

Optimization Analysis of Agricultural products supply chain under E-commerce Environment

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Abstract

Agriculture is the foundation of the national economy, the state vigorously supports the construction of modern agriculture, and speeds up the transformation of agricultural development mode, that is, the reconstruction of agricultural product supply chain is urgent. The combination of agricultural supply chain and e-commerce can better improve the supply chain of agricultural products. In the environment of electronic commerce, we should promote the effective circulation of agricultural products, establish a standardized transportation system, and introduce advanced logistics technology, so as to ensure the safety and quality of agricultural products, reduce logistics costs, and increase economic benefits. The circulation of agricultural products to achieve diversification and other objectives.

Keywords

Agricultural products, e-commerce, supply chain, logistics.

1. Introduction

E-commerce has more advantages than traditional transaction mode, cost advantage is the main advantage of E-commerce, E-commerce has greatly improved logistics, The transmission and processing efficiency of capital flow and information flow can effectively reduce the transaction cost in the traditional transaction mode, especially the information search cost, and improve the commodity transaction efficiency. [1]In recent years, the development trend of e-commerce in China is advancing by leaps and bounds. Therefore, making use of the new technology under electronic commerce, changing the mode of operation of agricultural product supply chain and giving full play to the advantages of the combination of line and line will have a profound influence on the competition and cooperation relationship between strategic alliance of supply chain, and even cause The rapid transformation of the agricultural product industry.

Because of the integrated thought of supply chain management, people pay more and more attention to the development of supply chain, especially in the environment of electronic commerce, studying the optimization of agricultural product supply chain operation can not only reasonably predict the demand range of agricultural products, but also integrate the resources of each node. Improving circulation efficiency, reducing circulation cost and realizing agricultural modernization to solve the "three agricultural problems" in our country also lay a theoretical foundation for the development of agricultural products.

Review of relevant literature

From the angle of supply chain integration and quality control of agricultural product supply chain, Leng Zhijie (2015) has designed the information system of integrated merchant flow, logistics and quality information multidimensional information, which realizes the agricultural product quality can be traced back to the whole supply chain and the terminal can be identified. To provide consumers with personalized quality screening services . [2]Sui Po-wen (2016) analyzed the present situation of agricultural product supply chain coordination mechanism in China from three aspects: realization mechanism, constraint mechanism and risk analysis, and pointed out the main problems and the direction and key points for further research.[3] Cao Wujun, Yang Wenshui (2017) and others introduced a New supply chain Group In the form of weaving, the insurance provider, supplier and

retailer are regarded as the three-level supply chain system. Under the option contract and agricultural insurance, the profit model of the whole supply chain and its members is established, and the coordination of the supply chain is discussed. And compared with the traditional supply chain organization, finally through a numerical example to verify.[4] However, Bin (2018) and others, from the perspective of the quality of fresh agricultural products, have studied the convenience needs of consumers of fresh agricultural products under the "Internet" environment. The O2O business model of "Internet" fresh agricultural products supply chain considering the convenience of consumers is put forward, which can reduce the cost of agricultural products. Significant effects. [5]The above research only aims at the agricultural products unilateral analysis, does not apply the agricultural product supply chain integration thought to the agricultural product supply chain logistics system under the electronic commerce, does not carry on the combing to the agricultural product supply chain existence question effectively.

To sum up, this paper will analyze the existing situation of agricultural product supply chain from three aspects of agricultural product marketing site, logistics technology and agricultural product quality, and give some relevant solutions, in order to provide direction for the development of agricultural product supply chain. We will promote the modernization of our agriculture.

2. Summary of Related Theories of E-commerce and Supply Chain of Agricultural Products

2.1 Status of e-commerce development

E-commerce is a brand-new model, mainly refers to the use of computer technology, network technology, database technology for business activities. Now these technologies are gradually maturing in our country. The electronic commerce platform for the supply chain of agricultural products and the traditional commodity trading mode have laid a solid foundation for the economic development and construction. Because of its security, convenience, efficiency and other advantages, it has been favored by many traditional enterprises, and has been implemented and supported by relevant departments.

From the essence of electronic commerce, it is a methodology, which provides a platform for enterprises to transform and upgrade to guide the future development direction of enterprises. To change the current situation of three-stream independent logistics system of agricultural products in our country in the past, make them better link up. The optimization of agricultural product supply chain under electronic commerce is not a simple combination of agricultural products and electronic commerce, nor is it a separate view of each link of agricultural product supply chain, but using the idea of electronic commerce. To provide a comprehensive development direction for agricultural products, combining the on-line and offline channels, using the idea of integration, fully realize the sharing of resources, improve the supply chain development of agricultural products. Exhibition.

2.2 Connotation of agricultural supply chain

The so-called supply chain of agricultural products, that is, the control of the core enterprises over the various links of the process from purchasing agricultural products to finished products, connects the various nodes to form a network to reduce the seasonal nature of agricultural products. Demand instability and difficult to estimate factors such as bullwhip effect.

