

# Research on Logistics Supply Chain Management in the Process of Online Sales of E-commerce Agricultural Products

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**Abstract.** If the country wants to develop rural E-commerce, the Internet and mobile Internet should reconstruct a new system of rural commerce and trade within the prefecture-level city. The E-commerce platform builds an information management system for online sales, and the platform improves the operational efficiency and data service capabilities of agricultural products; develops online sales to solve the problem of rising agricultural products, connects urban and rural E-commerce online sales of agricultural products, and provides convenience for community supermarkets and conveniences in ground-level cities. stores and various community terminal service online stores. On the one hand, the operation service center with prefecture-level cities and counties as the sub-centers introduces the cooperation of E-commerce service enterprises to provide services for the online sales of agricultural products, which effectively improves the logistics supply chain management in the process of online sales of E-commerce agricultural products.

**Keywords:** Agricultural Products; Online Sales Logistics; Supply Chain.

## 1. Introduction

Rural economic development has become a focus of government and social attention. However, at this stage, due to the influence of various factors, the development of E-commerce rural economy is constrained to a certain extent: in the production process, the production, supply and marketing system of rural means of production is not perfect. , commercial circulation is inefficient, market information is lagging, resulting in asymmetric rural and market information, in addition, farmers' brand awareness is weak, and some characteristic crops cannot be packaged for sale; in the sales link, high value-added agricultural products The sales channels of the farmers are not smooth, the multi-link distribution channels increase the extra cost, and the actual income of the farmers is very low. The development of rural E-commerce can greatly improve this situation, but the lack of talents in E-commerce in rural areas will undoubtedly become a difficult problem [1].

## 2. The Concept of Agricultural Supply Chain

Supply chain is a brand-new management model gradually formed with the development of society. Online sales can divide the supply chain into agricultural product supply chain and industrial product supply chain according to the characteristics of the product itself. The supply chain of fresh agricultural products mainly includes a networked chain composed of farmers, planting/breeding bases, intermediate processing companies, cold chain logistics companies, large wholesalers, retailers, online sales of E-commerce agricultural products, and consumers. Movement along this chain towards consumers [2].

## 3. Problems Existing in Online Sales of Agricultural Products

With the continuous development of online sales of agricultural products, people buying agricultural products online has become the norm, but it has also brought many problems, mainly in the following aspects:

### 3.1 Incomplete Cold Chain Logistics Facilities

Agricultural products are easy to lose, have a high rate of deterioration, and have a short life cycle, which requires high cold chain logistics and transportation. However, E-commerce agricultural products E-commerce has developed relatively late, and the cold chain logistics facilities are not perfect and imperfect, and the distribution services of agricultural products are basically outsourced to third-party logistics companies. It has become an urgent problem for agricultural products E-commerce [3]. See Figure 1.

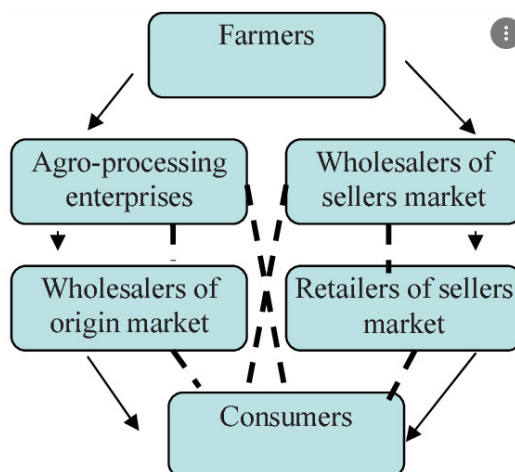


Fig 1. Agricultural product supply chain concept system

### 3.2 High Logistics Cost

Agricultural products are different from other products. Due to their own particularities, they need to be stored at low temperature during transportation and distribution, and at the same time, the requirements for the whole process of the cold chain are particularly high. However, the rapid development of agricultural products E-commerce, the large market demand, and the strong timeliness of consumption have resulted in agricultural products. The logistics cost is several times that of other products [4].

### 3.3 The Quality Standards are not Uniform

At present, the E-commerce management system of agricultural products is not perfect and the market is not mature enough. The circulation of agricultural products requires strong cold chain logistics capabilities. The quality and freshness of agricultural products are closely related. It is imperative to establish a relevant quality monitoring system. At present, relevant social organizations are jointly formulating fresh agricultural product quality standards for online marketing, and standardizing and optimizing the online marketing of agricultural products. Shifting E-commerce from the field of circulation to the field of production, with the benefit-driven mechanism of the agricultural product traceability system, allows production enterprises to obtain returns from the construction of the agricultural product quality traceability system.

