

Analysis and Research on Internet-Based Agricultural Supply Chain Models - A Case Study of Yimutian Enterprise

Qin Wang¹, Weishu Zhong^{1*}

¹ School of Economics and Management, Guangxi Normal University, Guilin, China

² Guangxi Science & Technology Normal University, Laibin, China

Email Address

804560974@qq.com (Weishu Zhong)

*Correspondence: 804560974@qq.com

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Abstract:

China's agricultural development potential and space is huge, development prospects are very broad, rapid and strong, but also accompanied by a number of more prominent development issues. With the impact of the Times on China's agricultural development, the traditional operation mode of agricultural product supply chain shows that the agricultural industry is relatively backward, the information transmission is not comprehensive, the production and marketing of farmers is not centralized, the transaction cost is high, and the links of agricultural product supply chain are many and complicated, long trading cycle and other issues imminent, it is difficult to meet the requirements of the Times, must make innovation. And just the arrival of a new technological revolution, declaring the importance of the integration of Internet technology and other industries. Since the introduction of Internet technology in China, with the Internet technology in our country increasingly mature, more and more industry areas through the use of Internet technology has been further deepened, thus changing the way of life of people. The country is quick to make a decision, put forward "internet +" development mode in each big Internet conference, clear that Internet technology should be combined with traditional domain, "internet + agricultural products" supply chain operation mode emerges as the Times require. However, due to the short development time, there is still a certain gap in comparison with the developed countries. This paper analyzes the operation mode of "Internet +" agricultural product supply chain in "Yimutian" enterprise, finds out the subjective and objective problems in the operation of the company, puts forward improvement suggestions to the enterprise, and analyzes the advantages and disadvantages of the mode, therefore, the measures to develop this mode in China can enrich the theoretical research of "Internet + agricultural products" supply chain.

Keywords:

Internet Accelerated Speed, Agricultural Supply Chain, E-commerce Platform

1. Introduction

1.1. Research background

Since ancient times, agriculture has been the primary industry of a country. The agricultural economy is a significant source of our national economy, thus solidifying China's status as an agricultural powerhouse. Therefore, issues related to agriculture have always been urgent topics for the state and widely discussed in society. Currently, the development of agricultural product production in our country has been relatively rapid, but the circulation of upstream and downstream enterprises in the agricultural sector has exposed more problems, especially lagging behind developed countries. This is a typical case of uneven development between production and distribution. Addressing this issue will resolve the pressing concerns of our agriculture. The agricultural product supply chain is a process that focuses on the connections at each link in the distribution chain, representing the entire journey from farmers' fields to consumers' tables. The traditional agricultural product supply chain mainly consists of suppliers, processors, wholesalers, retailers, and consumers. The most common issues with the agricultural product supply chain include multiple entities, complex links, and severe waste during transportation and storage stages. China's agricultural product supply chain started relatively late, only beginning to gain deeper understanding in the 1980s, making it more backward compared to developed countries. Vigorously developing an "Internet + agricultural products" supply chain is key to effectively addressing China's agricultural challenges. "Internet +" represents a new social form. By giving full play to the characteristics of Internet technology and combining advanced Internet information technology with various industries, enterprises can upgrade or transform their industries to enhance their vitality and productivity, and finally achieve the accumulation of enterprise wealth and continuously stimulate social creativity. Therefore, the business operation model of "Internet+" agricultural product supply chains has sparked a craze domestically, but after years of development, it is found that there is still no maturely operated company in the market. As the state and people have increasingly focused on issues related to "Internet+" agricultural product supply chains in recent years, how to optimize and improve the currently immature "Internet+" agricultural product supply chain operation model has become a key research focus.

1.2. Research meaning

This paper takes Yimutian as the research case to analyze its effects and shortcomings under the operation mode, which has certain academic value and practical significance, including the following points:

This paper takes Yimutian enterprise as a research case for analysis, which can help it better understand the effect of its operation mode implementation, and help it optimize the mode in a series of subsequent reforms, so as to give full play to the role of "Internet +" and achieve better development of the enterprise

China's "Internet+" agricultural product supply chain has only been developing for over a decade and is still in the exploratory stage. At this point, research by Chinese scholars on it is insufficient, especially concerning enterprises under the "Internet+" agricultural product supply chain model. In recent years, more and more agricultural product companies have responded to the call and started entering internet platforms. As a result, Chinese scholars have also begun to study the "Internet+" agricultural

product supply chain. Yimutian Enterprise was one of the early adopters. Analyzing its model's strengths and weaknesses can enrich theoretical research on the "Internet+" agricultural product supply chain.

1.3. Research status at home and abroad

With the concept of supply chain management first put forward, the research on supply chain management at home and abroad has been extensive and in-depth. In terms of breadth, the supply chains of various industries have been extensively studied by scholars at home and abroad to varying degrees; in terms of depth, the detailed aspects have been refined to the study of supply chain models and the structure of supply chains.

