

# Research on the Development of Cross-border Agricultural E-commerce in Liaoning Province

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## Abstract

**With the continuous development of science and technology, cross-border e-commerce has rapidly emerged as an emerging business model. As a large province dominated by agriculture, Liaoning should seize this favorable opportunity to effectively integrate agricultural products with cross-border e-commerce, so as to create a new model of foreign trade of agricultural products and further promote the increase of the export market share of agricultural products. This paper first discusses the export situation of agricultural products in Liaoning Province, and then combined with the relationship between agricultural products and cross-border e-commerce, the export advantages and problems of cross-border e-commerce of agricultural products in Liaoning Province are analyzed in detail, and provides targeted solutions at the end of the paper.**

## Keywords

**Liaoning Province; Agricultural Products; Cross-border E-commerce Export.**

## 1. Preface

With the implementation of China's cross-border e-commerce export policy, the distance between international countries has narrowed, promoting the international friendly relations and development, and providing support for China's agricultural products in the international market. As a big agricultural province, Liaoning is rich in crop resources and characteristic agricultural industries. Driven by the "Belt and Road" policy, cross-border e-commerce is expected to become a new direction of global e-commerce development, have a positive impact on the development of agricultural products in Liaoning, and promote high-quality agricultural products to enter the global market, but it also faces problems and challenges. It is of great significance for Liaoning province to vigorously develop cross-border trade of agricultural products. Combining with cross-border e-commerce export trade can increase the sales volume of agricultural products and promote the expansion of the new international market. However, the perishable characteristics of agricultural products make the cross-border e-commerce export business crucial to the production and circulation of agricultural products in Liaoning Province. At present, the cross-border e-commerce export business of agricultural products in Liaoning province started late, which affects its sales. Therefore, it is necessary to understand the development status of cross-border e-commerce export trade in Liaoning Province, formulate scientific and feasible countermeasures to promote and popularize cross-border e-commerce trade, adopt appropriate strategies to help agricultural products enter the international market, and enhance the economic returns of farmers.

## 2. Analysis of the Development Status of Cross-border E-commerce Export in Liaoning Province

### 2.1. Development of Rural E-commerce in Liaoning Province

At present, the export situation of agricultural products in Liaoning province generally shows a positive trend, especially in the export trade of agricultural products such as water, seafood, fruits and vegetables.

Among these agricultural products, imports of edible aquatic products, dry and fresh fruits and nuts account for a large proportion of the total export trade of agricultural products in Liaoning province. In recent years, the continuous adjustment of agricultural structure in Liaoning Province, the improvement of agricultural production efficiency, and the increase of farmers' per capita net income have all promoted the growth of agricultural product export business in Liaoning Province. From the perspective of export market, Liaoning province has launched agricultural products export trade activities with more than 100 different countries and regions. With the enhancement of China's economic strength and the importance of agricultural development, the agricultural trade in Liaoning Province has also been further developed. However, limited by the quality and geographical location of agricultural products, agricultural exports in Liaoning province are mainly concentrated in Asia, especially in Japan and South Korea.

At the same time, Liaoning province not only has a large number of agricultural products export demonstration area, but also maintains a leading position in the whole country. The agricultural products exported from these agricultural products export demonstration zones to foreign markets have been widely praised. This paper mainly analyzes the current situation of agricultural development in Liaoning Province, and studies the export trade of agricultural products in Liaoning Province, and puts forward relevant suggestions and countermeasures.

Therefore, the research and analysis of the export competitiveness of agricultural products in Liaoning Province can help enterprises to better formulate corresponding strategies to improve their competitiveness. In addition, Liaoning province also has a large number of agricultural products export demonstration areas, and maintains an advanced position in the whole country. The agricultural products exported from these agricultural products export demonstration areas to foreign markets have been generally praised.

In 2020, Liaoning province provided more than 210,000 training sessions for rural e-commerce, and provided nearly more entrepreneurship and employment opportunities for 150,000 people. In order to promote the development of rural e-commerce, Liaoning province will adopt the rural revitalization strategy, innovate models and carriers, and accelerate the construction of rural Taobao villages. Through the "mentoring" method, we have successfully helped local neighbors and villagers to learn and apply e-commerce technology, and improved their operational skills. In addition, 15,000 rural anchors have been trained, creating a strong atmosphere for rural e-commerce live streaming with goods, and promoting more than 100 rural public brands to enter the national market. Liaoning will also take e-commerce into the family as the starting point, promote the transformation of agricultural production and management to digital, network, and promote the increase of farmers' income.