Supply chain management of agricultural products is mainly the integrated management of fresh agricultural products, bulk agricultural products and transnational agricultural products. The so-called supply chain of agricultural products refers to farmers as the center, farmers, wholesalers, agents, distributors, retailers and consumers as an organic whole, with agricultural products as the circulation object. Through the overall control of the whole circulation process to sell agricultural products to consumers.[6]And at the same time to satisfy the self-interest of the relevant node entities in the agricultural product supply chain, the so-called fresh agricultural products mainly include vegetables, fruits, flowers, meat, eggs, Fresh primary products, such as milk and aquatic products, which are perishable and fragile, Therefore, fresh degree is an important indicator of the value of these fresh

agricultural products.[7]The bulk of agricultural products specific to those in the economic structure of commodity agriculture has a greater weight of agricultural products. As for transnational agricultural products, they refer to agricultural products traded by many countries or regions in order to complement each other.

3. Main Problems in Supply Chain of Agricultural Products under E-commerce Environment

3.1 Sites dispersed and inefficient

On the one hand, China's agricultural level has long been in low mechanized production, farmers' land is limited, energy is limited, agricultural production is low and widely distributed, and even in some areas production is diversified and small-scale, usually in the units of households or farmers. The degree of organization is low. As a result, agricultural products can not achieve large-scale integration. At the same time, farmers as the main production of agricultural products, many of their understanding and understanding of the agricultural supply chain is relatively vague, so the agricultural product supply chain operation is not uniform, logistics costs increased significantly. In the environment of electronic commerce, the network information technology and big data are not fully used to predict the agricultural products, which leads to the time of selling agricultural products. And the region can not be effectively combined, the waste of agricultural products. On the other hand, logistics developed late in rural areas, rural infrastructure such as roads, logistics transfer stations, storage and handling equipment, The construction of distribution center is far behind the city, some places do not have a logistics center, even if there is, the scale is often relatively small, and there is a lack of unified planning, internal management confusion.

3.2 Inconsistent logistics standards and backward technology

Perfect infrastructure construction can promote the development of agricultural product supply chain. Because of the large investment in logistics infrastructure, the long payback period and the low rate of return, at present the rural logistics infrastructure is mainly built by the state to build a logistics system for agricultural products, although the logistics infrastructure is constantly improving. The level of logistics technology continues to improve, but still can not meet the demand of supply chain of agricultural products, it can be said that the backward infrastructure hinders the development of agricultural products. In rural areas, there is no professional logistics personnel team, most of the logistics operations have not yet achieved mechanical operations, in order to save costs, usually recruited temporary workers to complete the operation, most of these staff do not Are trained professionals.

3.3 Uneven quality of agricultural products

Nowadays, the problem of food safety is particularly prominent, so consumers are particularly concerned about the safety and quality of agricultural products, and the traditional supply chain of agricultural products is difficult to fully meet the demand of agricultural product safety. [8]First of all, for a long time, the small peasant economy of our country, the agricultural products mostly take the form of household production, the scale is small, the scope is wide, cannot carry on the unified management, even if appears the safety question, also is very difficult to trace the origin; Agricultural products processing enterprises and distributors are also more decentralized, difficult to control. Lack of production standards and strict control measures to provide a breeding ground for the self-interest behavior of farmers or processing enterprises and vendors.

3.4 Imperfect information sharing mechanism

The communication of all kinds of information in the agricultural product supply chain is not smooth, the agricultural product information can not be effectively shared in each node of the supply chain, and insufficient information sharing mechanism has not been established, so the overall actual benefit of the supply chain is seriously reduced. However, the problem of agricultural product information sharing in our country is mainly reflected in the lengthy links between farmers and retailers, the inability of sales information to be transmitted to retailers in time, the inability of demand information

to be effectively communicated to farmers, and the increase in costs due to asymmetric information. Ultimately, the consumer bears the responsibility.

4. The Concrete Scheme of Optimizing the Supply Chain of Agricultural Products under the Environment of Electronic Commerce

4.1 Improvement of rural infrastructure and rational planning of sales sites

At present, rural infrastructure is a prerequisite to ensure reasonable transportation of agricultural products. In order to construct and perfect the rural logistics system, it is necessary to strengthen the rural logistics infrastructure step by step, improve the level of logistics information sharing, and gather all kinds of resources to give full play to the comprehensive effect. And according to the regional characteristics of reasonable planning sales sites, in different links to arrange different units responsible, improve the rural logistics system, The power and responsibility of the responsible unit should be clearly assigned, and the information sharing function of each unit should be opened, so that the supporting facilities of each link can adapt to each other and share resources. Only in this way can the rural logistics system be better served. Responsible for supply chain.

