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ANALYSIS OF THE COMPETITIVENESS OF THE COTTON INDUSTRY IN XINJIANG BASED ON THE DIAMOND MODEL

Lei Wang[1]
Benfu Lv

Abstract
This paper uses the diamond model theory as the basic research perspective to explore how the upstream and downstream industrial chains of cotton in Xinjiang can escape from the constraints of reality and how their resource endowments can be transformed into competitive advantages. This paper compares and analyzes the domestic and foreign cotton-producing regions and their related cotton products import and export situation and it also uses Potter's diamond theory. It takes six factors as the core of study which includes production factors, demand conditions, related and supporting industries, the strategic structure of enterprise and competitors, government, opportunities to analyze the problems and short-coming of current development of the cotton industry in Xinjiang. It also tries to find a way to achieve leap-forward development of the cotton industry in Xinjiang. How to add value and empower raw material primary products such as cotton, and how regions can base on local resource endowment, play a good resource advantage and enhance the competitiveness of advantageous industries.

Keywords: diamond theory; cotton; resources; competitiveness; industrial development

JEL Classification:

INTRODUCTION

Xinjiang is located in the inland northwest of China, and its economic conditions are relatively backward. At present, the infrastructure and industrial base of Xinjiang is still relatively weak, and the agriculture, forestry, animal husbandry and fishery industries still account for a large proportion of the total economy of the whole autonomous region. Although this proportion has been decreasing for more than a decade due to the continuous promotion of the Western Development Strategy, it is still relatively high compared to other provinces in the mainland. Therefore, how to realize the transformation of the economic structure of Xinjiang region, especially the

[1] **Lei Wang,** Ph.D.; **Benfu Lv,** Ph.D., Professor, School of Economics and Management, University of Chinese Academy of Sciences, China.

transformation of the agricultural economy has become a key issue in determining the sustainable and healthy development of Xinjiang.

Multiple studies have concluded that the realization of agricultural industrialization is conducive to economic restructuring (Liu Lingxiao, 2015; Song Wenxin, 2003). In the industrial structure of Xinjiang, the cotton industry has become an important driver of its regional economic development and a brand industry. Therefore, the role of a good cotton industry in Xinjiang's industrial structure has become a very critical part of promoting the overall development of Xinjiang's economy. At present, the development of cotton resources in Xinjiang has been in a more prominent position, relying on cotton resources to form related industries are pushed into the competitive domestic and international markets (Liang Feng, 2008). However, due to the influence of institutions, concepts, markets, capital, technology and other factors, the formation of cotton and its related industries in Xinjiang lack of products to adapt to the changes in diversified market demand, resource advantages to form industrial advantages, and then transformed into economic advantages. The process of forming industrial advantages and then transforming them into economic advantages is slow (Zhang Hexuan, Xu Aiwu, 2020). More due to the domestic and international cotton and textile market situation and the severe impact caused by the financial crisis in Southeast Asia, the development of the cotton industry in Xinjiang is facing unprecedented challenges and tests (Zheng Juyun et al., 2020). Therefore, it is particularly urgent to study the current situation of the development of the cotton industry in Xinjiang and to explore ways to enhance its industrial competitiveness.

The competitiveness of the cotton industry is also part of the overall competitiveness. Therefore, this paper comprehensively compares the literature of other scholars on the design of industrial competitiveness evaluation index system, and on this basis, constructs a new index system to evaluate the competitiveness of cotton industry in Xinjiang (Zhang Zhengwen. 2013). At the same time, this paper also uses the diamond model to measure the competitiveness of the cotton industry in Xinjiang and its influencing factors, and analyzes the competitiveness of the cotton industry in Xinjiang in the market with the display evaluation index and the trade competitiveness index, and proposes effective solutions to the relevant problems.

1.OVERVIEW OF DIAMOND MODEL THEORY

1.1. Diamond Model

In the early 1990s, Porter applied the theory of industrial organization economics to the strategic management of enterprises, and published three books related to competition. Based on his in-depth research on theories related to competitive advantage, he put forward the famous model theory on the study of industrial competitiveness - the diamond model, which has gained wide attention and is considered by many scholars as the most authoritative competition theory in the field of international industrial competition (Michael E. Porter. 2002).

The theory takes industrial competitive advantage as the main content of research and evaluates national competitive advantage. In the process of specific research, the theory takes the competitive advantage of enterprises as the starting point of research. Porter proposed the "six-factor model" by studying the five roles of industrial competition and analyzing them using the value chain approach. The theory points out that: the factors

affecting the competitive advantage of a countrys industry mainly cover the following four aspects (Shafayat Hossain Chowdhury, Mashruha Zabeen. 2020).

1.1.1. Factors of production

The various resources for the production of products, mainly including human resources, knowledge and technology, preliminary inputs, industrial facilities and natural resources. According to the role they play in industrial development, production factors are classified as primary and advanced. For example, regional orientation, natural environment, non-technical labor, financing, etc. are classified as primary factors of production, while scientific and technological research institutions, professional and technical personnel, modern equipment, etc. are classified as advanced factors of production (Guan Zhijie and Xu Yan. 2019).

1.1.2. Demand conditions

It is the market itself and the consumer group demand for a product or service. The composition and characteristics of the market is very important for the demand of an enterprise a unit. The demand of the market stimulates the development of industry and becomes the driving force of enterprise upgrading and product innovation. On the other hand, it requires us to pay attention to the quality of the market. It considers that the quality of the market is definitely more important than the quantity of market demand (Zhang Zhenxiao. 2019).

1.1.3. Related and supporting industries

What it represents is that when a country or a region wants to maintain its competitive advantage in the long run, it needs to create related industries and develop upstream, midstream and downstream industries that support them and can win competitive advantage at home or internationally. If there are already many competitive industries in the region, it will create incentives for industries to upgrade and innovate their products, thus enhancing their competitiveness (Wang Lili. 2015). The strong development of related industries can provide a strong support role for downstream industries, reduce the cost of inputs, shorten production time, form a benign cooperation, stimulate downstream industries to upgrade innovation, accelerate the flow of information, catalyze the speed of innovation of the whole industry, and build an ecological chain.

1.1.4. Strategy, structure and competitors of the enterprise

It mainly refers to the conditions formed by the external factors guiding the process of creating, organizing and managing the enterprise and the resulting competitive state. However, different countries, regions and enterprises face different competitors and adopt different management systems due to differences in their environments (Xiu-Ru L U and Jiao X S. 2012;).