### 2.2. Current Situation of Cross-border E-commerce Export of Agricultural Products in Liaoning Province

In the whole province, cross-border e-commerce shows a trend of rapid economic growth. With the gradual expansion of the operation and management subjects, the scale of the sales market also shows a trend of continuous growth. At present, China's cross-border e-commerce export of agricultural products has made great achievements. The establishment of Shenyang cross-border e-commerce platform has successfully attracted 27 merchants from cross-border e-

commerce platforms to enter Shenyang, thus solving the problem of insufficient number of cross-border e-commerce export platforms for agricultural products. The Yuanda International Express Supervision Center, with a total investment of 1,108 yuan, has fully started operation, and the area of its cross-border e-commerce bonded warehouse has expanded to 3,104m<sup>2</sup>. At the same time, in order to promote the continuous improvement of the cross-border e-commerce business system of Liaoning Province and the development of higher quality, we have established a cross-border e-commerce enterprise alliance of agricultural products in order to optimize the industrial environment of agricultural products. The "Internet +" model is also widely used in the agricultural products industry.

#### (1) Current situation of cross-border e-commerce talent cultivation

Since 2022, Liaoning Province has launched the "Head Goose" project to cultivate leading figures in rural industrial rejuvenation. On a whole, the project emphasizes the high standards of training subject, training object and training mode. According to the "four-one" training strategy of "one month of intensive teaching, one semester of online learning, a series of visits and visits, and one tutor's guidance", we are committed to the precise implementation of the project, achieved remarkable results, and successfully built an "MBA" for farmers. The cultivation work is carried out in Zhejiang University, China Agricultural University and Shenyang Agricultural University. It is mainly planned to cultivate 600 "head geese" in various directions including planting, horticulture, animal husbandry, e-commerce operation, agricultural products processing and marketing promotion.

#### (2) Policy support of the Liaoning Provincial Government

Since 2015, China's State Council has vigorously introduced relevant cross-border e-commerce export policies, and set up Dalian, Liaoning Province as an experimental base for cross-border e-commerce export, providing a large amount of financial support to Dalian City, independently established a cross-border e-commerce export trading platform and set up a special logistics center. In 2016, the Liaoning Provincial Government implemented the policy of "Implementation Opinions of the General Office of the Liaoning Provincial People's Government on Accelerating the Development of Rural E-commerce", established the export supply chain of cross-border e-commerce of agricultural products, created a new model of agricultural products sales, and opened the international sales channels of agricultural products. In addition, in 2017, the Liaoning Provincial government listed agricultural products in Shenyang, Dalian, Yingkou and other regions. With the support of national policies, it will continuously expand cross-border e-commerce sales, promote the complete combination of agricultural products and cross-border e-commerce export, and further improve the development of cross-border e-commerce export trade of agricultural products in Liaoning Province. Later, in 2020, the Liaoning Provincial government will continuously strengthen the establishment of cross-border e-commerce export trading platform, organize and hold cross-border e-commerce export training work, and continuously carry out the promotion activities of cross-border e-commerce export of agricultural products, so that the agricultural products of Liaoning Province are favored by international consumers.

#### (3) Analysis of geographical location conditions in Liaoning Province

Liaoning is located in the center of the Northeast Special Economic Zone, the Bohai Rim economic Zone and the broader Northeast Asia economic zone. It is not only the main channel for international trade on all continents, but also the transportation of China.

### 3. Problems and Challenges Existing in the Cross-border Development of Agricultural Economy in Liaoning Province

Although the cross-border development of agricultural economy in Liaoning Province has made some achievements, there are also some problems and challenges, mainly manifested in the following aspects:

