

## Research on Optimization of Agricultural Products e-Commerce Logistics Distribution System

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**Keywords:** E-commerce logistics, Agricultural products, Distribution system improvement

**Abstract:** With the development of my country's e-commerce, my country's logistics demand is now increasing. my country is a large agricultural country, and agriculture is the foundation of our national economy. The development of e-commerce for agricultural products has become an important topic in the economy. However, the development of e-commerce is inseparable from logistics and distribution. Although the government has given great support to the e-commerce industry of agricultural products, due to various factors, it is still difficult to realize e-commerce logistics and distribution of agricultural products. The optimization of the agricultural product e-commerce distribution system cannot be delayed.

### 1. Introduction

Under the information platform and logistics distribution technology, agricultural product supply chain participants can quickly obtain market information, complete transactions online, and realize distribution offline, effectively reducing the occurrence of information asymmetry in the supply chain. Solve the problem of “small farmers and big markets”, save agricultural product transaction negotiation costs and logistics costs, and realize the integration of information flow, logistics, business flow and capital flow of agricultural products. To achieve the electronic management of the supply chain and form a complete e-commerce supply chain. With the rapid development of e-commerce of agricultural products, the logistics distribution model and distribution system of agricultural products need continuous innovation to meet the needs of market development. The logistics and distribution resources of agricultural products are scattered, and small and scattered demand for agricultural product distribution continues to emerge. It is urgent to optimize the matching of logistics resources and distribution tasks to achieve reasonable optimization of resources. In this paper, through the construction of a logistics distribution system, the optimal allocation of logistics resources and the reasonable allocation of logistics distribution tasks have certain guiding significance for the reduction of distribution costs. The construction of agricultural product logistics distribution system for agricultural product e-commerce enterprises and the development of my country's overall agricultural product logistics also have certain reference value. The distribution of agricultural products is at the core of the entire logistics distribution system, and the transaction of agricultural products online is realized through distribution. In order to meet the needs of customers and reduce logistics costs, various agricultural product e-commerce enterprises need to choose a suitable distribution model, a reasonable distribution route and optimize the logistics distribution system.

### 2. The Optimization Function and Status Quo of Rural e-Commerce Logistics Distribution System

At present, there are e-commerce in various fields in our country. The vigorous development of e-commerce has changed people's life style and brought many conveniences to people's lives. However, the development of rural areas and cities are different. When all aspects of the development of rural areas are affected to a certain extent, it is particularly important to optimize the rural logistics distribution system. By optimizing the e-commerce logistics and distribution system, it can effectively develop characteristic agriculture and realize the regionalization and

large-scale development of agriculture. This will play a positive role in the overall optimization of the logistics and distribution system. It can also maximize employment and attract talents to return to their hometowns to start businesses. In order to promote the overall development of rural areas.

Optimizing the rural logistics distribution system of e-commerce has its importance and has a positive effect on adjusting the rural economic structure. Farmers can determine the market demand situation and future price trends of products through rich network information, and determine production plans in close combination with their own conditions. By optimizing the rural logistics distribution system of e-commerce, the problem of information inequity can be effectively eliminated, corresponding sales platforms and models can be established, and the development of production of scattered farmers can be effectively organized, which plays a positive role in optimizing the rural economic structure.

Optimizing the rural logistics and distribution system of e-commerce can play a positive role in increasing the sales of agricultural products and provide help for the development of the rural economy. Optimizing rural logistics and distribution can improve the overall production quality of agricultural products and help solve the problem of agricultural product sales. Using e-commerce, farmers can effectively obtain sufficient sales information to recommend agricultural products to consumers across the country, increase sales of agricultural products, and increase economic income. The current situation of the optimization of the rural logistics distribution system based on e-commerce There are still shortcomings in the development of the rural logistics distribution system in my country. The rural logistics distribution system based on e-commerce needs to be further optimized. The problems existing in the construction of the actual distribution system are mainly reflected in The following levels:

The construction of e-commerce rural logistics distribution system has the problem of low degree of informatization, which directly affects the efficiency and quality of logistics distribution. The level of informatization development in my country's rural and urban areas is not equal, and the market's investment in the construction of rural e-commerce platforms is relatively weak. This will result in the lack of a good connection between e-commerce and logistics distribution systems in rural areas and affect the efficiency of logistics distribution.

The construction of rural logistics distribution system based on e-commerce has many shortcomings. For example, the rural e-commerce logistics distribution system has not been established, and resources cannot be shared. The government's policy support for the construction and development of the rural e-commerce logistics system is insufficient. There are imperfections in the construction of the e-commerce market logistics standard management system, which will inevitably affect the transmission and sharing of e-commerce resources in the rural areas of various regions, and affect the construction effect of the logistics distribution system. The problem of irregularities in the e-commerce rural logistics distribution process is more obvious. The rural e-commerce channels are relatively narrow, and the lack of standardized implementation of the logistics distribution service process will inevitably affect the improvement of the logistics distribution system.