1.1.5. Opportunity and government

The theory views opportunity and the action of government as auxiliary factors, which together form the exogenous variables of the model. Opportunity refers to events that occur unexpectedly in the business process and have a significant impact on the production and operation of the company or even the whole industry, such as natural disasters like typhoons, earthquakes and floods, and changes in the structure of the world economy. Analysis of the historical development situation shows that these factors have brought both opportunities and serious blows to some countries. A good chance event will provide conditions for the country to gain competitive advantage over other countries, however, a bad chance event may make the country lose its original national advantage (Zhang S R , Liu Z M. 2012).

The governmental action factor refers to the factor that the government directs firms to compete in the market by formulating various economic policies and implementing market regulations to change the competitive advantage of firms. According to Porter, government action can only exogenously and subsidiarily influence the four main factors negatively or positively. For example, the government has different degrees of influence on the development of product standards, the management of distribution markets, the adjustment of industrial structure, the subsidization of factor conditions, and so on (Zhao Yuming, Qin Yuanjian. 2019).

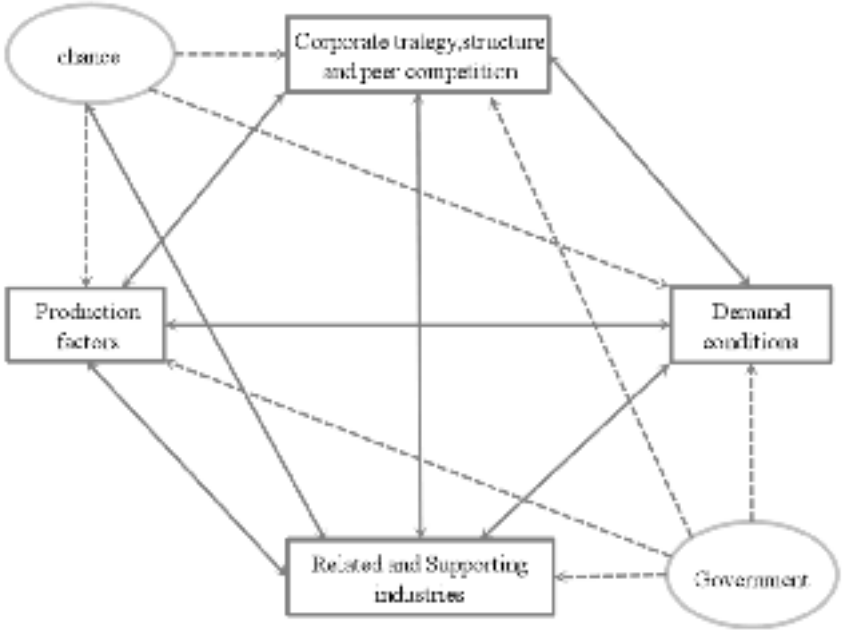

Figure1. "Diamond Model"

1.2. Development of the diamond model

1.2.1. Alavi's two-factor model

As industrial competitiveness gradually became a new hot spot for research, in 1999, Hamid Alavi proposed a two-factor model on competitiveness (Hamid Alavi. 1999). He considered that the influencing factors of international competitiveness should be composed of two aspects which are one-external environmental factors and internal related factors of enterprises.

External factors are mainly reflected in five aspects, involving the financial industry, the market environment and human resources; while internal factors related to the enterprise have a significant impact on the competitiveness of the industry at the micro level, which refers to two main aspects: one is the efficiency and flexibility of the enterprise's production system; the second is the factors that serve production within the enterprise.

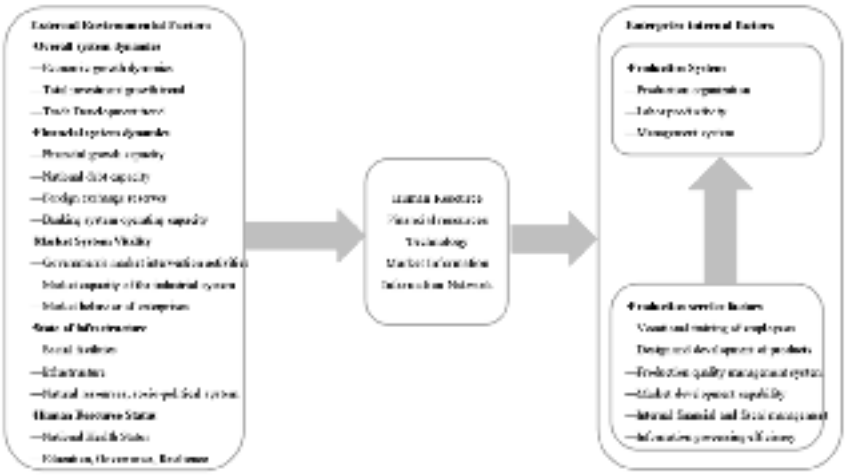

Figure 2. Alavi's two-factor model

In general, Alavi's two-factor model is an extension of Porters diamond model: the factors of production in the diamond model are transformed into human resources in the external environment, labor productivity and production services within the firm; the overall system dynamics are transformed from demand factors; other industries are transformed into financial resources or other facilities; the government factor is transformed into government intervention in the profitability of the market system; and the opportunity factor is ignored. The two-factor model is for the prevailing environment, and factors such as financial influence and human resources are included, which can provide us with ideas that should be in line with the actual situation in analyzing the current industrial competitiveness, but his disadvantage is that the theoretical logic thinking is confusing and the classification method is messy.

1.2.2. Dong-Sung Cho's nine-factor model

Dong-Sung Cho Cho proposed a nine-factor competitiveness theory model based on his research in 2000, which was built on the basis of the diamond model.

Starting from the international competitiveness of Korea, he used Porter's "Diamond Model" to explain how Korea's international competitiveness was formed in the process of economic development, taking the take-off and growth stages of the Korean economy as the background. He summarizes and analyzes nine different factors, and also analyzes the business environment at different levels, i.e. firm, industry, and country.

First of all, the analysis from the national level includes tangible and intangible factors, the tangible refers to real things or facilities, while the latter is to people's accommodation of the market mechanism and the performance of producers, terminators and consumers in participating in economic activities; the analysis from the perspective of industry mainly refers to the number of competitors and the type and quality of competitive products, etc.; in terms of the enterprise level, the enterprise objectives, organizational at the firm level, the goals of the firm, its organization, and the strategies adopted by competitors in the same industry are the main factors. Related industries are considered to be those related to upstream to downstream production. Support industries are considered as service sectors such as financial investment, insurance, information integration, transportation and logistics to support the development of the company.