## 4. Research on the Logistics Supply Chain of Online Sales of Agricultural Products

The research hotspots of the development of E-commerce on the supply chain of fresh agricultural products mainly focus on the research of circulation mode and the research of coordination and optimization. Among them, the research on the circulation mode of the supply chain of fresh agricultural products mainly focuses on the comparative analysis of the existing circulation mode, the motivation for the change of the circulation mode, and the innovation of the supply chain mode.

Incentive mechanism and other perspectives. At present, there are relatively few research literatures on the application of smart logistics to agricultural product supply chains. Some scholars first constructed a new intelligent supply chain system for agricultural products from four aspects, including building an information sharing platform and improving basic technical facilities, and analyzed the operation and management of supply chain components and core modules. Based on the connotation characteristics and application value of the field, the operation process and promotion strategy of smart logistics of fresh agricultural products are proposed from four dimensions; it is proposed that intelligence can promote the transformation and upgrading of the agricultural product industry chain. It can be seen that the application of smart logistics in the field of agricultural products is a research on the development of the supply chain of fresh agricultural products. The paper illustrates the necessity of promoting the upgrading and development of the supply chain of E-commerce agricultural products from the analysis of the current situation of the supply chain of traditional agricultural products. See Figure 2.

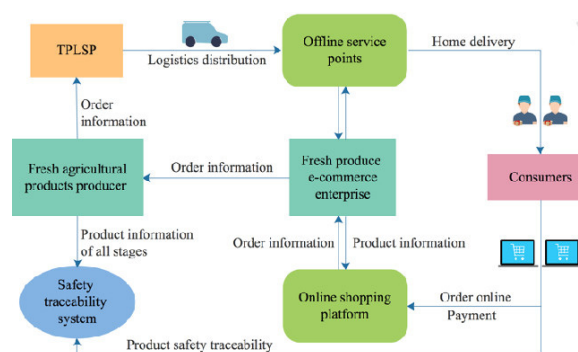


Fig 2. E-commerce agricultural product logistics supply chain management system

## 5. The Advanced Nature of E-commerce Agricultural Product Logistics Supply Chain Management Concept

### 5.1 Realize an Integrated Supply Chain

In the agricultural product logistics management based on supply chain management, in order to further optimize its system, a key strategy is to ensure that the management concept of the logistics supply chain is sufficiently advanced. First of all, as a manufacturer, in all technological processes of agricultural products, agricultural product enterprises should extend the two activities of material procurement and physical distribution towards material suppliers and customers respectively. Realize an integrated agricultural product logistics supply chain structure. Secondly, the inventory flowing in the supply chain should be the core of the entire agricultural product logistics management. In this way, the management concept of the logistics supply chain can be guaranteed to be advanced enough, and the rational optimization of the entire logistics system can be promoted.

### 5.2 Realize the Function Integration of the Whole Chain

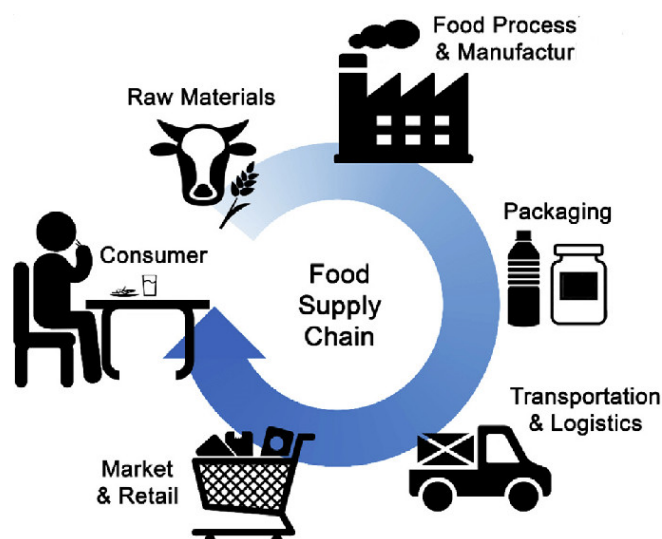
Pay attention to the good cooperation between enterprises in each node in the supply chain Because the logistics supply chain of agricultural products belongs to a whole, in order to realize the optimization of its logistics system, the cooperation between enterprises in each node in the supply chain should be strengthened. In the specific optimization, various agricultural product suppliers, agricultural product manufacturers, agricultural product distributors and agricultural product distributors must strengthen functional integration, and achieve complementary advantages through reasonable joint strategies. Only in this way can the rational optimization of the entire agricultural product logistics system be achieved and the sound development of the agricultural product industry be promoted.