#### 3.1. The Internal Structure of Agricultural Products E-commerce is Not Mutually Systematic

At present, the internal structure of agricultural products e-commerce presents a state of mutual isolation. Online trading of agricultural products mainly covers online trading of futures and options, electronic trading of bulk commodities, B2B trading, online retail, community group buying, takeout e-commerce, fresh e-commerce, prefabricated vegetables e-commerce, live streaming e-commerce, cross-border e-commerce and barter e-commerce of agricultural products. Although the business areas of these e-commerce are different, as a channel of agricultural products e-commerce, they should form an organic whole. In this organic whole, e-commerce platform and logistics enterprises are the two most critical factors, but also the two fastest developing elements at present. Agricultural products e-commerce and agricultural products entities should constitute an organic whole, so as to give full play to their potential functions. However, the reality is not the case, a kinds of sales channels are independent, independent, lack of mutual contact, which seriously hinders the effective play of its function. In agricultural products e-commerce, the sales of agricultural products entities is the core link. The competitive behavior in the e-commerce industry is complicated, including the competition between platforms and between different brands, as well as the competition between the same brand in the same platform and between different platforms. Taking the recent statement of multiple brands that they do not authorize the store of a platform as an example, it can be seen that the subsidy behavior of the platform has caused the mutual competition between brand owners and channel owners. In fact, if different agents of brand owners enter different e-commerce platforms, then the agents on the subsidized platforms will have a price advantage and adopt unequal competition with the agents on other platforms, leading to chaos in the channel system of brand owners, and even damage the brand reputation of brand owners because of the low price.

#### 3.2. Low-price Competition of Agricultural Products E-commerce

People often say that "low competition, starve to death, kill customers", the current, alibaba, jingdong and many other big platform, with a lot of low price, many anchor live with low price, to sales, to traffic, to fans hero, as the only goal, lead to agricultural electricity homogeneity, it is easy to lead to agricultural electricity astray.

Suphibit the enthusiasm of producers and operators to improve quality transformation. The low price of a large number of low-quality agricultural products temporarily found a market, completed the transformation of products to goods, but also to bring certain benefits to producers and operators. However, the low quality of the popular signal transmission makes some agricultural production subjects accustomed to rely on the low price of the tail goods processing function. This has reduced the enthusiasm of agricultural production subjects to participate in the industrial green transformation, standardized production and brand creation, so that it is difficult to form a new development pattern of agricultural industry with quality, brand, standardization and scale. In the long run, the low price of agricultural products damages the long-term income increase space of agricultural producers and operators and the development potential of local agricultural industry.

The most important reason for this is the lag of brand development. Agricultural products have the concealment of quality and the lag of utility, and the problem of quality information asymmetry is more obvious in the sales of e-commerce channels. Brand is the signal and guarantee of the quality and quality of agricultural products under the background of information asymmetry. It is an effective means to reduce transaction costs and bridge the information gap between producers and consumers. However, due to the relative lag in the development of agricultural products brands in China at the present stage, the insufficient cultivation of competitive commercial brands, few regional public brands and poor maintenance, the phenomenon of "characteristic, no brand" and "brand, no influence" is more common, thus providing the possibility for "de-branding" agricultural products at low prices.

### 3.3. The Homogeneous Competition of Agricultural Products E-commerce is Serious

No matter in the e-commerce or offline market, the homogenization of landmark agricultural products is very common. From the perspective of brand building, the high homogeneity of agricultural products is one of the key factors causing this phenomenon. The so-called differentiation strategy is to target products according to consumer needs, and to develop characteristic agricultural products with differences or uniqueness through the research of different market segments. Non-processed produce products such as vegetables and fruits do not differ significantly in appearance and internal quality, but show a high degree of consistency in nutritional value, characteristics, and texture. Consumers often struggle to tell whether there are differences between them, which affects the willingness to buy. For example, the sugar orange in Guangxi is not much different from the sugar orange in Guangdong, while the Red Fuji apple in Shaanxi and the Red Fuji in Yantai are equally striking.

Take the frozen orange in Huaihua, Hunan province, as an example, which mainly produces three major counties.

- 1) Mayang (more than 40%).
- 2) Hongjiang (more than 30%).
- 3) Zhi River (the production ratio is about 25%).
- 4) Others such as Zhongfang County, Xupu County, Chenxi County, etc. (a few).

Since the slow sales in 2015, the power of Internet e-commerce took the lead in making ice orange online. From the express fee was still 8 yuan (5 kg) to 2020, the express fee was reduced to 3.5 yuan (5 kg). The city's shipments increased from 100,000 in 2015 to 15 million now, an increase of 150 times. The terminal sales price was reduced from 39 yuan / box in 2015 to the current 19 yuan / box.

The low-price competition of agricultural products on e-commerce platforms is actually due to the lag of the competition mode. This disorderly competition situation seriously weakens the operation efficiency of agricultural products e-commerce. Traditional agricultural products e-commerce has the phenomenon of homogeneous competition, which is mainly manifested as product similarity, service convergence and price convergence. Due to the adoption of homogeneous competition mode, which leads to high competition cost and low economic benefits, most e-commerce companies are facing losses. The short closure of these companies has seriously hindered the sustainable development of agricultural products e-commerce. There is still a long way to go to realize the goal of "chain development" and "ecological development". Therefore, it is of great significance to study the coordination mechanism of the supply chain of agricultural products e-commerce industry.