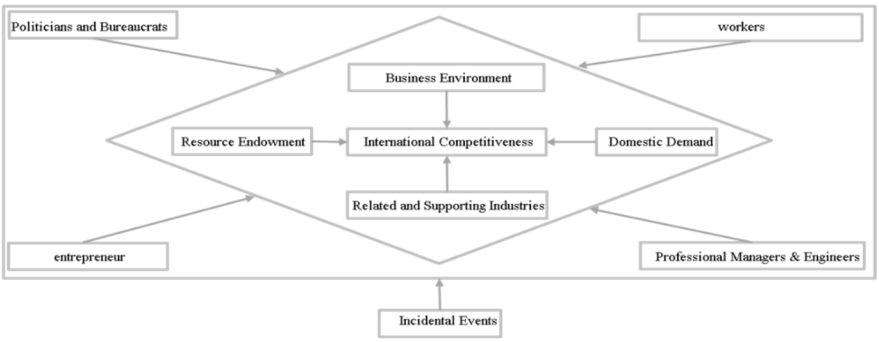

Figure 3. Dong-Sung Cho's nine-factor model

Dons-Sunk Cho's nine-factor model theoretical framework is inherited from Porter's diamond model theory, in which government factors are subdivided into bureaucrats and politicians, indicating the importance of government policies in the industrial development process. And the Production Factors are subdivided into resource endowment, workers, and engineers, indicating that he includes labor factors as important components. And the enterprise structure, strategy, and peer competition are also replaced by human resources in entrepreneurs, and professional managers. The demand factor, related and supporting industries, and incidental events maintain Porter's "diamond theory". Thus, Dons-Sunk Cho's nine-factor model is an application of Porter's diamond theory in Korea.

1.3. Application of the Diamond Model

1.3.1. Foreign Applications

In the field of international competitiveness assessment based on Porter's theory, the evaluation system constructed by the International Institute for Management Development (IMD) of Switzerland is the most influential among many international evaluation systems in this field, and the World Competitiveness Yearbook is published annually according to the changes in the competitiveness of each country. IMD started to pay attention to the Chinese market in 1994, and it is still one of the countries it focuses on.

The IMD is introduced under the theoretical framework of the "Diamond Model", which takes economics and statistics as the guiding ideology, establishes applied statistical indicators, adopts the questionnaire method, and uses the constructed indicators and survey results to establish a large number of rating indicator systems, and then assesses the comprehensive competitiveness of countries in the world, aiming to systematically, comprehensively and objectively analyze the competitiveness of each country

It is worth stating that IMD, an evaluation approach, has enriched the concept of international competition and transformed it into a comprehensive multidimensional and three-dimensional concept.After years of selecting indicators and revising data, the evaluation system used now consists of four major elements, as shown in Table 1.

Table 1. Four major elements of IMD's evaluation system

Element Name	Sub-elements included	Evaluation content
Ecomomic operation	Domestic economy, international trade, international investment, employment and prices	Assessment of the macroeconomic performance of the national economy: evaluation of the state of the country's macroeconomic performance in terms of the conditions that support the maintenance and provision of the competitiveness of enterprises
Government efficiency	Public finance, organization, tax policy, business regulations and social structure	Evaluation of the role of government policy in guiding the development of national competitiveness, whether it provides a fair and orderly market economy system for the activities of enterprises
Enterprise efficiency	Production efficiency, labor market, business management, financial value system	Evaluation of competitiveness in terms of innovation, profitability and social complexity of enterprises
Infrastructure	Infrastructure and technology, scientific infrastructure, health and environment, education	Evaluation of the ability of the state to meet the production and nutritional needs of enterprises in terms of basic, technological, scientific and human resources

Compared with Porter's diamond model, the four factors of IMD's evaluation system, such as employment, prices, and economic strength, are transformed from the need factors of the "diamond model". In contrast, infrastructure and social systems, for example, are transformed from supporting industries. Competition among enterprises and government intervention behavior are equivalent to the business management and government factors in the model.

IMDs evaluation of national competitiveness is an indicator system based on a large number of objective statistics that can comprehensively reflect the actual situation of each industry. However, it also has its disadvantages. It has a large repetition of the selected indicators and is biased when using the same weights to calculate different levels.

1.3.2. Domestic Applications

In China, there are also more centers on competitiveness analysis research and evaluation organizations, among which the relevant center research group formed by Renmin University of China is quite authoritative in this area of research. Since 1996, Professors Cao Yuanzheng and Zhao Yangyun have applied the analysis system of IMD to China's economic development and continued to analyze the international competitiveness of China's industries at all levels from a statistical point of view, based on data, macroscopically, and formed relevant reports.

The research group of Competitiveness and Evaluation Research Center of Renmin University of China proposes to divide the eight areas of international competitiveness into three classes. Firstly, the core competitiveness class, whose competitiveness is mainly reflected in three aspects of national economic strength, enterprise management, science and technology, which supplies the central and main carrier of national competitiveness of corporate enterprises and industries. Secondly, the basic competitiveness class, whose competitiveness is mainly reflected in infrastructure and national quality in two aspects, to provide the sustainable guarantee needed for national competitiveness of the basic law. Third is the environmental competitiveness class, mainly involving three aspects, to provide a good institutional, market and financial environment. The fundamentals (see Figure 4) :

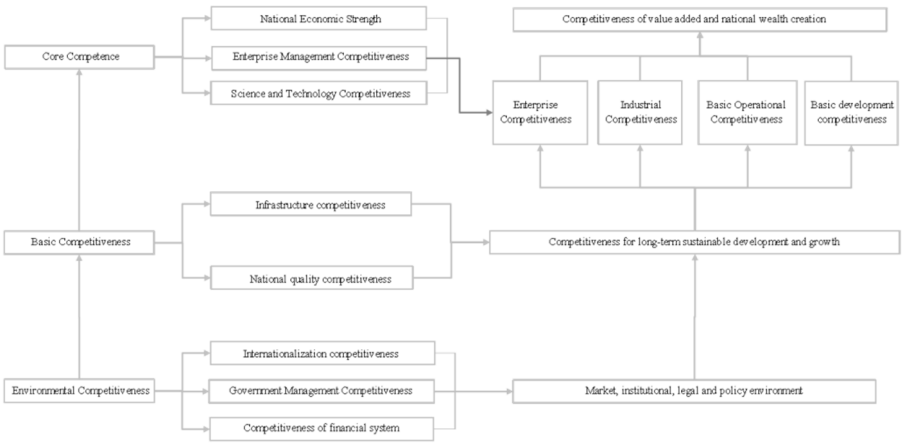

Figure 4. The "Diamond model" of Xinjiang cotton industry

2. THE "DIAMOND MODEL" OF XINJIANG COTTON INDUSTRY

2.1 Cotton industry chain

Xinjiang is the main cotton production area since ancient times because of its unique geographical location and rich natural environment resources. After 2,000 years of development, the cotton industry has gradually formed a more complete production chain at this stage (Li Xiangtian. 2017).