1.3.1. Current situation of overseas research

During World War II, Martin defined the supply chain as a process that delivers products from upstream to downstream enterprises and ultimately to consumers, inspired by military logistics. Over time, scholars like Christopher proposed that the supply chain is an integrated system, viewed from both ends as a process from supplier to consumer, involving the integration of information flow and capital flow, forming an overall network. Pfeiffer P analyzed case studies and identified the drawbacks of traditional supply chain management, emphasizing the importance of supplier strategic partnerships. For supply chain suppliers, having their own strategic partners can be extremely beneficial in dealing with unexpected events, which is significant for the development of the supply chain. Paul Wilson (2005) explored the advantages of integrating the internet into food industry and agricultural production supply chains, and proposed the necessary conditions for developing an internet-based agricultural product supply chain, including service content, legal frameworks, and technological support. RGovin dasamy and J Italia (2006) studied the "internet + agricultural products" supply chain from the perspective of consumer mindset. The rapid advancement of agricultural product supply chains in developed countries is attributed to the widespread information networks and strong national policy support. This has facilitated the integration of the internet with agricultural products, driving the swift development of supply chains in these countries. Biers (1998) proposed early on that the development of modern internet technology plays a very important role in the modern agricultural product supply chain. Blank (1998) specifically pointed out that there are geographical limitations in the production and sales of agricultural products, which the existence of the internet has effectively overcome. Tansen (2001) noted that the integration of internet technology with the agricultural product supply chain holds great potential, significantly enhancing the production efficiency and intelligence level of agricultural enterprises, as well as improving the quality of agricultural products. Norbert (2007) established a mature information management system (CNIFO), primarily addressing issues related to information transmission between agricultural product supply chains. Through this system, new internet technologies can facilitate smoother information flow between trading parties.

1.3.2. The current state of research in China

Chinese scholars started their research on supply chains relatively late, only beginning to conduct specialized studies on the concepts of supply chains and logistics in the 1980s. Chen Guoquan believes that a supply chain is a process, with its starting point being raw materials. After going through production, transportation,

processing, and other stages, these materials ultimately reach consumers. This entire network of processes is called a supply chain. Wang Daoping pointed out that the significance of a supply chain lies in enhancing control over logistics, information flow, and capital flow during operations, coordinating various organizations, and ultimately increasing corporate economic value. In existing research on agricultural product supply chain models, Chinese scholars have focused on studying the development and optimization of various models to promote the development of the agricultural industry and significantly improve economic levels. Zhang Qian et al. believe that when choosing a supply chain operation model, one should select based on available conditions. There are three options: traditional agricultural product supply chain model, supermarket-centric agricultural product supply chain model, and wholesale market-led agricultural product supply chain model. With the development of Internet technology, scholars in our country have been actively promoting and improving the establishment of a new supply chain model for "Internet + agricultural products." Integrating "Internet +" with the agricultural product supply chain is currently one of the main trends in supply chain management. This approach aims to further address the slow development of China's agricultural sector compared to developed countries. Tan Haixia and Zhang Min (2011) argue that during the period of promoting the mutual integration of agricultural product supply chains and the Internet, enterprises should introduce and cultivate specialized talent, while government departments need to vigorously develop China's logistics system, infrastructure construction, and electronic information engineering. Le Dong (2016), using vegetables as an example, outlined the basic framework of China's "Internet + agricultural products" supply chain operation model and conducted a deep analysis of its operational mechanisms from multiple perspectives. Li Zirong et al. believe that with the rapid development of the Internet, there has been a profound understanding of the interconnection between information technology and agricultural products, which has significantly improved the problem of unsold agricultural products. Smooth information transmission plays a crucial role in ensuring tight connections between various links in the supply chain.

2. Definition of Related Concepts

2.1. The concept of "Internet +" agricultural products supply chain operation mode

2.1.1. "Internet +"

"Internet +" refers to a new form of economic operation, which means that the Internet is combined with traditional industries by relying on relatively mature Internet information technology. By giving full play to the characteristics of Internet technology, enterprises can upgrade or transform their industries to enhance their vitality and productivity, and finally achieve the accumulation of corporate wealth. "Internet +" is ultimately about enterprises adopting the Internet of Things, big data, cloud computing, mobile Internet and other technologies to deeply change their products and the way they produce and operate their products. (Figure 1)

① IoT technology. IoT refers to the connection of certain products of a company with the internet through advanced electronic devices such as infrared sensors and global positioning systems. Through the function of the internet, it facilitates the transmission and exchange of information while enabling the identification and tracking of the company's products. Therefore, IoT technology can accelerate the

understanding of real-time data information about products, allowing for better utilization and allocation of production resources.

② Big data technology. Simply put, enterprises use some simple software tools to carry out large-scale fine processing of data. Then, through a series of methods, they conduct in-depth analysis of huge and complex data, find more suitable methods for enterprise development and management, and make improvements according to the data.

③ Cloud computing technology. This is a computing method that allocates resources reasonably to customers and integrates supply chain information through the Internet. More importantly, some enterprises establish their own platforms or software to increase customer experience, integrate the whole supply chain, and deeply explore the value of the supply chain.

