

Research on the Innovation Path of Live Supply Chain of Agricultural Products under Digital Economy

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Abstract: With the hot growth of live broadcasting, the quality of agricultural products is also endless, how to promote the healthy development of live broadcasting of agricultural products through supply chain innovation has become the key. In this paper, on the basis of analyzing the current three modes of live broadcasting of agricultural products, live broadcasting of origin and live broadcasting of enterprises, we summarizing the problems of difficult operation of logistics, unstable quality and sluggish supply chain that exist in the live broadcast supply chain. This paper proposes to adopt digital technology to build a unified data resource base and promote collaborative innovation of supply chain network in order to realize multilevel supply chain integration.

Keywords: Digital Economy; Agricultural Products; Live Supply Chain; Innovation Path Introductory

1. Introduction

In 2023, nine national departments jointly issued the Guiding Opinions on Promoting High-Quality Development of Rural Circulation to promote the construction of agricultural supply chain system. Live e-commerce has become an important means to promote the circulation of agricultural products, agricultural transformation and upgrading, and rural revitalization. At the same time, the State issued the "Key Points for Digital Rural Development in 2023", which proposes to accelerate the construction of "digital supply and marketing" and optimize and improve the digital supply and marketing comprehensive service platform. In the current situation of economic slowdown, how to build a perfect live supply chain system for agricultural products with the help of the digital village program, and quickly promote

the efficient multi-channel development of agricultural products is worth pondering.

This paper summarizes the current agricultural live supply chain on the basis of the current digital rural construction in-depth discussion of how to supply chain innovation from the client side, the live side and the production side under the support of big data and other technologies, to provide reference for the government and enterprises.

2. Live Supply Chain Model for Agricultural Products

According to the data released by Yingchao Consulting, during the "Double Eleven" period in 2023, in terms of agricultural products, the national online retail sales of agricultural products realized 84.692 billion yuan, an increase of 8.83% year-on-year. The supply chain model behind the agricultural products live broadcasting industry, which has been put into practice across the country, also presents different characteristics.

2.1 Anchor Live Mode

Most of the e-commerce anchor is from a professional live organization, cultivate the early anchor basically has 2 forms, the first form is the anchor walks in the live room of each company, goods rely on investment to solve or actively looking for goods, agricultural products are only ancillary products ^[1], mainly to attract customers, change the single product marketing boring, this form of supply chain is not stable and random, product control Not strict enough. The second form is that the anchor has great influence and has formed a personal credibility among customers. Big anchors basically have their own procurement team, the source of goods rely on merchants to send samples and on-site inspection, for product control is more stringent. This mode is mainly relying on the strong investment ability to solve the problem

of updating the style of goods.

2.2 Live Streaming Mode at the Place of Origin

The pursuit of agricultural products is fresh and natural, but in practice due to the high cost of logistics as well as wear and tear, consumers like to buy more direct experience to the most primitive and real scene, which makes the origin of the live broadcast more discourse, the farmers are more grounded than the Internet celebrity^[2]. Compared with other products, the live broadcast of agricultural products is more focused on the product itself. Live broadcast is just an innovative marketing model, the ultimate competition is still the quality of the product and after-sales service. From this point of view, the main problem of the origin live broadcast mode or the farmer live broadcast mode is that the brand degree is low, the SKU is too single, and a series of services such as logistics are not perfect.

2.3 Enterprise Live Mode

Enterprises have a certain production capacity and warehousing capacity, some enterprises also have offline stores and online stores, relying on existing resources and strength, enterprises to create a live supply chain system, on the one hand, to train their own anchor live sales, while regularly developing a part of the product to invite external anchor or send samples of cooperation. Relatively speaking, agricultural enterprises to build their own live supply chain system is less, most of them are more with professional anchor cooperation, such as Freshippo to help Hubei agricultural products sales action, the influence and effect is good, the enterprise side and anchor joint live in the current environment is more common. The main bottleneck of the enterprise live is: seasonal agricultural products, SKU is not enough to support the demand for new products every day live, a period of time product repeat play, the old customers are easy to fatigue and is not easy to attract new customers, the use of large anchor joint sales is conducive to the expansion of the sales surface.

3. Problems in the Live Supply Chain of Agricultural Products

3.1 The Characteristics of Agricultural

Products Make Logistics Difficult

The object of agricultural products live broadcast is obviously different from supermarkets and food markets, and its main focus is on high-quality specialty agricultural products, which are usually uncommon to the majority of consumers or high supermarket prices. Characteristic agricultural products are fresh and delicious, quality assurance, price concessions is the focus of the major platforms to promote, but also consumers are willing to wait for online shopping and risk trying the key points. It can be seen that live sales is just a good start, how to do a good job of ending logistics is crucial. On the one hand, live sales bring huge traffic, on the one hand, the agricultural products themselves have the characteristics of easy wear and tear, decay, in logistics packaging, transportation, storage and other logistics aspects require high service and high cost. From the various platforms after-sales commitment, wear and tear claims to reduce the risk of consumers, did greatly increase the burden on the enterprise, and ultimately whether it is possible to realize profitability through the live streaming traffic, the gain and risk for the enterprise lies more in the operation of the logistics.