The cotton industry chain is composed of upstream, middle and downstream industries related to cotton production, which can clearly reflect the connection between various links in the cotton industry. And it can also reflect the relationship between the cotton industry and various external industries. At present, Xinjiang region has formed a cotton industry chain that integrates cotton cultivation, middle level processing, machinery manufacturing, logistics and trade, and after-sales service. And its whole industry chain is composed of upstream industry chain, middle and upstream industry chain, middle and downstream industry chain and downstream industry chain together (Li Xueyuan, Wang Junduo, Zheng Juyun, et al. 2020)(Figure 5).

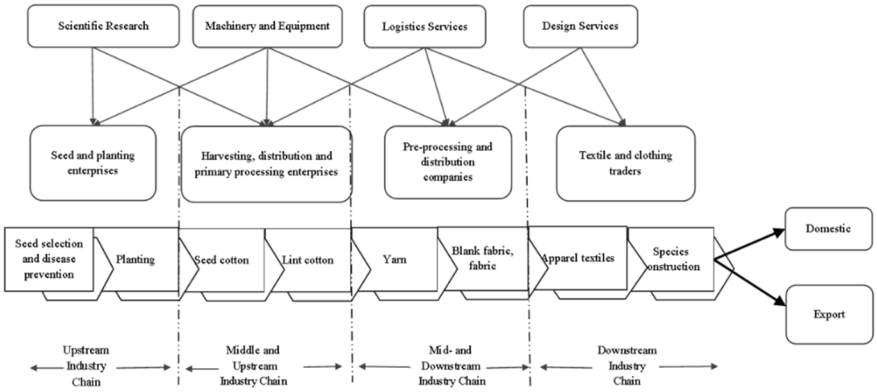

Figure 5. Cotton industry chain

2.2. The diamond model of Xinjiang cotton

2.2.1. Analysis of Production Factors

2.1.1.1. Unique Advantages of Natural Resources

Xinjiang's unique geographical and environmental advantages provide favorable conditions for its abundant cotton production. Located in the relatively arid region in the northwest of China, Xinjiang is situated in a space with little precipitation and relatively dry air. However, the long-developed artificial irrigation technology provides a guarantee for cotton water conservation. The soil type of Xinjiang cotton planting area is mainly light soil, medium clay and sandy soil which are more suitable for mechanical cultivation and irrigation. In 2019, Xinjiang's arable land area reached 75 million mu, of which

38,107,500 mu has been planted with cotton, an increase of 783,800 mu compared to last year. The cotton planting area in Xinjiang accounts for more than 70% of the cotton planting area in the country. In 2019, cotton production in Xinjiang continued to exceed 5 million tons, still maintaining the first place in cotton production in the country's cotton planting area. Although, 2019 cotton production in Xinjiang region compared with the previous year decreased 117,800 tons, the proportion of China's total cotton output is still in a high position, reaching 84.9%, an increase of 1.1 percentage points over the previous year. And Xinjiang cotton has maintained the first place in several aspects of total output, yield, sown area and commodity distribution for 25 consecutive years. Xinjiang also has the necessary light and heat conditions for growing cotton. Its annual sunshine time can reach 2550-3500h, and the sunshine usage rate is 60%-80%, which provides good light conditions and good high temperature conditions for cotton (Liu, Hongda. 2019).

2.2.1.2. The Location Has Special Advantages

Xinjiang is located in the interior of Asia and Europe, bordering Russia and Mongolia in the north, Kazakhstan, Kyrgyzstan and Tajikistan in the west, and India, Pakistan and Afghanistan in the southwest. It is also connected to Europe through Central Asia. Xinjiang connects domestic and international markets and has become a regional hub for opening up western China to the outside world.

2.2.1.3. Steady enhancement of education and research resources

Along with the development of society and the progress of science and technology, the advanced production factors in Xinjiang have been gradually strengthened.In Xinjiang, society pays more and more attention to education issues, and the number of higher education personnel is increasing year by year. 2019, there are 212 schools above secondary vocational education in Xinjiang. The number of people who have completed secondary vocational education, general undergraduate education and postgraduate education is 68,000, 84,400 and 0.66 million respectively. And with the policy and economic changes in Xinjiang, there are also more and more highly educated people from the mainland moving to Xinjiang. At the same time, the cost of energy consumption accounts for an increasing proportion of the total cost of the cotton textile industry due to improvements in technology and equipment. The prices of industrial electricity and gas in most urban areas in Xinjiang have certain advantages relative to other domestic provinces and cities, which play an important role in reducing the cost output of cotton enterprises.

2.2.2. Analysis of demand conditions

2.2.2.1. Demand for downstream industrial development

In recent years, with the progress of society, economic development and the rise of people's living standard, people's demand for material is getting higher and higher. From the initial solution of food and clothing to the pursuit of quality of life, people's demand for product quality is constantly rising. This also stimulates enterprises to constantly

update their products. In addition, with the Central Party's support for Xinjiang continues to strengthen, Xinjiang cotton industry has developed rapidly. A number of domestic famous textile and garment enterprise groups have settled in Xinjiang to seek business opportunities. Xinjiang cotton area with good quality cotton, mainland textile and garment enterprises have to invest in the local industry, Xinjiang also continues to vigorously promote the high-quality development of the regions textile and garment industry. At present, the scale of the textile and garment industry in Xinjiang is gradually expanding, and the quality and efficiency of the industry has improved significantly. This has had a significant effect on boosting employment. After nearly a decade of unremitting efforts, Xinjiang has gradually improved the entire industrial chain of spinning, dyeing, weaving, home textiles and apparel, thus increasing the demand for cotton (Li Gui, Hu Zhi-Ming, Li Rong-Rong. 2020).

2.2.2.2. The demand of the consumer market

Cotton is one of the most characteristic and advantageous agricultural products in Xinjiang. As consumers' awareness of cotton products continues to deepen, cross-cultural exchanges centered on cotton culture will become more frequent. We should recommend Xinjiang's cotton products and related brands to domestic and foreign consumer groups. With the development of science and technology in China, scientists and workers in the cotton industry are gradually hoping that the production and development of the cotton industry will be beneficial to human health. A great deal of research has been carried out by the practitioners concerned for the sake of human health development. They have made great efforts to improve the basic processes of cotton production and to improve the quality of cotton textiles, which will provide a great benefit to people's health and high level of life (Li X. 2019). Although there are still some problems to be solved in the production of cotton and its processing and manufacturing process, it is clear that the cotton industry has been very beneficial for people's healthy life compared to other industries.

2.2.3. The analysis of related industries and supporting auxiliary industries

From the point of view of industry support, the cotton industry includes a number of areas such as raw material handling, packaging and marketing. Its surrounding related industries encompass more fields, such as the development status of fertilizer industry, transportation industry, cotton textile industry, financial industry, machinery manufacturing industry, etc. It is also closely related to the business conditions of trading companies and human resources in the region.