### **3.4. Agricultural Products E-commerce Cannot Be Integrated with the Real Economy**

The integration and development of agricultural products e-commerce and the real economy is particularly important in the current economic environment. However, in reality, we find that despite the rapid development of agricultural products e-commerce, the integration with the real economy is far from reaching the ideal state. Most market players are still in the primary stage of e-commerce application, only a few have tried to enter the second stage, and the real "integrated development" stage is out of reach.

There are many reasons for this situation, among which the most prominent is the lack of systematization and coordination of relevant policies. The development of agricultural products e-commerce needs the guidance and support of policies, but in practice, policies often lack coherence and coordination, leading to market entities feeling confused and powerless when dealing with policy changes. In addition, the limited international competitiveness of agricultural products is also an important factor that restricts its development. Due to the lack of agricultural products quality, brand, packaging and other aspects, it is difficult for China's agricultural products to obtain a competitive advantage in the international market.

In addition, the shortage of professional talents is also one of the bottlenecks restricting the development of agricultural products e-commerce. Agricultural products e-commerce needs not only talents with e-commerce skills, but also compound talents who are familiar with agricultural knowledge and understand the market demand. However, at present, such talents are relatively scarce in the market, leading to many difficulties in the operation, promotion and other aspects of agricultural products e-commerce.

## **4. Solutions to the Problem of Cross-border E-commerce Export of Agricultural Products in Liaoning Province**

### **4.1. Improve the Structure of E-commerce Platform and Build a Value Co-creation Network**

Build a value co-creation network based on user data drive. According to the value co-creation theory of Puhara and Ramaswami (2000), value is not independently created by enterprises themselves, and users do not passively accept value, but actively participate in the process of value creation. Therefore, the benign interaction between enterprises and consumers is the premise of realizing value creation. Zhou Wenhui et al. (2015) believe that the development of Internet interactive technology provides realistic possibilities for the value co-creation of e-commerce platforms and bilateral users, and analyzes the role of value co-creation on the development of Taobao.

In order to promote the ecological development of the entire e-commerce industry, it is necessary to build an e-commerce value to create a multilateral network. Such a value co-creation network is composed of platforms, merchants (including brand owners and channels), consumers and other multiple interest subjects, forming a multilateral network. Through design benefit compatibility mechanism, guide the multilateral members from zero and (even negative) to the positive sum game, from confrontation to cooperation, form a "community", makes the interests of the subject maximization and the value of the overall network maximization goal, and network value and by the subject through user data sharing, collaboration way to create together.

In addition, the Liaoning province government should actively promote the growth of agricultural enterprises, the development of small and medium-sized enterprises, and combined with cross-border electricity sales of agricultural products, continue to strengthen supervision of enterprises and the quality of agricultural products, to ensure that cross-border

electricity exports of agricultural products quality meet international standards, and further broaden the international sales channels of agricultural products in Liaoning province.

#### **4.2. Avoid Malicious Competition of Low-cost Agricultural Products and Optimize the Development Environment of E-commerce**

By further optimizing the development environment of e-commerce and standardizing the behavior of e-commerce. We should further encourage and support the development of various types of e-commerce enterprises and e-commerce platforms, and actively develop new forms of business such as live streaming e-commerce and real-time retail. At the same time, we should continue to strengthen the supervision of the marketing behavior of e-commerce enterprises and e-commerce platforms, guide and encourage e-commerce platforms and e-commerce enterprises to establish associations, alliances and other industrial organizations, and form a collaborative governance structure of government departments and self-discipline of industry organizations. This diversified governance mode is conducive to avoid e-commerce enterprises and e-commerce platforms falling into low-level or vicious flow competition, and is conducive to avoid low-price agricultural products becoming tools for platform drainage and flow competition.

The data elements of cross-border e-commerce enterprises and e-commerce platforms should be taken as an important basis for the formulation of rural industrial planning and policies. Adjusting and optimizing the rural industrial structure to match the demand structure of urban and rural residents is a basic measure to solve the problem that agricultural products cannot be sold or sold at a good price. E-commerce enterprises and e-commerce platforms have a large amount of data, and making full use of these data in rural industrial policies and planning can improve the forward-looking and scientific nature of rural industrial policies and industrial planning. Governments at all levels should take the data elements of e-commerce enterprises and e-commerce platforms as an important basis for formulating rural industrial planning and policies, so as to alleviate the problems of regional planting structure mismatch caused by overcapacity and production structure and consumption structure mismatch.

