

Research on Optimization Countermeasures of E-commerce Supply Chain of Fresh Agricultural Products

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Abstract

At present, the E-commerce of fresh agricultural products in China is developing rapidly, but the problems of supply chain procurement and logistics management in the process of its development cannot be ignored, and great improvements still need to be made. The related concepts of the E-commerce supply chain of fresh agricultural products are expounded, the problems existing in the procurement and logistics management of the E-commerce supply chain are analyzed, and the countermeasures and suggestions for optimizing the E-commerce supply chain are further discussed.

Keywords

Fresh Agricultural Products; E-commerce; Supply Chain; Optimization.

1. Introduction

In recent years, with the development of the Internet, E-commerce has become an indispensable transaction behavior in people's daily life, attracting many enterprises to join the field of E-commerce. With the introduction of fresh agricultural products into E-commerce platforms, the E-commerce model of fresh agricultural products has broken the traditional shopping model. Fresh agricultural products have enhanced competition in the fresh agricultural product market. At present, the E-commerce of fresh agricultural products in China is developing rapidly, but the problems in the procurement management of fresh agricultural products supply chain have also become an important reason hindering its development. In this context, the optimization of the supply chain of fresh agricultural products has become the top priority.

2. Theoretical Basis Related to E-commerce Supply Chain of Fresh Agricultural Products

2.1. Fresh Agricultural Products and Their E-commerce

Fresh agricultural products refer to the primary agricultural products that have not been further processed and should not be stored at room temperature. Fresh agricultural products are generally cyclical, regional, perishable, easy to lose, and difficult to store. With the rapid development and popularization of Internet technology, E-commerce of fresh agricultural products has emerged as a new business model, which refers to the direct sales of fresh products on the Internet by means of E-commerce. Currently, the vast majority of fresh produce can be sold through E-commerce.

2.2. E-commerce Supply Chain of Fresh Agricultural Products

Due to the characteristics of seasonality, non-standard products and user personalization, in the procurement process of fresh food, it is necessary to optimize the warehousing, distribution

and circulation links to reduce costs and improve distribution timeliness and freshness. At the same time, due to the timeliness and vulnerability of fresh agricultural products, strict cold chain control is required for their entire transportation from producers to consumers.

2.2.1. E-commerce Supply Chain Procurement Management of Fresh Agricultural Products

For fresh agricultural products, because of their relatively fixed growth cycle, the limitation of this cycle and restrictions on transportation conditions make it difficult to keep fresh agricultural products. Traditional procurement will cause inventory backlog, while supply chain procurement realizes dynamic inventory management, so supply chain mode should be adopted in procurement. Supply chain procurement management has a strict supplier selection, rating and quality control system. Through information sharing, internal costs are reduced and supply chain operation efficiency is improved. Information sharing of fresh agricultural products can greatly improve product safety, quality and freshness. Chain procurement can highly ensure product quality and ensure supplier efficiency. According to the circulation of market information, the supply chain procurement of fresh agricultural products E-commerce can give timely feedback to the demand market, continuously reduce the procurement cost in the procurement process, and occupy the target market in time.

2.2.2. E-commerce Supply Chain Logistics Management of Fresh Agricultural Products

Since the traditional channels for purchasing fresh agricultural products are mainly agricultural product wholesale markets, which involve multiple links, the logistics and transportation process of these links have different degrees of loss of the quality of fresh agricultural products. In the E-commerce of fresh agricultural products, enterprises build or use professional logistics centers to coordinate the utilization of resources and information in all aspects, without the need for intermediate links. "One kilometer" to deliver products to customers, and strive to ensure the timeliness, safety and convenience of transportation.

3. Problems Existing in the E-commerce Supply Chain of Fresh Agricultural Products

3.1. Purchasing Needs are not Clear

Purchasing is a fundamental link in the fresh food E-commerce supply chain, based on consumer demand. However, most fresh food E-commerce companies do not fully recognize the importance of consumer demand, do not have a clear understanding of purchasing needs, and rely excessively on the experience, supply, and inventory of purchasing personnel to determine the products to be purchased. A situation in which the product supply exceeds the demand and cannot be sold or the product is in short supply. However, fresh agricultural products have a relatively short timeliness, are difficult to preserve, and are easy to lose, which will cause huge losses to enterprises invisibly.