As the cotton industry in Xinjiang grows year by year, its production of cotton, seeds and other raw materials expands, and the demand for cotton processing equipment grows accordingly, and the deep processing capacity of related enterprises is also gradually improved. So macroscopically, the development of the cotton textile industry forward will promote the development of the entire cotton industry more and more. As a major

cotton producer in Xinjiang, its regional economic competitiveness will naturally be enhanced.

2.2.4. Analysis of corporate strategies and competition in the same industry

The textile industry global industrial layout structure has undergone important changes. From an international perspective, the first is that in recent years the proportion of Asian textiles occupying the world textile continues to rise. Asia has become the central region for the development of the textile industry. At the end of 2019, the world has formed the Asian cotton production center with China and India as the core, whose total spindle production accounts for about half of the world. Southeast Asian countries have expanded their advantages in the cotton textile industry with their cost-effective labor resources and further improved their competitiveness in the international market.

Secondly, the improvement of technology and the spreading trend of information globalization have further strengthened the communication between garment enterprises, enhanced the ability of enterprises to respond to the market, and also shortened the circulation time of goods. The global garment industry has gradually developed into a high value-added garment industry led by high technology.

Thirdly, the textile product structure problem is prominent. Low and high-grade textile products supply and demand trends are unreasonable, the market has too many Primary textile products, and too few advanced textile products.

Fourth, textile technology and equipment is developing rapidly. Fiber material processing equipment is developing to large capacity and refinement. Fiber products processing equipment is to high-speed, high quality, automation, continuous development. Printing and dyeing equipment is to save water, energy, environmental protection direction. Textile equipment as a whole is integrated, intelligent trend.

Domestically, first, the domestic textile and apparel industry downward risk pressure. 2019 textile industry to achieve operating income of 75.284 billion yuan less than the previous year, profits decreased by 29.543 billion yuan. Industrial value added of enterprises above the scale fell by 3.9 percentage points compared with 2015; Xinjiang as Chinas main cotton production area, cotton production in the past two years have exceeded 5 million tons, occupying a national Cotton production of more than 80%.

Second, the development of science and technology, innovation in the industrial system is accelerating the pace of industrial upgrading and the research of advanced products. The cotton textile industry will work together to enhance their own independent innovation capabilities, change the way the economy operates growth and improve economic efficiency. They will also look to the international consumption level, change the economic development ideas, the development focus on high-end product production up. At the same time, they will also improve the industrial chain, improve industrial production efficiency, to the value of high-end forward.

Third, the structure of the domestic textile and apparel industry will be further optimized and adjusted.Affected by local land, labor costs rise and other factors, Jiangsu, Shandong, Guangdong and other places in the textile and garment labor-intensive industries are accelerating the pace of industrial transfer. In order to ensure the security

of the industrial chain and promote the long-term development of the industry of cotton, the relevant state departments have introduced a series of development guidelines. They plan to take advantage of the relatively low-cost labor resources in the western region, abundant land resources and other advantages, orderly guide and support the transfer of textile and garment industries to Xinjiang and other western provinces and cities.

Fourth, a new generation of information technology applications will empower the transformation and upgrade the whole industry. The garment industry is moving into the field of digital and networked intelligence, seeking to apply smart manufacturing technologies within the industry and use cloud computing, big data, Internet of Things, intelligent robotics and other technologies in production and marketing. This series of initiatives have further strengthened the flow of communication and goods between cotton enterprises, ensured the effective operation of business-related mechanisms and improved the market resilience of enterprises.

From the internal point of view of Xinjiang, Xinjiang's state-run textile enterprises accounted for more than 70% of cotton spinning enterprises. The debt ratio and the number of employees of state-run cotton enterprises in Xinjiang are higher than the national average line of state-run cotton enterprises, but the labor productivity of state-run cotton enterprises in Xinjiang is much lower than the national average, just half of the national average. Due to the social limitations of Xinjiang's economic development system, the reform of state-owned enterprises in Xinjiang faces great difficulties. Its reform process is much slower than the pace of reform of state-owned enterprises in the mainland, which further led to the Xinjiang state-owned enterprises operating system and mechanism is more backward. Xinjiang's state-owned enterprises are difficult to adapt to the rapid changes in the market, which further weakened the market competitiveness of state-owned cotton enterprises in Xinjiang. At the same time, the relevant departments introduced a series of policies to support the development of Xinjiang's textile and apparel also brought problems to the development of the cotton industry in Xinjiang. On the one hand, these policies do promote the development of the cotton industry in Xinjiang, but these policies also weaken to a certain extent the ability of enterprises to constantly improve their level of self-survival and technological innovation in face of brutal competition in the market. Its reform process is much slower than the pace of reform of state-owned enterprises in the mainland, which further led to the Xinjiang state-owned enterprises operating system and mechanism is more backward. Xinjiang's state-owned enterprises are difficult to adapt to the rapid changes in the market, which further weakened the market competitiveness of state-owned cotton enterprises in Xinjiang. At the same time, the relevant departments introduced a series of policies to support the development of Xinjiang's textile and apparel also brought problems to the development of the cotton industry in Xinjiang. On the one hand, these policies do promote the development of the cotton industry in Xinjiang, but these policies also weaken the technological innovation capacity of enterprises to a certain extent.

2.2.5. Analysis of government support

In recent years, Xinjiang has vigorously promoted the development of the textile and apparel industry. In 2018, the autonomous region promulgated a series of policies on promoting the development of the cotton textile industry in Xinjiang, such as the "Development Plan for the Textile and Apparel Industry in Xinjiang (2018-2023)" and the "Notice on Further Improving the Policies of the Textile and Apparel Industry in the Autonomous Region". The intention of the government to promulgate this series of relevant policies is to encourage cotton textile and garment enterprises in the region to actively promote the renewal and innovation of existing technologies and equipment, accelerate their own industrial restructuring, upgrading and transformation, gradually eliminate backward equipment with a cotton textile capacity of less than 30,000 spindles (including 30,000 spindles), accelerate the pace of intelligent and green development in the field of cotton industry, and form a perfect whole industrial chain of cotton textile industry.

At the same time, the regional government has introduced relevant policies in other aspects to support the development of cotton textile industry. Xinjiang regional government agencies implemented the "Xinjiang Uygur Autonomous Region textile and clothing industry special subsidy funds management", respectively, from transportation, electricity, loans, employment, training, insurance and other aspects of the corresponding policy subsidies, such as spinning yarn, cotton clothing and other middle-grade processing products to the corresponding freight and freight subsidies out of the border.