### 5.3 Realize Online Network Information Sharing

Realize the rapid sharing of network information In today's network information age, in order to achieve a good optimization of the agricultural product logistics system, network information should be shared among all organizations in the supply chain, including inventory status information, production plan information and sales. information, etc. Only in this way can we respond to the actual needs of customers in real time, so that the logistics of agricultural products can be delivered in a timely and effective manner, and further enhance the sensitivity of enterprises to market demand perception.

## 6. Systematic Analysis of Online Sales of E-commerce Agricultural Product Logistics

Agricultural product supply chain system From the perspective of system science, agricultural product supply chain is a complex system, which is an organic whole with specific functions that combines several elements that interact and depend on each other in the process of agricultural production and circulation. Farmers refer to the producers of agricultural products based on households, which are characterized by small scale, large degree of dispersion, complex structure and low degree of social organization; agricultural cooperatives refer to the integration of resources of small-scale and scattered farmers in the form of cooperatives, with a view to Rural collective economic organizations that obtain economies of scale in the production and logistics of agricultural products are characterized by the ability to increase farmers' price control over agricultural products through economies of scale when facing agricultural product processing enterprises or sellers, and enhance the market competitiveness of agricultural products. Farmers within the cooperative benefit from the benefit-sharing mechanism. An agricultural product processing enterprise refers to an enterprise responsible for the procurement, processing, and post-processing sales of agricultural raw materials, semi-finished products, and finished products. Agricultural product processing enterprises are generally leading enterprises with certain strength in the local area. Their characteristic is that the location of the enterprise is usually relatively close to the production area of agricultural products, and it mainly deals with local characteristic agricultural products. It usually builds its own logistics platform and sales platform, which can provide farmers with Better service can effectively shorten the space-time distance between producers and consumers. See Figure 3.



**Fig 3.** Agricultural product logistics integrated supply chain supply chain management system

The agricultural product supply chain system has the characteristics of integrity, hierarchy and synergy. Among them, synergy is manifested in that with the development of modern agricultural

economy, the specialized division of labor in the production and circulation of agricultural products has become more and more detailed, and government departments, agricultural product producers, logistics companies and E-commerce companies cannot independently manage agricultural products from production, production, and distribution. All businesses in processing, inspection, transportation, sales, distribution, etc., can only enhance the competitiveness of the supply chain and deal with them together if they cooperate with each other, especially between the logistics of agricultural products in the core link of the supply chain and the E-commerce of agricultural products. risks and challenges to maximize overall benefits.

## **7. Optimization Strategies for the Supply Chain of Online Sales of E-commerce Agricultural Products**

### **7.1 Continuously Increase the Intensity of Information Technology Training**

The development of agricultural product logistics supply chain needs the assistance of information technology, and farmers generally lack information technology at present, so in order to better optimize the agricultural product logistics supply chain, information technology training should be taken as an important task, and relevant enterprises should develop timely The professional information system and the use of the system to carry out information technology training for farmers, so that farmers can master the use of the system. At the same time, the information on the supply and demand of agricultural products should also be actively released through the information system, and make full use of the advantages of the network to promote the production and sales of agricultural products by placing orders online, and use the direct communication between manufacturers and retailers to effectively promote the logistics supply of agricultural products The rapid development of the chain.