3.2. Homogenization of Fresh Agricultural Products

At this stage, fruits and vegetables are the first category of fresh food E-commerce business, and the entry threshold for enterprises is relatively low. From a superficial point of view, it is very easy to enter the industry, but due to the certain similarity between the source of goods and the product, and the limitations of its own platform, it limits the development of the enterprise to a certain extent. Many fresh E-commerce companies do not know exactly what consumers want, so they purchase blindly, resulting in a single source of fresh agricultural products, which is similar to fresh agricultural products on other platforms. At the same time, the website is repeatedly built, and the products on the platform are homogenized. If companies want to increase their consumer groups, they can only adopt price competition.

3.3. Lack of High-end Fresh Agricultural Products

The relatively popular fresh agricultural products are facing pressure from the traditional fresh agricultural products market, including supermarkets and farmers' markets, and are also under pressure in terms of logistics and intermediary storage, and they are somewhat stretched in the competition for market share. At present, there are more low-end fresh products, which rely more on price to win, the categories are not rich enough, and the sources of fresh products are relatively single, resulting in lower consumer satisfaction. Especially the multi-category safety, ecological, high-end, high-quality fresh food is insufficient, and the product quality is generally poor. At this stage, the consumption level of consumers is constantly improving, and high-end fresh agricultural products with their own characteristics are gradually welcomed by consumers. For businesses to be profitable, they need high-margin specialty fresh produce to complement their product categories. Compared with traditional fresh products, mid-to-high-end fresh products have a larger market development space, but most fresh E-commerce companies today lack characteristic fresh agricultural products.

3.4. Insufficient Construction of Cold Chain Logistics

At present, most fresh products in China lack the use of cold chain logistics facilities, resulting in a loss rate of 25% - 35% in logistics distribution, while in developed countries, the loss rate of fresh agricultural products is less than 5%. At present, some fresh E-commerce merchants require that the delivery of fresh aquatic products must be alive. According to the characteristics of fresh products, to keep fresh and time-effective, the whole process of cold chain must be delivered to consumers' homes, and the whole process of distribution must be shortened as much as possible. The existing cold chain logistics network lacks an efficient cold chain system, which reduces the logistics efficiency of the fresh agricultural product supply chain and increases the cold chain transportation cost and storage cost to a certain extent. Fresh agricultural products are easy to corrode and need to be stored in a low temperature environment. The characteristics of the products determine the high requirements for their circulation. Although China's cold chain technology has been well developed in recent years, the current cold chain logistics network is not perfect, and there is a lack of corresponding cold chain technology, resulting in a large loss of fresh agricultural products in the circulation process, increasing the loss of products Rate.

3.5. Supply Chain Information is not Transparent

The transmission of information is very important. Node enterprises in the fresh food supply chain can transmit information in a timely, effective and authentic manner through information technology to achieve information sharing. At present, my country's fresh food E-commerce enterprises have not fully realized the importance of information technology, and have not yet built a comprehensive and effective information system. Each link of the fresh agricultural product E-commerce supply chain lacks coherence, and has not formed a clear division of labor and the effect of full cooperation. It not only affects the speed and quality of information dissemination, but also causes information asymmetry. Participants did not take appropriate methods to realize the value-added and service value of products, resulting in an imperfect value-added distribution system for fresh agricultural products, making the entire supply chain unable to operate efficiently, and increasing the cost of operating fresh agricultural products in supermarkets. In addition, the transmission of information in different links of the supply chain affects the overall efficiency and continuity of the supply chain, and a product information sharing mechanism is required to realize the transmission of information. However, there is no effective information sharing mechanism in the actual product supply, resulting in the timeliness of product information transmission. Poor performance, seriously affecting farmers' adjustment of product production plans. A perfect product information sharing mechanism can allow farmers to accurately grasp the information of product demand, so as to adjust the

production plan of agricultural products. Therefore, the improvement of the information sharing mechanism is the key to the continuous coordinated operation of the supply chain.