More than 32 counts (including 32 counts) of cotton yarn products will receive a subsidy of one thousand yuan per ton, less than 32 counts of cotton yarn subsidies are 450 yuan per ton. The subsidy amount for yarn products more than 60 counts (including 60 counts) will be adjusted upward to one hundred yuan on the basis of the standard subsidy, while the subsidy standard for cloth products will be one thousand yuan per ton. Government departments also give the relevant enterprises certain preferential power subsidies. At present, the relevant enterprises can enjoy a preferential electricity price of 0.35 yuan/kWh. At the same time, government departments also give enterprises subsidized loans. Government departments will give 2%-4% interest discount in accordance with the actual loans obtained by enterprises through financial institutions, and the corresponding equipment leasing loans are given in accordance with the amount of 1.5% of the discount compensation.employees a certain amount of employment subsidies. At present, the relevant departments will provide subsidies of 2,000 yuan, 1,000 yuan, 2,000 yuan and 5,000 yuan respectively for three consecutive years for the new staff added by cotton spinning enterprises. In order to improve the quality of the workforce, government departments have also set a certain amount of training subsidies. The government department will provide a one-time training subsidy of 2,400 yuan per person for approved employment. The implementation of this series of policies guarantee the healthy development of the cotton products market, improve the cotton products cycle mechanism, and thus enhance the competitiveness of the cotton products market.

2.2.6. Opportunity Analysis

With the accelerated pace of economic globalization, Xinjiang is grasping the strategic opportunity of the new era of national promotion of "the Belt and Road Initiatives" construction and the formation of a new pattern of western development. The Third Symposium of the Central Government on Xinjiang provides a powerful impetus and opportunity for Xinjiang's development. Xinjiang is focusing on two markets at home and abroad, accelerating the integration of its own regional advantages and resources, constantly optimizing the business environment of the regional market, strengthening policy guidance and support, adjusting and improving the structure of the industry itself, gradually upgrading the primary industry of agriculture, and accelerating the efforts of industrial informatization.

Xinjiang is steadily expanding and strengthening traditional industries by optimizing the stock and introducing increments, and then speeding up technological transformation and upgrading and equipment replacement to improve the level of production automation. The transfer of cotton textile industries from developed eastern provinces and cities has become a new development opportunity for Xinjiang. Xinjiang will take full advantage of industrial assistance to actively cultivate the introduction of new industries and enhance the development momentum within the industry. At the same time, Xinjiang follows the pace of industrial change brought about by the new generation of information technology represented by 5G. It will combine the actual development of its own industry and demand, and continuously empower relevant industries intelligently to achieve multiple changes in development quality, efficiency and power.

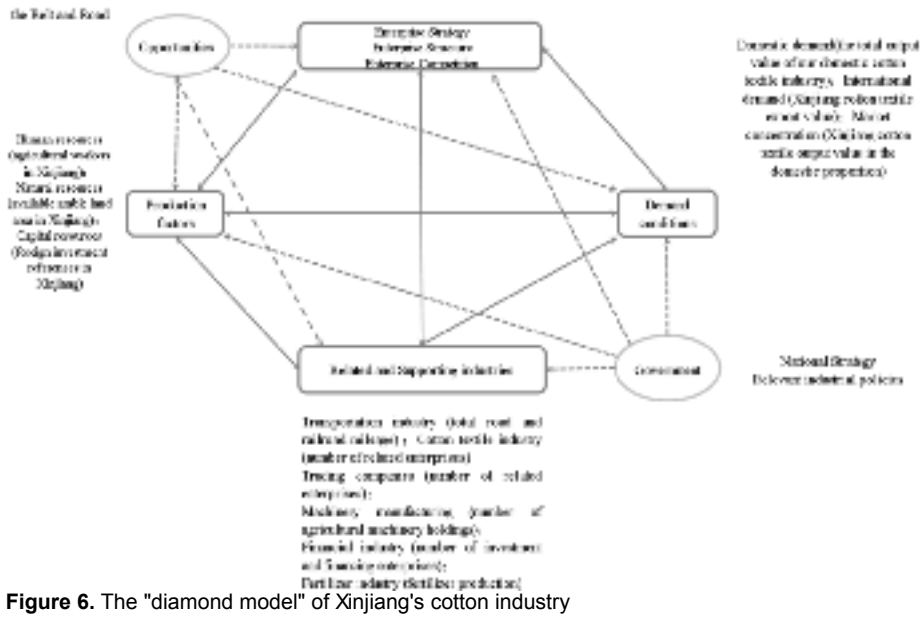

Figure 6. The "diamond model" of Xinjiang's cotton industry

Table 2. Competitive analysis of Xinjiang cotton industry

	Factors	Index
Production Factors	Total arable land area	0.75 billion mu
	Cotton cultivation area	38,107,500 mu
	Total cotton production	5.002 million tons
	Cotton yield	131 kg/mu
	Average agricultural machinery power per hectare	57,112.2 watts
Related industries and supporting industries	Total road mileage	192000Km
	Total railroad mileage	6386km
	Freight volume of roads and railroads	100062.96 tons
	Agricultural machinery management	Regional agricultural machinery holdings
	Fertilizer application of agricultural fertilizer converted amount	257.76 million tons
Demand conditions	Regional GDP	12199.08 billion yuan
	Regional GDP per capita	49475 yuan
	Per capita disposable income	21491.16 yuan
	Intra-regional consumption	318.697 billion yuan
	Per capita non-food expenditure of residents	8574.1yuan
	Total population	24,867,600 people
	Retail price index of textile goods (previous year 100)	99.2
Enterprise strategy, enterprise competition and enterprise structure	Number of enterprises in the cotton industry in the region	3141
	Number of people employed in cotton textile industry	600,000 people
	Profitability of cotton textile industry	7.9%
Government	Financial support regional govemments agricultural fiscal expenditure）	31.98 billion yuan
Opportunities	the Belt and Road Initiatives	

3. ANALYSIS OF THE COMPETITIVENESS OF XINJIANG INDUSTRIES

This paper is based on the diamond model to determine the current production factors, related and supporting industries, demand conditions, enterprise strategies, enterprise competition and enterprise structure and the role of government and development opportunities available in the development of the cotton industry in Xinjiang. Through the analysis of relevant data, this paper divides the evaluation index system of the competitiveness of Xinjiang cotton industry into two levels: the display comparative advantage index indicator and the trade competitiveness index indicator. At the same time, a double comparative analysis is conducted in this paper. In this paper, Xinjiang cotton industry is compared and analyzed with several other major cotton producing areas in China and abroad, so as to arrive at a more comprehensive overall result of the competitiveness of Xinjiang cotton industry.

