A Comparative Study About Different Production and Marketing Cooperation Mode of Agricultural Products—Taking Shandong Peninsula as an Example

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Abstract. The low organization degree of circulation subjects, more circulation links and low circulation efficiency are main problems of the current agricultural production and marketing cooperation mode. Based on the literature review and field research, this paper divides the current agricultural production and marketing cooperation mode into two types: direct marketing and indirect marketing. This paper also analyzes and compares the agricultural production and marketing cooperation mode from the four aspects: circulation cost, information symmetry, circulation efficiency and incentive mechanism. The conclusion is that the supply chain production and marketing integration mode of farmers + contract base + leading enterprise type is the most competitive, so it can provide references for the development of agricultural industrialization in Shandong Peninsula.

Introduction

In recent years, the overproduction of agricultural products and serious circulation loss leading to the "sell hard to buy expensive" problem is getting worse. The main reason is that the circulation subject about China’s production and marketing cooperation mode has low level of organization and low circulation efficiency. Due to the unique geographical environment, Shandong Peninsula emerged a large number of unique production and marketing cooperation modes in the early development, such as Qixia Shewopo fruit and vegetable products wholesale market mode and Yantai Changyu wine company the partly implementation of the contract base mode etc.

Many scholars have conducted extensive research about the agricultural production and marketing cooperation mode. Xiong Huibing et al. (2011) analyzed the implementation mode of "Farming-Supermarket" Docking through the case [1]. Lu Fan et al. (2011) analyzed the causes, operation modes and existing problems about the company + base + farmer mode [2]. Wang Xiujie (2015) summarized the existing mode about production and marketing of vegetables, and constructed a new mode of production and marketing, which is dominated by the wholesale market [3]. In summary, the existing research mainly focuses on the analysis and improvement about the specific production and marketing cooperation mode but has not formed the most competitive system of production and marketing cooperation mode which suitable for the development of agricultural scale. Therefore, based on the existing research and field research, this paper compares the production and marketing cooperation mode of
Shandong Peninsula with the theory of supply chain management, to tease out the most competitive supply chain production and marketing integration mode of agricultural production, so it can provide references for the development of agricultural industrialization in Shandong Peninsula.

**Current Situation of Production and Marketing Cooperation Mode**

Researching on the Shandong Peninsula and visiting 15 agricultural enterprises, 12 supermarkets, 16 rural cooperatives organizations and 30 individual farmers. Suffering from the influence about diversity of market demands, the production and marketing cooperation mode about agricultural products present a coexistence of multiple modes. According to the directness between the supply chain subject and consumer market, this paper divides production and marketing cooperation mode into two types: One is direct marketing; the other is indirect marketing. Each type has a strong characteristic.

From the perspective of the supply chain, the mode construction of direct marketing agricultural production is simple. Its major participants are only producers and consumers, through spot direct transactions, agricultural products logistics, information flow and fund flow are flow smoothly. The production and marketing mode which is oriented by farmers and supermarket is typical, such as farmer self-operation mode and the farming-supermarket docking mode which is implemented by Wal-Mart supermarket.

Indirect marketing is accompanied by the appearance of wholesale markets and agricultural leading enterprises. The intermediate links about the agricultural product’s production and marketing cooperation mode is so many that the producers and consumers can not directly exchange products, it must through the brokers (processors, wholesalers, and retailers etc.) transfer and finally reach consumers’ hands. The number of brokers varies from the mode of production and marketing and the status of supply chain subject. The mainly common modes are as follows: Qixia Shewopo fruit and vegetable products wholesale market mode and Yantai Changyu wine company the partly implementation of the contract base mode etc.

**Comparative Analysis**

Based on the data obtained from field research, this paper longitudinal compares each production and marketing cooperation mode from four aspects: circulation cost, information symmetry, circulation efficiency and incentive mechanism, in order to provide references about the improvement of agricultural products’ circulation.

**The Perspective of Circulation Cost**

From the perspective of supply chain logistics, farmers directly sell agricultural products to consumers in the self-operation mode and the cost during the transaction is less and even not, so the cost advantage is obvious. While agricultural products sell through wholesale market, the production and marketing mode of wholesale market has multistage wholesalers and retailers, so the loss during the transaction is serious [4]. This lead the cost is intangible increase. The organization degree of farmer professional cooperatives is high, so farmers cooperates directly with the supermarket through the farmer professional cooperatives significantly reduce the cost of circulation. However, the farmer professional cooperatives’ core operational capacity is weak. To achieve the supply chain mode which set production, processing and sales as a whole, the farmer professional cooperatives cooperates with the
leading enterprises and its circulation cost is higher than directly cooperation with the supermarkets. But the application of supply chain manage thought can effectively connect to all participants and improve the efficiency of circulation.

So, the lowest circulation cost is the mode of farmer self-operation, while the highest is the mode of agricultural products wholesale market and the centered is the mode of production and marketing which is dominated by farmer professional cooperatives.

**The Perspective of Information symmetry**

From the perspective of supply chain information flow, self-operation mode has a few intermediate nodes. It can make producers and consumers directly communicate with each other, and the information flow of agricultural products is unobstructed. So farmers have advantage of information for their own products. When the agricultural products are trade through the wholesale market, among major participants have more competition than cooperation, this causes the information flow in the supply chain is easy to break and even distortion during transport processes. Owing to the weak negotiation capacity, farmers only produce agricultural products according to the requirement of the supermarket. So farmers are lack of understanding about information of market supply and demand. Similarly, in the mode that leading enterprises dominant, the farmer professional cooperatives play a bridge role of the relationship between farmers and companies. So the farmer professional cooperatives has obvious advantage of obtain information in the processes of cooperate with companies and also can solve the problem of information asymmetry about agricultural products supply chain to some extent.

