the international protection of geographical indications, and more and more countries are beginning to develop specialized laws to protect agricultural brands (Wang, 2009). In order to meet international standards and improve the international competitiveness of agricultural products, the government needs to constantly improve the construction of laws and regulations to improve the protection of agricultural brands. The reason why the globally-renowned fruit industry company "American Sunkist growers Co., Ltd." can effectively manage the trademark, in addition to its own brand strength, is the American mature trademark law and patent law system as a guarantee for protection. It is relying on a sound legal system that the Sunkist cooperatives was able to successfully launch a trademark licensing program for effective trademark management, which not only can enhance the brand competitiveness, but also can collect royalties for patent profits. It can be seen that the government departments should strengthen and perfect the construction of laws and regulations. The government can formulate local laws and regulations, widely advertise and gradually popularize and strictly regulate the relevant departments in accordance with national laws and international practice, eventually to achieve the interests of brand maintenance and escort the effect of promoting the industry competitiveness.

### *5.4 Gather Power to Promote the Brand and Broaden the Overseas Market*

Branding functions as an entry barrier (Hanf & Kuhl, 2005). But small-scale farmers have much difficulty to promote branding to enter the international market, except the highly-organized enterprise groups with international competitiveness (Cai, 2011). Therefore, it's essential to strengthen to cultivate the key enterprises and promote brand building and propaganda efforts. Paying attention to the excavation and innovation of industrial culture is a decent approach for brand building. With the way --- "government to set up the stage, enterprises to perform on the stage", the pomelo festival activities can be run to improve brand awareness and radiation range. Meanwhile, the newspapers, magazines, radios and televisions and other media are great tools to advertise products as well. Additionally, the government also should pay attention to the international agricultural market dynamics, organize business missions, take advantage of exhibitions, forums and other international communication opportunities in

order to promote national agricultural products, which will create favorable conditions for agricultural products to enter the international market (Zheng, 2008).

It is doable to support the cooperation between leading enterprises and foreign joint ventures, to promote the construction of the strategic alliance of overseas marketing channels. When the overseas channels keep stable and market conditions are permitted, the self-built direct overseas channels can be taken into account, for the long-term development of the consumer market and improvement of overseas market competitiveness. In view of choosing the export market, it is necessary to maintain the share of the European market, and actively explore the area along the Belt and Road. The actions should be taken to link the development of Guanxi pomelo industry closely with the international market, and strive to preempt a worldwide status in international pomelo market eventually.

### 5.5 Strengthen the Government's Macro-control

Brand building based on agricultural industrialization cannot be separated from the government's macro regulation, which can be represented from the following aspects:

For one thing, the government has the ability to guide the introduction of modern production modes. Government can promote the establishment of modern enterprises' management mechanism through patient propaganda and education or encouraging the large growers to play exemplary roles. Also, the government can adopt fiscal and tax incentives, such as government investment, tax relief, interest-free or interest-rate loans and other policies to integrate large growers, individual enterprises, processing enterprises, logistics, export trade resources to support the transformation of enterprises, through efforts to establish large-scale joint-stock companies and facilitate the transformation of modern production modes finally. Meanwhile, the government ought to support the leading enterprises to list for finance, through converging all resources, let large enterprises as the representative of the business group open up overseas markets and enhance the competitive advantage and the overall strength of the industry.

For another thing, the government has the responsibility to improve export mechanism and increase export support. Due to the current global economic recession and the rise of trade protectionism, most companies choose to sale to domestic areas, or even give up exporting. But in the long run, exported products will inevitably bring higher premium for business, so opening up the international market should not be ignored.