3.1. Analysis of the Revealed Comparative Advantage Index

Revealed comparative advantage (RCA) is the ratio of the share of a country's exports of a product in the world's exports of that product to the share of all products exported by that country in the world's total exports of that product. This indicator reflects the relative advantage of a country's exports of a certain product and the average level of the world's exports of that product, which can reflect the relative advantage of a certain industry more clearly by eliminating the fluctuation of both national and world aggregates.
Its calculation formula is.

$$\mathrm{RAC} = \left(\frac{X_{ia}}{X_{wa}}\right) / \left(\frac{X_{it}}{X_{wt}}\right)$$

X_{ia} is the product a exported by country i, X_{wa} is the total world export of product a, X_{it} is the total export of product i in period t, and X_{wt} is the total export of product worldwide in period t. When RCA2.5, the country has extremely strong international competitiveness in that industry; when 1.25RCA2.5, the country has strong international competitiveness in that industry; when RCA0.8, the country has inferior international competitiveness in that industry (Qu, 2012).

3.2. Trade competitiveness index

Trade competitiveness index refers to the ratio of a country's net exports of a certain product to its total trade volume, and the international competitiveness index is defined as

$$TC_{ij} = \frac{X_{ij} - M_{ij}}{X_{ij} + M_{ij}},$$

X_{ij} is the export value of j products exported by country i and M_{ij} is the import value of j products imported by country i.The TC index range is [-1,1], and the larger the index

value is, the stronger the countrys international competitiveness of the product. When the TC value is greater than 0.8 and less than 1, it indicates that the competitive advantage of the product is extremely obvious; when the TC value is greater than 0.5 and less than 0.8, it indicates that the competitive advantage of the product is more obvious; when the TC value is greater than 0 and less than 0.5, it indicates that the competitive advantage of the product is average; when the TC value is greater than -1 and less than -0.8, it indicates that the competitive advantage of the product is in a disadvantageous state and extremely When the TC value is greater than -0.8 and less than -0.5, it indicates that the competitive advantage of the product is in a disadvantageous state and more obvious; when the TC value is greater than -0.5 and less than 0, it indicates that the competitive advantage of the product is in a disadvantageous state; when the TC value is close to 0, it indicates that the competitiveness of the product is on par with the international level.

3.3. Date Comparison

Table 3. Domestic comparison of cotton producing areas

	Cotton producing areas in Xinjiang	Cotton-producing areas in the middle and lower reaches of the Yellow River	Cotton-producing areas in the middle and lower reaches of the Yangtze River
Revealed Comparative Advantage Index	2.87	1.61	1.05
Trade competitiveness index	0.929	0.909	0.915

Table 4. International comparison of cotton producing areas

	China	America	India
Revealed Comparative Advantage Index	2.37	0.17	1.57
Trade competitiveness index	0.83	-0.72	0.45

4. CONCLUSIONS AND COUNTERMEASURES

4.1. The main research conclusions

Through quantitative treatment, double comparative analysis and other analysis methods, this paper finds that: Xinjiang cotton industry operation area has the most advantage in the three main cotton industry operation areas in China, the next is the middle and lower

reaches of the Yellow River cotton producing area. And the middle and lower reaches of the Yangtze River cotton-producing region is at a disadvantage compared to the other two cotton-producing regions. But the three major production areas all have cotton industry competitiveness. The RCA index of Xinjiang cotton-producing region is 2.87 and the TC index is 0.929, both indices are in the superior order, which proves that Xinjiang cotton-producing region has a very strong cotton industry competitiveness; the RCA index of the middle and lower reaches of the Yellow River cotton-producing region is 1.61 and the TC index is 0.909, which proves that it has a strong cotton industry competitiveness as well; the RCA index of the middle and lower reaches of the Yangtze River cotton-producing region is 1.05, which shows that the competitive ability of the industry is weak.And the TC index is 0.909, which shows that the competitive ability of cotton products has obvious advantages.

In this paper, after comparing and calculating, the RCA index and TC index of the corresponding major international cotton producing areas were derived. The RAC index of China,United States, India were 2.37, 0.17, 1.57. The data analysis shows that the competition in the cotton industry in various countries, China and Indias competitive advantage is more obvious, the United States is in a more downward position. the TC index of China, the United States, India were 0.83, -0.72, 0.45. These data show that the Chinese cotton production area products have a very obvious competitive advantage and India has a certain degree of competitive advantage, while the United States is at a competitive disadvantage.

4.2. Response suggestions

4.2.1. Enhance the extension of the cotton industry chain construction

Nowadays, the enterprises engaged in the cotton industry chain in Xinjiang are gradually enriched in terms of composition, such as state-run, collective, joint-stock, private and many other enterprises have started to enter the cotton production industry. However, due to the limitations of ginning technology and production equipment and premises, the quality of cotton products of each enterprise also fluctuates greatly. In addition, because ginning and textile processing are in different fields, some upstream enterprises of seed cotton production and ginning process only take into account their own economic interests in the production process, so that the quality of their raw materials is reduced to a certain extent by consumption, thus causing the spinning production and other downstream industrial chain is restricted.

Therefore, all processes should be integrated,from seed cotton production to ginning process to maximize the release of cotton benefits. At the same time, the relevant departments should also give Xinjiang textile enterprises a certain number of cotton acquisition, processing and operating rights and cotton acquisition funds to support, and encourage local textile enterprises to build raw material base according to their own development needs. This will allow better articulation and complementarity between the various processes, and thereby promote the competitiveness of the cotton industry in Xinjiang.

Iincrease the investment and construction of textile industrial parks and promote local textile industry clustering in Xinjiang. Growing cotton and selling raw cotton to the

outside world are the main part of this industry. And the industry lacks deep processing, which makes the value of the industry lower. Therefore, strengthening the construction of local cotton textile industrial parks in Xinjiang and changing the resource-based cotton industry into an economic cotton industry is decisive for the improvement of the competitiveness of the cotton industry in Xinjiang. Specifically, the following approaches can be taken to promote the agglomeration of cotton textile industry in Xinjiang. Specifically, the following approaches can be taken to promote the agglomeration of cotton textile industry in Xinjiang: First, the cotton production enterprises that have been established and put into use should gather together to set up industrial parks, and actively promote the development of existing cotton textile industry. Second, make good use of the policy, resources and energy advantages of large enterprises and groups in Xinjiang to attract large textile enterprises and groups in the mainland to invest and set up factories in the park.

Extend the cotton industry chain in Xinjiang, and enhance communication and cooperation with powerful enterprises in the mainland.

Textile industry professionals have found that the value of raw cotton can be increased by up to three times through the spinning process, and then spinning into cloth, printing and dyeing processing into clothing sales can further increase the value. Therefore, vigorously promote cotton from planting and then to processing and textile series of processes as a whole, will help to achieve resource-based industries into economic industries, which is important to improve the overall competitiveness of the cotton industry in Xinjiang.