4. E-commerce Supply Chain Optimization Strategy for Fresh Agricultural Products

4.1. Product Procurement Optimization Strategy

the E-commerce supply chain of fresh agricultural products, guided by the individual needs of consumers, the E-commerce platform for agricultural products directly cooperates with farmers, establishes direct procurement channels with producers, and reduces intermediate links, which can reduce procurement costs. At the same time, enterprises set up their own production bases on the spot to directly screen and control the quality and type of fresh agricultural products. In order to meet the individual needs of consumers, through the cooperation between farmers to produce agricultural products and processing enterprises, the leading agricultural product processing enterprises will drive economic development. In addition, there are two advantages in realizing the direct purchase of products. On the one hand, by purchasing agricultural products directly from the place where the products are produced, the E-commerce platform of fresh agricultural products can directly monitor the products, thereby improving the safety of product use, the direct purchase of agricultural products allows producers to adjust the planting plan of agricultural products according to seasonal changes, thereby solving the problem of a single variety of agricultural products. When customer demand changes, fresh food E-commerce companies should be keenly aware of the needs of the final consumer, timely and effectively pass information to partners, discuss solutions and countermeasures together, and produce products that consumers love. The cold chain logistics under the business platform makes full use of the advantages of fresh-keeping to ensure the seasonal supply of fresh agricultural products.

4.2. Optimization Strategy of Cold Chain Logistics

The main problems faced by fresh agricultural products in the process of logistics and warehousing are that the cold chain distribution system and warehousing facilities are relatively backward, and the cost of the enterprise's self-built cold chain distribution system is too high. At the same time, the whole process of cold chain distribution costs is relatively high. In response to this part of the problem, in order to continuously reduce the cost of enterprise logistics and warehousing, an appropriate management system should be established for the logistics and distribution of fresh agricultural products, and different logistics and distribution methods should be established according to their nature and types to build a specific logistics chain. For fresh agricultural products that are easily perishable and inconvenient to transport, you can choose a nearby supplier for cooperation, so as to minimize the loss of fresh agricultural products. Reduced product losses, warehousing and logistics costs can also be optimized. Strengthen the integrated construction of cold chain processing and distribution centers in production locations, cold chain logistics centers in demand areas, and corresponding distribution centers, establish an information management system for logistics distribution centers, and form a cold chain logistics network. Through a large-scale business model, all distribution areas are fully integrated to reduce the circulation time of fresh agricultural products; at the same time, enterprises need to pay close attention to solving the "last mile" distribution problem to ensure the timely delivery of fresh agricultural products.

4.3. Information Management Optimization Strategies

The transmission of product information plays a particularly prominent role in the fresh agricultural product supply chain, which requires the fresh E-commerce supply chain to strengthen the close connection between various nodes and establish a unified agricultural

product information platform. Therefore, it is necessary to improve the information management mode to realize the seamless connection of product information among all the components in the supply chain, so as to promote the development of the product supply chain. Establish a new agricultural product comprehensive information service platform to expand the related service system of the fresh agricultural product supply chain. The establishment of the entire information chain requires the improvement of various information systems, including the product supply information system and the product demand information system. Information system, add online communication system, promote communication between customers and sellers, establish online transaction system and security protection system, and ensure the security of product transaction information. A good E-commerce platform should also have a complete after-sales service system. Therefore, the construction of an order processing system and an after-sales customer feedback system is also an essential link. At the same time, with the continuous progress of information technology, fresh food E-commerce enterprises also need to continuously upgrade the information system according to the actual operation of the fresh agricultural product E-commerce platform to ensure timely and effective information transmission between nodes and enterprises, and improve the entire chain operational efficiency.

5. Conclusion

The optimization of the E-commerce supply chain of fresh agricultural products should be carried out from three aspects: product procurement optimization, cold chain logistics optimization, and information management optimization. Guided by the personalized needs of consumers, establish direct procurement channels with producers, and establish different logistics distribution methods according to their nature and types for the logistics distribution of fresh agricultural products, and build a specific logistics chain. Improve the information management model, and establish a unified agricultural product information platform.

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