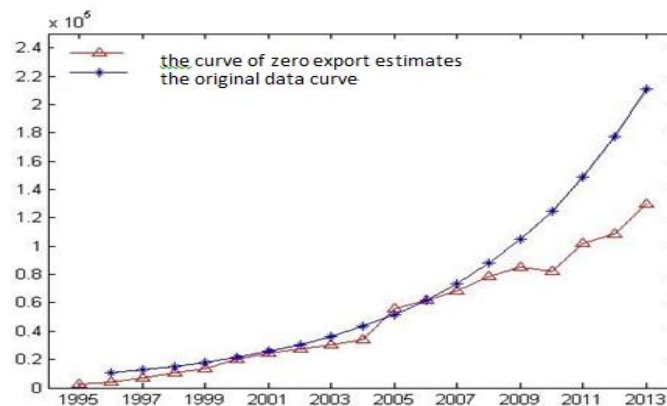


Figure 2. Comparison between pomelos' real export output and estimated zero-export output

According to the figure 2, with the gray forecast method, adopt the virtual profit data of Guanxi pomelos in Pinghe without export from 1995 to 2009 to estimate its profits after 2010. Then compare its estimating data with original realexported profit data after 2010, the situation that the export earnings is more favorable than zero export can be seen. Therefore, the government should support and encourage exports. First, the government can establish trade information service platforms to provide commodity information, and improve the warning and forecasting mechanism of export trade to reduce export risk. Second, the government can facilitate enterprises to enter the international market through the active signing of bilateral and multilateral trade agreements. Third, it also can improve the financial system for supporting agriculture, to export enterprises to provide financial support. Fourth, the export-friendly policies are bound to be formulated, such as improving the export tax rebate policy to reduce the

burden of export enterprises. Fifth, improve the working mechanism of the export links to increase the working efficiency of the quality watchdogs and the agricultural sectors, which will be convenient for agricultural exports, and so on. These initiatives will enable the government to better fulfill the service functions, and help enterprises advantageously expand the international market.

#### *5.6 Strengthen the Organizational Role of Industry Associations*

The industry association is the industry autonomous organization. The industry association can guide member companies to change the modes of production, promote the introduction of joint-stock system and other modern modes of operation; it also plays an essential role in introducing good varieties and pest control technology, developing preservation technology and promoting the application of technology; it also can coordinate the marketing activities, such as the organization of agricultural trade shows or trade fairs to publicity the brand of Guanxi pomelos; it can conduct legal actions against brand infringement, safeguard the brand image and protect the legitimate rights and interests of enterprises as well; moreover, when companies encounter tariffs and non-tariff barriers, the industry association can go to the WTO and other relevant international organizations to appeal to safeguarding the interests of enterprises. However, the current strength of Guanxi pomelo association is limited. It has not yet played its effective role, so something should be done to enhance the cultivation of pomelo industry association and tap its potential to accelerate brand building of Guanxi pomelos.

### **6. Summary**

The open and competitive world market is the market full of brand competition in a sense. Distinguished product brands can exert a significant effect on an industry of a country and even on the whole country's economy. However, the international brands of agricultural products created by China are indeed pitiful. How to accelerate the development of China's own agricultural brand, has become a business and theoretical issues with general concern. This is also the significance of this study that explores the development of China's agricultural brands. Based on this study, it's known that the main bottleneck to shape the brand of those agricultural products resembling "Guanxi Pomelo" lies in the low-level industrialization of agriculture. In developing countries, facts are that due to backwardness of agricultural production modes, families are engaged in production and operation lack of funds, technology and management experience, and without forming scale economy, so that they just maintain the minimum survival need. Therefore, this research addresses the foremost matter to build agricultural product brands is to find a proper way of industrialization. Depending on the Establishment of modern agricultural enterprises through the joint-stock system or other methods, talents, capital, technology and other issues could be spontaneously solved. Second, boost scientific and technological innovation to improve the quality of products, by means of researching new varieties to meet appropriate market needs, and further processing to improve added-value of products. Third, it's advocated that actions to advertise brands and protect the rights and image of the brands are supposed to be strengthened. Fourth, it's government that should play its rational role, using fiscal and taxation policies to guide the transformation of agricultural industrialization, and encouraging the innovation of distinguished brand. Meanwhile, industry associations are supposed to spread advanced technology, business philosophy in the industry as well, so that enterprises are available to obtain rapid global market expansion. On this research its prospect may be greatly considerable if agricultural industrialization could be promoted step by step and modern brand operation could be indeed implemented. Definitely, however, the road of agriculture branding is still comparatively long in China. The proposition appealing to agricultural branding based on industrialization should be effectively applied to practice to prove its critical role.

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