At present, Xinjiang textile industry is still only in the spinning stage of this link, cotton textile enterprises are still mostly in the production of primary processing products. Because of the low economic benefits of primary products, the market competitiveness of related enterprises is also at a disadvantage. Therefore, extending the industrial chain is an important measure to improve the competitiveness of the cotton industry in Xinjiang.

In the development of the cotton industry in Xinjiang, in addition to relying on their own advantages in the development of special industries, Xinjiang should also strengthen the cooperation with the relevant domestic link leading enterprises. Affected by the autonomous region "large enterprises and large groups" and "a black and white" development strategy, domestic companies such as Yagal and Yunsen have moved into Xinjiang for acquisition and restructuring in recent years, which greatly promotes the development of the cotton industry in Xinjiang. Meanwhile, it also improve the competitiveness of the cotton industry in Xinjiang.

4.2.2. Enhance the development and construction of related auxiliary industries

4.2.2.1. Efforts to enhance the strength of suppliers of the cotton industry in Xinjiang

The strength of suppliers in Xinjiangs' cotton industry still has a large gap compared with developed provinces, which is not conducive to the development of the entire cotton market. Therefore, increasing the construction of suppliers can accelerate the establishment of a modern cotton industry market in Xinjiang.

First, we should strictly control the access system of the cotton industry suppliers to introduce some strong suppliers to the development of the cotton industry in Xinjiang.

And at the same time, we should also increase the number of cotton industry suppliers to ensure the development of the cotton industry can obtain inexhaustible power. Second, government departments must resolutely ban unscrupulous suppliers. At present, there are some suppliers finding ways to earn illegal income. In this regard, government departments should take strict measures to purify the market environment of the cotton supply market in Xinjiang. Third, strengthen the association of suppliers, expand the scale of suppliers, and bring into play the economies of scale.

4.2.2.2. Strengthen the construction of the cotton industry and market intermediary organizations in Xinjiang

At present, the growth of the cotton industry and market intermediaries in Xinjiang is still in a weak state, which is unable to meet the requirements of the cotton market reform. Although the cotton industry association does coordinate and manage the cotton production in Xinjiang, its regulatory role is very limited due to the fragmentation and weakness of power. As the core of regulation, the government should take responsibility. But at the same time, the government should also respond to the national policy of decentralization, giving more real power to the Xinjiang Cotton Association, so as to stimulate the vitality of the cotton industry. In addition, as the producers and operators of cotton industry chain are the gate-keeper and decision string of cotton quality, they must be the first to know the emerging means of cotton production science and technology services and the latest market demand, so that they can keep up with the times to innovate the quality of cotton products. It is also important to strengthen the system of expert advice, which will enable farmers and operators to receive effective guidance.

4.2.3. Strengthen the construction of human resources

To make the cotton industry in Xinjiang have better development, we must vigorously introduce talents, increase training efforts to improve the level of human resources. Talent is the first core competitiveness. At present, the reason why Xinjiang cotton industry competitive advantage is not enough is that it is lack of talent. From the human resources section of the Xinjiang cotton production competitiveness analysis, most of the cotton enterprises in Xinjiang are lack of senior management personnel and high-level professional and technical personnel. As the world's farthest inland city from the ocean, Xinjiang's economic and technological development also has huge limitations, not to catch up with most of the southeast coastal cities. Therefore, many talents choose to leave Xinjiang to settle in cities with more economic development advantages. Talent is the most important driving engine, so if you want to improve the competitive advantage of cotton production in Xinjiang and create its unique core competitiveness, the key will be promoting the introduction of talent and "retention". First, the government and enterprises should cooperate to develop policies to attract and retain talent, and actively provide richer salaries and housing and other preferential policies for implementation; Secondly, cotton production enterprises should cooperate with research institutions for talent exchange. Enterprise employees regularly learn advanced knowledge culture and technology, students from institutions can go to enterprises for attachment and the

enterprise should try their best to make the outstanding talent directly employed; Finally, enterprises should actively carry out training activities. Through continuous training, the enterprises can continue to have more high-level and high-quality talent reserves, so as to solve the problem of low levels of human resources in Xinjiang cotton enterprises, to enhance the strength of enterprises.

4.2.4. Enhance institutional construction

4.2.4.1. Establish a reasonable reserve regulation mechanism, export regulation mechanism and early warning and forecasting mechanism

Through the regulation of cotton reserves, the market supply and demand level can be regulated, which will make the income of cotton farmers to be protected and will ensure that the textile industrial demand for raw. Relevant departments should reasonably determine the safety range of out cotton reserves. In order to improve the competitiveness of the cotton industry in Xinjiang, when determining the safety range, the relevant departments must closely integrate import and export regulation and reserve regulation, and strictly enforce the principle of "freedom of entry and exit, with entry and exit" in management. At the same time, the authority should strengthen the forecast of the trend of changes in the cotton market in Xinjiang, the country and the international market, so that the relevant departments can take emergency measures to effectively prevent and timely eliminate abnormal fluctuations in the cotton market at three levels, thus promoting the benign and healthy development of the cotton industry in Xinjiang, and finally promoting the competitiveness of the cotton industry.

4.2.4.2. Strengthen supervision and improve the quality assurance system of cotton

Product quality is directly related to industrial efficiency, cotton production is also the same. The high or low quality of cotton directly affects the economic interests and development of the entire industrial chain. But in order to ensure the quality, only the enterprise self-supervision and self-inspection is not enough, it still needs a more authoritative and official third-party independent institutions to carry out inspections to further ensure the effectiveness of quality. The reason is that only with the cotton production upstream and downstream industry chain enterprises do not have direct or indirect interests of the third party can really do 100% fair assessment, so as to achieve the purpose of standardizing the cotton processing and distribution system.

4.2.4.3. Improve the relevant system and open the green channel for the production and sales of cotton.

At present, nearly 2/3 of the cotton produced in Xinjiang is sold to the mainland. With the state to increase the construction of high-quality cotton production base in Xinjiang, Xinjiang cotton production is also increasing, which will further increase the supply of raw materials for domestic cotton textile enterprises. This also puts forward higher requirements for the unrestricted transportation of cotton to the mainland in Xinjiang.

Affected by a single railroad line and other objective reasons, the external transportation of cotton in Xinjiang is not yet able to ensure a completely unrestricted movements, which to some extents affects the development of the local and national cotton industry in Xinjiang. Therefore, to solve the problem of internal transportation of cotton in Xinjiang is not only a key factor in the development of the cotton industry in Xinjiang, but also an important measure to implement the western development strategy. In response to this situation, the country should take relevant measures to establish a green channel to ensure the unimpeded flow of cotton transport.

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