3.2 Unstable Quality of Live Agricultural Products

The degree of standardization of agricultural products is relatively low, most of them have not formed a brand management and services, so the product grading is not strict, quality control is not fine, resulting in a poor online shopping experience; some due to the anchor is to take samples for promotion, there is no comprehensive understanding of the current situation, there are also exaggerated propaganda, substandard, etc., damage to the rights and interests of consumers; and there are also poor after-sales service, unable to solve the consumer's problems in a timely manner, a lot of them into the A hammer sale; Finally, consumers are also worried that many agricultural products do not go through the relevant departments of the inspection into the market, the quality can not be guaranteed, there are certain food safety risks^[3].

3.3 Low Persistence and Agility of Agricultural Supply Chains

Because agricultural products are seasonal and

geographically dispersed, there are more risk factors such as instability, unplanned and uncontrollable in their live broadcasts, leading to a significant reduction in the durability and agility of their supply chains. A single agricultural product can not meet the diversified needs of consumers, due to the inability to continuously put into production, there is also a certain limit in the sales volume. In addition, the coordination and control of the supply chain is more dependent on the live team, product selection, control, price, sales, logistics and after-sales need to be team to dock, once the changes in the supply chain can not quickly make adjustments. China's rural information construction is relatively backward, the Internet of Things, 5G, big data, artificial intelligence, cloud computing and intelligent logistics and other technologies have not been completely landed, resulting in the source of the supply chain can not carry out a rapid response, which will be asymmetric information stagnation and other phenomena. It can be seen that the supply chain of agricultural products still needs a long way to go to achieve the transformation of digitalization, informationization and intelligence.

4. The Innovation Path of Live Supply Chain of Agricultural Products under Digital Economy

As the retail economy recovers, the time allocation dividend, user experience dividend and platform traffic dividend of live broadcast gradually weakened, prompting live broadcast e-commerce needs to be comprehensively upgraded. Live "spot + pre-sale" push and pull mode effectively promotes the efficiency of the agricultural supply chain, the current test of agricultural products live problem is how to master the push and pull of the supply chain behind the combination point. With the continuous iteration of the underlying technology (big data, cloud computing, supply chain finance, etc.) and the intermediate mode (live base, MCN and SaaS), the massive consumption data brought by live e-commerce can realize accurate and comprehensive consumer image, which in turn feeds the upstream manufacturers as well as MCN organizations to produce and select goods, accelerating the flow of information flow, commodity flow and capital flow, and

realizing the improvement of the efficiency of^[4]. It can be seen that the establishment of a digital supply chain system, providing end-to-end visibility through technologies such as artificial intelligence, Internet of Things (IoT) and blockchain, and helping enterprises to discover in-depth insights and formulate action strategies in real time is an effective path for live supply chain innovation.(as in figure 1)

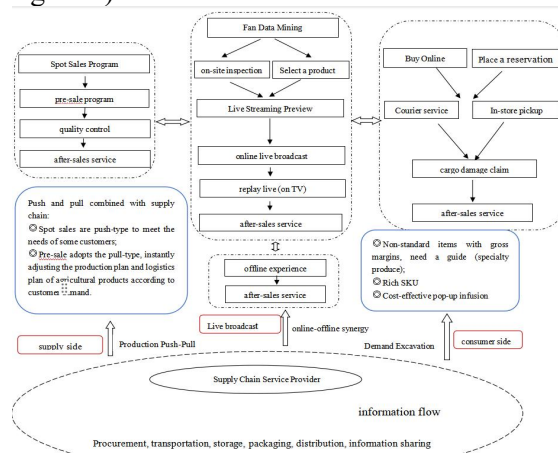


Figure 1. Live Supply Chain Model of Fresh Produce under Big Data

4.1 Upgrading of the Consumer Side

Consumer demand is high-quality and cost-effective characteristics of agricultural products, in the minds of consumers, live form is only visible but not touchable, safety and quality concerns still can not be eliminated, branded agricultural products is like a pill, representing trust, peace of mind and quality. With the surge of the live broadcast, fans care about the brand, in addition to unlimited overdraft consumption, supported by the flow of live need to be able to "burst" the product diversion of new fans, the need for a rich SKU to consolidate the old fans. In the digital supply chain system, with the help of big data mining consumer preferences and needs, by doing cross analysis of the transaction and time dimensions, to arrive at the peak period of consumption, the proportion of PC and mobile, the user's shopping habits, and then the shopping of the geographical dimensions of the cross, it can be seen that the consumption preferences of users in different geographical areas and the level of consumption, which helps enterprises to formulate promotional strategies, pricing and production of commodities to provide a basis

for decision-making. This helps enterprises formulate promotional strategies and provides brands with a basis for pricing and production of goods.^[5]