From the perspective of information symmetry, the production and marketing mode which is dominated by farmer professional cooperatives has an obvious information advantage, while the wholesale market mode has a worst information advantage.

**The Perspective of Circulation efficiency**

From the perspective of supply chain product flow, the specialization and organization degree of agricultural supply chain logistics subject will affect the circulation efficiency of agricultural products to some certain extent [5]. Agricultural products supply chain mode is dominated by supermarkets and leading enterprises, its front-end is the subject of production, and its back-end is the consumer market. The logistics subject about the supply chain of this mode has high organization degree and circulation efficiency. The logistic terminal, such as Supermarket etc., has stable sales channel, farmers cooperate with supermarkets and leading enterprises through farmer professional cooperatives, so their efficiency can be improved. According to the research, farmer professional cooperatives in Qingzhou City of Shandong province develop “Farming-Supermarket” Docking with Beijing Wal-Mart by using the advantages of organization. Agricultural products can be directly delivered to the supermarket within 24 hours. So the circulation efficiency is improved. The wholesale market mode of Qixia Shewopo fruit and vegetable products has many brokers (processors, wholesalers, and retailers etc.), so the time during the process of circulating is longer. This lead the circulation efficiency is lower comparing with the mode which dominated by farmer professional cooperatives.

From the perspective of circulation efficiency, the lowest circulation efficiency is the mode of agricultural products wholesale market, while the highest circulation efficiency is the mode of production and marketing which is dominated by farmer professional cooperatives.
The Perspective of Incentive mechanism

Farmers sell their own agricultural products will not lead to the uncertain behavior, such as out of employment relationship and breaking contract and so on. So the incentive effect to farmers is significant in the work skills, self-development and promotion etc. Farmers are the contract workers when cooperating with the leading enterprises, farmers and companies exist based on long-term contractual relationship. So farmers’ return is just part of their salary. But farmers’ productive enthusiasm can be improved in some extent by practicing piece-rate system. The establishment of farmer professional cooperatives can organize the scattered farmers. It can increase the organization degree of production subject and scale benefit, strengthen negotiation power in agricultural product prices and sales conditions and benefit the adjustment to farmers’ income in the aspect of the benefits distribution to the agricultural products’ circulation [6]. Meanwhile, farmers can participate in profit sharing and production decision-making so that the incentive effect is significant. However, the contract can’t stimulate farmers when they establish purchase cooperation with the supermarket; they can only produce their agricultural products according to the requirement of the supermarket so that the incentive effect is weak.

Therefore, the higher incentive effect mode is the farmer self-operation and the contract base operating with the leading enterprise, while the lower is the agricultural products wholesale market mode and the farmers directly docking with supermarket.

From the above four aspects: circulation cost, information symmetry, circulation efficiency and incentive mechanism conducted an analysis about agricultural production and marketing mode. According to the following standard: lower, low, general, high, higher and highest to conduct comprehensive ordering about all kinds of production and marketing cooperation mode of agricultural products. The results are shown in table 1.

Table 1. Comparison of Production and Marketing Mode of Agricultural Products.

<table>
<thead>
<tr>
<th>Mode</th>
<th>Feature</th>
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<tbody>
<tr>
<td></td>
<td>A</td>
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<tr>
<td>Farmers self-operation mode</td>
<td>lower</td>
</tr>
<tr>
<td>Wholesale market mode</td>
<td>highest</td>
</tr>
<tr>
<td>Farmers+ supermarket mode</td>
<td>higher</td>
</tr>
<tr>
<td>Farmers+ own base+ leading enterprises mode</td>
<td>low</td>
</tr>
<tr>
<td>Farmers+ own base+ leading enterprises mode</td>
<td>general</td>
</tr>
<tr>
<td>Farmers+contract base +leading enterprises mode</td>
<td>high</td>
</tr>
</tbody>
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Notes:
A: Circulation cost	B: Circulation efficiency
C: Information symmetry	D: Incentive mechanism
Source: Author order.

Conclusions

New institutional economy believes that the effective form of organization is an important social resource in the economic and social development [7]. Therefore, our country should establish a certain form of industrial organization from the national conditions, in order to achieve the innovation of organization system of agricultural industrialization. Through comparing above modes about agricultural products’ production and marketing, we conclude
that the mode of production and marketing cooperation which mainly based on the leading enterprises has much greater advantage. As shown in fig. 1.

Based on the market diversification, it is not exclude that the above mode exist at the same time. However, according to the modern supply chain management concept to develop the agricultural supply chain mode about the cooperation with between farmer professional cooperatives and leading enterprises is an effective form to agricultural industrialization management [6]. This mode can also accomplish the effective connection of agricultural products from production to consumption and the smooth flow of logistics and information among different regions. According to the requirements of supply chain management to deal with every aspects of the relationships can make equal and mutual benefit among the various subject of supply chain. This mode of production and marketing cooperation is more suitable for the circulation of agricultural products in China, which can effectively solve the problem of agricultural products circulation and is of great significance for the promotion of agricultural industrialization and farmers' higher income.

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