### **7.2 Take Full Advantage of the Internet to Share Data**

Under the traditional agricultural product logistics supply chain system, the reason why the scale effect cannot be formed is mainly due to the lack of effective data sharing, so the advantages of the rapid development of the Internet should be combined. All participants in the supply chain can actively use the network system to share product data, so as to improve the effectiveness of procurement activities, use the platform to closely connect all parties involved in the supply chain, and use data sharing to promote agricultural product trading activities. The normal development will enable the agricultural product supply chain to develop better. Active use of network technology to reduce middlemen The main reason why the traditional agricultural product logistics supply chain cannot achieve rapid development is that there are too many middlemen in the process of agricultural product circulation. Therefore, in the traditional agricultural product logistics supply chain mode, the price of agricultural products has been kept high, which is incomprehensible to farmers and consumers. With the application of current network technology, in the process of optimizing the logistics supply chain of agricultural products, it is necessary to actively use network technology to reduce middlemen, and use the direct communication between middle producers and consumers to better promote agricultural products transactions. Since this kind of transaction can be realized with the help of third-party logistics companies, it has economies of scale. Therefore, it can minimize the logistics cost in the process of agricultural product sales, so that more people can enjoy the benefits brought by the rapid development of agricultural product logistics supply chain.

### **7.3 Strengthen the Internal Supervision of E-commerce Enterprises**

In order to solve the problem that product quality does not meet consumer expectations, merchants, as the bridge between farmers and consumers, should strengthen internal supervision and strengthen source quality control. Judging from the current development status of fresh agricultural products, the offline marketing of agricultural products has been unable to adapt to the current competitive market economic environment. Instead, the main form of "Internet + fresh agricultural products" is to rely on

farmers, merchants and consumers to form logistics supply. The chain's sales model has been popular with consumers in recent years. Such a sales model can make the resources of fresh agricultural products relatively concentrated, making it easier for farmers to sell fresh agricultural products, and for consumers to obtain purchasing resources. In the early stage of establishment of merchants, the relationship between merchants and upstream suppliers is not strong, and it is difficult to stably provide fresh agricultural products with excellent quality. This instability builds up over time and cooperation, showing strong ties. In addition, merchants can also obtain a stable supply of fresh agricultural products by building their own upstream planting bases for fresh agricultural products. In the early stage, Baiguoyuan did not have a strong relationship with upstream suppliers, but in terms of supplier cooperation and upgrading, it actively strengthened the relationship with suppliers to achieve the integration of production and sales, including establishing a production and sales docking platform, investing in upstream planting bases, and organizing supplier conferences, etc. , to open up channels of market sales, financial insurance and agricultural material supply for growers, and realize efficient cooperation between Baiguoyuan and suppliers.

#### **7.4 Establish a Temperature Control Logistics Quality Control System for Fresh Agricultural Products**

The temperature control logistics quality control system for fresh agricultural products is to supervise and manage the whole process of the circulation of fresh agricultural products from merchants to consumers, and even conduct necessary intervention and control of the entire logistics activities. Fresh produce undergoes quality control to provide customer-oriented products and services. Improving the supply chain access mechanism and establishing a temperature-controlled logistics quality control system for fresh agricultural products can create transportation conditions that are conducive to the logistics and transportation of fresh agricultural products. The temperature-controlled supply chain of fresh agricultural products improves the quality of logistics services by establishing a supply chain logistics quality management and control system. Introduce industry associations and third-party agencies to supervise and manage supply chain logistics activities to achieve fairness and authority in management and control. Merchants should also set up access mechanisms to regulate and limit the review and selection of their logistics companies. The platform examines the qualifications of the entering enterprises, so as to understand the real operation situation of the logistics enterprise, and judge whether the logistics enterprise can carry out service activities that meet the requirements for the transportation of fresh agricultural products.

#### **7.5 Optimize the Information Management System of the Industry Chain and Establish a Consumer Supervision and Feedback System**

The management of agricultural product supply chain is not only the management of product supply equipment and processes, but also the management process of market information exchange. In order to solve the problem of information asymmetry in the logistics supply chain, it is necessary to establish a consumer supervision and feedback system and improve the communication platform between consumers and farmers, so that consumers can supervise farmers and related enterprises and provide timely feedback on problems. Constructing a consumer information feedback system in the process of supply chain management can not only help consumers feedback product information, but also help farmers and merchants to obtain more market demand information, so that farmers can adjust fresh product picking and production plans in a timely manner to improve production. Fresh product sales and range.

### **8. Conclusion**

To sum up, the coordinated development of logistics and E-commerce in the supply chain of E-commerce agricultural products is imperative, and it is a key part of accelerating the modernization of E-commerce agricultural economy. In order to improve the relationship between the two industries,

we should rely on a good policy supporting environment, continuously optimize the loyalty relationship between the two industries, effectively release the logistics needs of E-commerce, and simultaneously strengthen the development of logistics services to create greater synergies.

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