4.2 Standardization on the Production Side

How to sell agricultural products like live publicity to ensure better quality, the production end of the standardization is very important. The growth of agricultural products is greatly influenced by the natural environment, and its standards are difficult to achieve complete unity, only through the relevant certification support and standardization of operational processes, with a comprehensive approach and data indicators to solidify product quality, to achieve the maximum similarity in quality^[6]. First, the standardization of the production process. The production process includes seedling, cultivation, management, harvesting and processing, which is also the most crucial part of production standardization. The standard of agricultural products of direct broadcasting should be better than the quality of farmers' markets in order to develop in the longer term, and leading enterprises should actively participate in the improvement and development of industry standards. The construction of the digital countryside promotes the information management of the whole process of production, from planting, production, logistics, sales of the whole process, have established electronic files. Second is the scale of planting, standardized production must be the premise of scale, no scale there is no unified management, no unified management can not create a certain amount of reproducible products. In addition, the epidemic period, although the live agricultural products received unexpected results, but how to sustain power in the post-epidemic period, quantity and quality of product supply is the basis. Third, the standardization of the origin environment. The production of agricultural products can not be separated from the natural environment, the relative stability of the growth environment in order to realize the convergence of product quality. Agricultural species should also carry out environmental monitoring of production bases to ensure that the origin of the environment of ecological and organic. Fifth, strict control of quality testing and product

certification. In addition to quality supervision departments of agricultural products should be in strict accordance with the quality standards for review, to eliminate quality problems of products into the market, at the same time on the quality and safety (QS), pollution-free products, organic products and other related certificates need to be the supply side and the live team to jointly supervise the consumer is responsible for.

4.3 Sinking of the Live End

According to QuestMobile Sinking Market Report, users in the sinking market are characterized by trust in physical stores and recommendations from acquaintances. With WeChat's involvement in the live broadcast industry, it relies on its huge social relationship chain to form a supply chain model of "agricultural products + social circle + offline store", which can combine online and offline more effectively, thus bringing users closer, increasing user stickiness and sense of participation, and transforming the private flow into marketing value, and the sinking market has just become the trend of the live broadcast industry.^[7] On the other hand, in order to target the needs of consumers in the sinking market, Internet giants have launched specific platforms or products, such as Alibaba launched Taobao Special Edition, Jingdong launched Jingxi platform, and launched a variety of price concessions for consumers in the sinking market. At the same time, live streaming with goods is also very suitable for store conversion, through the online sales of redemption coupons, coupons, annual membership cards and other virtual goods, to stimulate the conversion of users in the live room to the offline.

4.4 Efficiency of the Logistics System

Currently live the most efficient delivery is the warehouse and distribution of integrated logistics form, li supply chain behind the big data technology, to achieve sales channel sharing, logistics information sharing, user profile accurate, accurate flow, you can store the goods to the regional logistics center or the front warehouse, the customer orders instant delivery service fast door to door^[8]. In order to better ensure the quality of agricultural products and control the loss rate of agricultural products, enterprises have planned

the logistics process in advance. On the sales side, Cainiao has established a live warehouse to realize standard multi-scene services through social collaborative resources, and plan in advance to regulate the distribution of inventory, which can shorten the average time for consumers to receive goods by 24-48 hours, and the fastest one day to receive goods. On the origin side, Jingdong launched the "origin warehouse + cold chain line" model, through the back of the big data platform to efficiently dock the production side and the sales side, to realize the seamless docking of high-quality agricultural and sideline products from production and processing to the consumer table^[9].

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5. Summary

The digital economy will transform and upgrade traditional agriculture to modern agriculture, and the "live broadcast + e-commerce" model, as a "network runway" to help farmers, promotes the iterative updating of the agricultural supply chain model. The core ability of the supply chain of agricultural products in the digital economy is the ability of supply chain resource allocation, diversion and agglomeration, which is reflected in the upgrading of the consumer side, the standardization of the production side, the sinking of the live end, and the efficiency of the logistics system. With the help of digital information technology, establish a data sharing database, collaborate and innovate the network of each link of the supply chain, realize the integration and development of the multi-level supply chain, continuously improve the agility and coordination of the agricultural supply chain, and realize the digital transformation of the agricultural

supply chain with the help of the two major driving forces of the platform and the database.

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