### **3. Distribution System of Smart Product Logistics under e-Commerce**

The construction of the agricultural product logistics distribution system has been initially completed. With the development of e-commerce and the state's support for the development of agriculture, rural areas and farmers, a large number of agricultural products are stored and distributed, and large agricultural products wholesale markets have been established one after another. Rural road traffic has been continuously improved, and agricultural product planting bases, agricultural cooperatives, agricultural product sales outlets, etc. have been gradually established, basically forming an agricultural product logistics distribution network system. Speed up the construction of agricultural product logistics information platform. A rural agricultural product circulation chain has been built, one market town and one city, and more and more county-level and municipal agricultural departments have established specialized agricultural websites. Self-operated logistics of agricultural products is in a dominant position. Agricultural products are different from

other commodities. They have higher requirements on the quality of logistics personnel, strict requirements on the distribution facilities and equipment, and strict restrictions on the delivery time. At present, there is no professional agricultural product logistics distribution company that can meet the requirements of cold chain distribution. The use of the H-th party logistics distribution cannot fully meet the needs of distribution, and the control of logistics is not enough, and the distribution plan can not be adjusted well according to the needs of the enterprise. Therefore, most agricultural products operating companies choose to distribute by themselves. Many organizations participate in the logistics and distribution of agricultural products. Due to the wide variety and wide distribution of agricultural products, there are more participants in the agricultural product logistics market. For example, there are agricultural product growers, agricultural cooperatives, logistics companies, agricultural product production and processing companies, and intermediate purchasing agents. The main body of W agricultural product logistics has played a certain role in promoting the development of agricultural product logistics.

The construction of agricultural product logistics facilities is insufficient and the distribution system is not sound. Product production is geographically strong. Also, most agricultural products are heavy and perishable, and have special requirements for storage, processing, and transportation. However, there are still many problems in the e-commerce distribution of most B2C agricultural products in my country. For example, the distribution concept is not unified, the overall degree of distribution is not coordinated, and the degree of socialization and specialization of distribution is low. This has a serious impact on the timely, accurate, and safe delivery of goods to consumers.

#### **4. Optimization Method of Agricultural Product e-Commerce Logistics System**

In view of the uneven quality of agricultural products in e-commerce, there is an urgent need for a unified standard for the quality of agricultural products, because various problems will be encountered in the actual transportation process. Therefore, the packaging and storage of agricultural products is particularly important. To a certain extent, the packaging and storage methods of agricultural products largely determine the logistics time of agricultural products. For example, before the corresponding packaging of agricultural products, a unified standard should be formulated for the cleaning degree of the soil, microorganisms and residual pesticides of the agricultural products, so that the freshness of the agricultural products can be maintained in a relatively good state. For example, it is stipulated that the residual amount of microorganisms on the surface of eggs is not allowed to exceed a certain value, and each egg is strictly tested for surface microorganisms.

In view of the lack of professionals in my country's agricultural product e-commerce logistics at this stage, we have to pay attention to it, because the lack of professionals will directly hinder the development of my country's agricultural product e-commerce logistics industry and require existing logistics personnel. They have a very high level of professionalism. For example, in the real e-commerce distribution process of agricultural products, it is necessary to solve the phenomenon of decay and deterioration of rural apples during the transportation process. If the technical personnel cannot solve this problem well, it will affect the transportation process. The quality and level of professionals can be improved by enhancing the training of professionals.

Although the lack of corresponding infrastructure cannot be solved quickly, there must be a sense of solving it. The lack of infrastructure will directly affect the logistics and distribution process of agricultural products, so it is very necessary and must be widely understood. Therefore, the improvement of infrastructure should be put on the agenda as soon as possible. For example, in the process of electronic logistics and distribution of agricultural products, the requirements on the road surface are getting higher and higher, but to the rural cadres, they are not aware of the importance of this problem. They do not know that this has a greater impact on the logistics of agricultural products. The efforts to rectify the road surface will definitely make the electronic logistics and distribution of agricultural products more convenient and faster.

In view of the lack of effective control measures in the current agricultural product e-commerce logistics system, the government should be strongly encouraged to issue corresponding policies and

regulations to make the agricultural product e-commerce logistics system more standardized. This is also very beneficial to the application of e-commerce in agricultural products. The economic benefits of business have a great role in promoting. For example, in the process of agricultural product e-commerce, in response to some policies, laws and regulations proposed by the government for the e-logistics of agricultural products, such as the promulgation of detailed rules for the standardization of agricultural product e-logistics, these rules are to allow the agricultural product e-commerce process to be subject to the macro-control of laws and regulations. The logistics of agricultural products is also very helpful.

To complete the construction of the rural logistics distribution system of e-commerce, it is necessary to strengthen the integration of e-commerce resources, combine with the development needs of the network age, and do a good job in the construction of a three-level rural logistics network system to ensure that all links can play a positive role. Optimize the design and construction process of logistics distribution network system through village transport transfer stations, township logistics transport transfer stations and county-level logistics centers, and fully reflect the value of rural e-commerce logistics distribution services. In order to actively promote the sound development of the rural e-commerce logistics distribution system, the local government needs to actively guide postal and market logistics enterprises to integrate e-commerce resources, give play to the shared value of resources, and use the entire network for public use, thereby effectively improving resource utilization. E-commerce companies and logistics companies form a close cooperative relationship and highly integrate supply and demand resources, which can greatly improve the efficiency of logistics distribution. According to the development needs and supply needs of different rural areas, logistics companies plan the number of logistics network service stores and truck delivery, and implement logistics delivery operations through self-pickup points, township logistics centers and shuttle buses, so as to reduce the cost of logistics delivery services to the maximum. Limit the efficiency of logistics distribution.

## 5. Conclusion

At present, e-commerce has become the development direction of future trade. Although my country's e-logistics industry is still in the development stage, the laws and regulations on e-commerce are not perfect, and all aspects of facilities are also very lacking, but our country has realized the importance of e-commerce as an important part of the e-logistics industry, e-commerce of agricultural products has attracted widespread attention. Therefore, it is particularly important to optimize the e-commerce logistics distribution system of agricultural products.

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