#### **4.3. Weakening the Status Quo of Homogenization of Landmark Agricultural Products E-commerce**

The optimization and management of agricultural e-commerce is an important issue at present to improve the market environment. We need self-restraint management and avoid excessive reliance on low-price competition. At the same time, the government should increase its support to promote the rapid growth of the agricultural e-commerce industry. Give full play to the data and network advantages of e-commerce platforms, explore digital solutions for the digital sales of the whole agricultural industry chain, and help the transformation, upgrading and high-quality development of agriculture. Policy support can guide e-commerce platforms to go deeper into the agro-related industries, and encourage the Internet and digital enterprises to play a key role in the agricultural industry chain. In combination with the national digital countryside and "Internet +" agricultural products out of villages and cities, we are carrying out digital trials of agricultural industry at the county level. Integrate e-commerce big data and digital technology in production, quality control, quality and safety traceability, supply chain management and service and other fields. Through the establishment of industrial alliances and joint construction and sharing mechanisms, we will promote the transformation of agricultural production to specialization and scale, realize the efficient allocation of resources, improve labor productivity and market competitiveness, and promote the process of agricultural modernization.

#### 4.4. Digitalization of Circulation Enables the Integration of Rural Areas and Three Industries

Liaoning province actively promotes the strategy of "digital business and developing agriculture" to promote the deep integration between digital economy and real economy, provide effective empowerment for rural areas, and promote rural revitalization. Although the problem of insufficient total agricultural products has been alleviated in recent years, the quality and efficiency of agricultural development are still low, and the competitiveness is not strong. Intelligence and digitalization are not only the inevitable direction of the upgrading of agricultural products, but also constitute the basic elements to improve the modernization level of agricultural industrial chain and supply chain.

At the same time, in order to realize the integration of rural three industries, the required resources can be directly reached in rural areas through efficient circulation channels to enhance competitiveness. For example, the development of digitalization, networking and intelligence has given birth to the village collective economic model. Combined with "new retail" and "new agriculture", the direct connection between online operation and offline production, transportation and sales is realized to meet the higher requirements for each link. Our ultimate goal is to scientifically understand and master the core concept of the integration of the three industries, change the traditional concept of emphasizing production while ignoring circulation, further improve the relevant policies and regulations of the integration of agricultural products circulation and rural industries, and emphasize the interaction, symbiosis and space expansion between urban and rural areas. In the process of promoting the digital innovation of rural circulation, we should follow the principles of building large-scale circulation, guiding large-scale production and forming large markets, further expand the scale of rural circulation, and strive to reduce the circulation barriers that hinder the integration of rural tertiary industry.

### 5. Conclusion

Due to the gradual popularity of cross-border e-commerce exports in China, the growth rate of agricultural products exports in Liaoning province has slowed down. In recent years, the cross-border e-commerce of agricultural products in Liaoning province has developed rapidly, but its overall scale is still small, and most of them are small and medium-sized enterprises. As the traditional cross-border export mode can no longer meet the needs of modern society, and the government and enterprises do not have a deep understanding of cross-border e-commerce export, this leads to many problems in the process of cross-border e-commerce export of agricultural products, so that they do not effectively enter the international market of agricultural products in Liaoning Province. Therefore, it is of great significance to study the development of cross-border agricultural products e-commerce in Liaoning Province. In view of the rapid progress of Internet technology, this study aims to deeply explore the challenges of the cross-border e-commerce export of agricultural products in Liaoning Province, and to provide practical solutions to these problems. The study found that the cross-border e-commerce export trade of agricultural products in Liaoning province has problems such as unreasonable product structure and imperfect logistics system, which not only hinders the expansion of the export scale of cross-border e-commerce of agricultural products, but also affects the transformation and upgrading of Liaoning's agricultural economy. Only when we attach great importance to the growth of agricultural cross-border electricity export trade in Liaoning province, we can really improve the quality of agricultural products, strengthen the logistics management of agricultural products, and under the government support, strengthen cross-border electricity professionals training, to promote the agricultural cross-border electricity export business boom in Liaoning province. By analyzing the current situation and

main problems of cross-border e-commerce in Liaoning Province, this paper puts forward relevant countermeasures and suggestions.

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