4.2 Establish perfect logistics standards and introduce advanced logistics technology

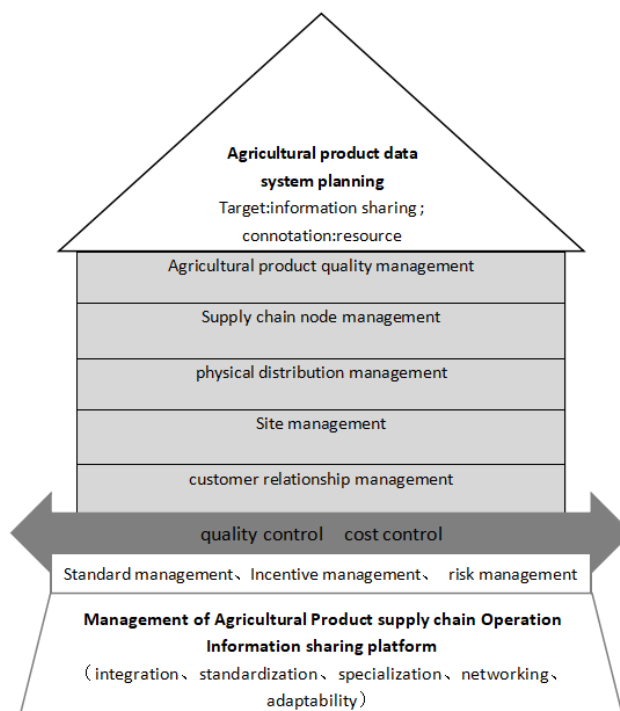
Unified logistics standards can increase the speed of circulation of agricultural products, reduce circulation links and shorten logistics links. If the uniform logistics standard is established in all regions, the technology of food traceability can be realized earlier, which can effectively guarantee the quality of logistics and reduce the cost of food safety monitoring. Therefore, relevant departments should attach importance to advanced logistics technology and perfect logistics standards, in order to better promote the development of agricultural product supply chain. Reasonable planning of agricultural products logistics, as soon as possible to formulate and improve the supply chain of agricultural products related to the laws and regulations, the use of legal norms to standardize logistics. Make full use of Logistics Technology to make Agricultural products better More quickly from producer to consumer can not only meet the needs of consumers, but also make the most profit in all aspects of the supply chain.

4.3 Improve the legal system, improve food safety awareness and attach importance to the quality of agricultural products

Food safety is greater than that of days, so we should improve the laws and regulations of rural market and reduce as many illegal phenomena as possible. Strengthening the supervision of the rural commodity market system, establishing strict market access principles, giving severe punishment to illegal transactions, and paying attention to food safety propaganda, raising food safety awareness, and reducing the inflow of food pollution from the source; Relevant departments perform the corresponding duties, strengthen the supervision of the circulation of agricultural products, to guard against it.

4.4 Establishment of information sharing mechanisms to achieve information sharing

Relevant government departments should build agricultural product data system, build data system from the highest level, plan and establish the construction standard of agricultural product data system, clarify the specific task of each node in supply chain, and formulate the information sharing The system and the collection of information, To integrate and utilize the information in the agricultural product supply chain, to prevent the collection of information in the agricultural product supply chain, to handle and use different standards, to avoid the disunity of the upstream and downstream standards of the information supply chain, and to ensure the adoption of unified indicators for the relevant information in the agricultural product The information provided by each node of the supply chain can be jointed seamlessly, so as to promote the sharing of data and information in the agricultural product supply chain. In addition, It is necessary to integrate the whole information of agricultural products, make use of the agricultural product information collected, forecast the changing situation of market demand in time, and ensure that the data of agricultural product supply chain serve the main body of agricultural product supply chain.



4.5 Fostering talents in electronic commerce

Because the supply chain of agricultural products involves a wide range, the demand of electricity merchants is very large, so the introduction and training of talents in electronic commerce should be carried out in a multi-channel way. First, by the government macro-policy to introduce high-level e-commerce personnel. Combined with the actual situation in the local use of funds and government posts and other advantages to attract talented people. Let these senior personnel responsible for the top design of the agricultural supply chain, responsible for the overall strategy. Second, coordinate local institutions to train e-commerce personnel. Government-led e-commerce programs are offered and scholarships are set up to encourage self-improvement. To adopt the cooperation between enterprises and universities E-commerce students are encouraged to stay in the local business. These students will become the reserve force of the rural supply chain staff, the implementation of the main agricultural supply chain specific business.

5. Conclusion

To sum up, research on the optimization scheme of agricultural product supply chain under the environment of electronic commerce can not only solve the problem of agricultural product supply chain circulation, improve the circulation speed, reduce the cost, but also benefit each node of the supply chain alliance. It also speeds up the process of agricultural modernization in China, promotes the development of rural economy, and provides a theoretical basis for solving the problems of agriculture, countryside and farmers.

Acknowledgements

National resource support.

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