

# Research on Information Interaction Behavior Between Supply and Demand Sides of Agricultural Products

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**Abstract:** As the information interaction in the agricultural production process will affect the supply chain structure and production and operation mode of agricultural products, it will have a great impact on its operation efficiency and the quality of agricultural products. This paper uses the theory of information asymmetry and behavioral difference between subjects to solve the problem of information asymmetry between the supply and demand sides of agricultural products caused by it, and puts forward the research on the information interaction behavior between the subjects of agricultural products supply chain.

**Keywords:** Agricultural products, Supplier selection, Supplier selection criteria, Information interaction behavior.

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## 1. Introduction

With the development of society, the communication between producers and consumers is becoming more and more important in business activities, and consumer demand information is more and more mastered by producers. [1] This makes the structure and operation mode of the supply chain constantly change, and the agricultural product supply chain as a whole will also change with the change of the business environment. In the process of agricultural production, the interaction of information will affect the supply chain structure and production and operation mode of agricultural products, as well as its operation efficiency and quality of agricultural products [2]. At the same time, the information asymmetry between the supply and demand sides of agricultural products caused by the information asymmetry and the behavioral differences between the subjects also has a great impact on the operation of the agricultural product supply chain. Therefore, in order to improve the overall benefit of the supply chain and reduce the cost, it is necessary to strengthen the research on the information interaction behavior between the main bodies of the agricultural product supply chain [3].

In view of the impact of information interaction between the main bodies of the supply chain of agricultural products on the overall operation optimization of the supply chain, relevant studies have focused on the game analysis of the supply and demand sides of agricultural products caused by information asymmetry, the cooperation model of the supply chain of agricultural products, and the impact of information interaction on the performance of the supply chain, but in the actual case analysis, Few studies have paid attention to the impact of information interaction on the operational efficiency and overall performance of the agricultural supply chain.

## 2. Problem Description

Each subject in the agricultural supply chain is faced with different information interaction problems. For example, between the farmers of the production organization and the wholesale market [4]; Between middlemen and wholesalers; Between manufacturers and retailers, etc. Specifically,

farmers' trust in the quality of agricultural products and sales channels directly affect their profits. Due to the limitation of farmers' cultural level and their own quality, farmers have little knowledge of the quality, price and market information of agricultural products. Therefore, if a certain cost is imposed on farmers, they will have a crisis of trust in agricultural products. The wholesale market of agricultural products is an important part of the supply chain of agricultural products. It has certain information advantages in the process of information interaction [5].

For wholesalers, in order to obtain higher profits, they often need to provide more commodity information and services to consumers. This process mainly includes three factors: first, wholesalers should provide consumers with various commodity information, including variety, price, quality and other aspects; Secondly, in addition to these product information, we need to provide service and credit guarantee; Finally, wholesalers may need to establish long-term and stable cooperative relationship with retailers [6]. Therefore, in the process of interacting with consumers, wholesalers will form a sense of trust and dependence on retailers and generate a complex relationship between credibility, trust and credibility.

## 3. Game Relationship of Information Interaction Between the Supply and Demand Sides of Agricultural Products

The supply chain of agricultural products is a complex dynamic system, and there are many factors that affect its stable operation, including the degree of information interaction between each link of the supply chain, the pattern of interest distribution between each subject, logistics and information flow, etc. Each member of the agricultural product supply chain realizes their own interests through information interaction. These participants aim to maximize their own utility in the decision-making process, and have an impact on the entire supply chain system. Due to the complexity of the supply chain of agricultural products and the fierce competition in the market of agricultural products, farmers need to invest a lot of costs to obtain high-quality agricultural products and competitive prices while developing

agricultural production of high-quality agricultural products, and sell products to end consumers or enterprises through intermediaries (cooperatives) or leading enterprises; There is a game relationship between middlemen (cooperatives) and farmers; However, there is a cooperative relationship between circulation enterprises and end consumers. In the agricultural product supply chain, the main nodes cooperate with each other and develop together to achieve their respective goals through information interaction.

#### 4. Conclusion

With the development of China's economy and the improvement of residents' living standards, consumers pay more attention to the shopping experience. At the same time, with the integration and development of the new business model of "Internet plus", e-commerce platform, cross-border e-commerce and other new models with the traditional retail industry, the traditional offline retail is gradually eliminated and constantly transferred to online, and online and offline integration and development. In this situation, e-commerce platform, as one of the circulation methods of agricultural products, has also been rapidly developed and popularized. As the carrier and one of the upgrading directions of the transformation and upgrading of traditional offline retail industry, e-commerce platform plays an important role in the circulation of agricultural products. In recent years, with the rise of logistics costs and the continuous emergence of the service concept of "three deliveries a day" for fresh products throughout the country, the field of fresh agricultural products logistics has also achieved rapid development. However, due to the wide variety of fresh products, large differences in services, scattered customers and high logistics costs, China's fresh logistics costs are high and the development of cold chain logistics is relatively lagging. At the same time, the problems such as the imperfect cold chain transportation standard system and the weak cold chain infrastructure have

also become the bottleneck problems hindering the rapid development of fresh logistics. The conclusion of this study has important reference significance for promoting the optimization of information interaction behavior of agricultural product supply chain.

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