④ Mobile Internet Technology. With the continuous innovation of smart mobile terminals, electronic devices such as smartphones and tablets have become widely popular, leading to an increasingly close integration of mobile internet with many fields. Currently, the most widespread mobile internet technology is the development of mobile internet client software (APPs). On these APPs, people can perform various operations, significantly enhancing business efficiency.

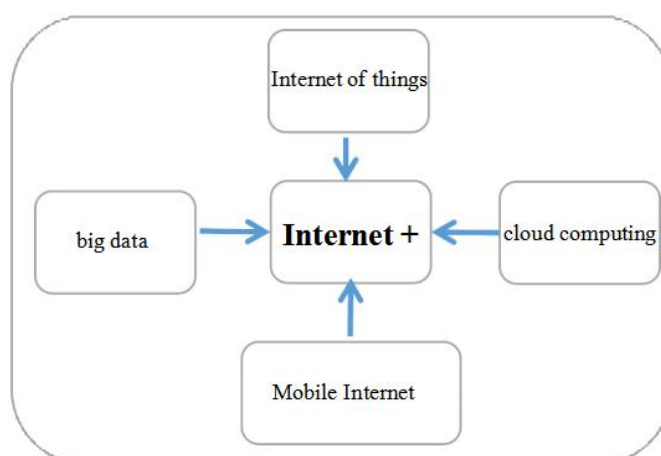


Figure 1. “Internet +” technology.

The “Internet+” agricultural products discussed in this article are the result of integrating China’s gradually developing internet information technology with agricultural products. On a deeper level, Internet+ agricultural products refers to breaking away from traditional technologies and significantly leveraging internet technology to promote corporate progress in the production, processing, logistics systems, and sales of agricultural products.

2.1.2. Agricultural product supply chain

The agricultural product supply chain refers to a core enterprise that primarily serves agricultural products. By focusing on this core enterprise, the entire process of capital flow, information flow, and logistics in production, sales, and distribution within the supply chain is integrated and controlled. The main entities in the supply chain include raw material suppliers, producers, processors, retailers, and consumers. Efficient operation of the supply chain ensures the completion of processes from the supply of raw agricultural materials to production processing, sorting and packaging, storage and distribution, and sales. Each entity in the supply chain achieves mutual

benefits, with their work processes influencing each other, thereby enhancing the efficiency of all stages. Farmers, who are also producers, engage in agricultural labor to grow crops and then sell the produce to earn sufficient compensation. Next, agricultural product processors further process and package the produce sold by producers according to different market demands and characteristics of various products, delivering them to wholesalers. Then, wholesalers acquire agricultural products from farmers and processors, sell them to retailers, who in turn sell the products to consumers with demand. Retailers are the final link, facilitating transactions between consumers and suppliers, ensuring that consumers purchase high-quality and affordable agricultural products. The supply chain is clearly stratified and well-organized, maximizing its efficiency.

2.2. Traditional agricultural product supply chain operation mode

China's traditional agricultural supply chain model can be roughly divided into three modes.

2.2.1. Traditional agricultural product supply chain model

Through the method of farmers producing and selling their own products, a market is formed where farmers find their own markets for their self-produced agricultural goods, creating a market structure dominated by themselves. In simple terms, it means that farmers produce and sell their own products, so this old model only involves producers and consumers. The traditional agricultural supply chain can easily lead to a series of issues such as poor sales, low quality of agricultural products, and difficulty in market control.

2.2.2. Agricultural products supply chain model with chain supermarkets as the core

The supermarket-led agricultural product supply chain model, also known as the supermarket-agriculture connection model, refers to a system where chain supermarkets act as the center. Farmers who grow agricultural products sign agreements with these supermarkets, supplying their produce directly to supermarkets and convenience stores. Alternatively, chain supermarkets collaborate with rural distribution cooperatives and township enterprises, supplying agricultural products directly to the supermarket, which then handles sales. In this model, the role of the chain supermarket is crucial. This supply chain model significantly streamlines some of the processes in agricultural product supply chains, ensuring the quality and safety of products. This operational model facilitates a positive feedback system between consumers and producers, enabling faster understanding of consumer needs and preferred products. It allows for professional analysis of market data and immediate notification to farmers to increase production. This helps improve strategies for producers and supermarket chains, ensuring the common interests of producers, supermarket chains, and consumers, thus forming stable relationships. However, this supply chain production model heavily relies on the strength of the supermarket itself. For supermarkets, it is necessary to have well-equipped processing and distribution centers, as well as a comprehensive reserve of agricultural products. If an error occurs at the supermarket level, the supply chain can easily collapse, necessitating the selection of a new core supermarket chain.

2.2.3. Agricultural supply chain model dominated by wholesale market

The agricultural product supply chain model, primarily led by wholesale markets, is one of the most widely used in China. This model refers to wholesale markets acting as intermediaries, connecting farmers with retailers. The main function is to integrate goods produced by producers, facilitating rapid connections and operations among producers, wholesalers, and consumers. In simpler terms, producers engage in transactions with wholesale markets or collaborate with rural distribution cooperatives and township enterprises to acquire agricultural products, which are then concentratedly sold to retailers, allowing consumers to purchase directly from these sellers. This mode enables the supply chain to transmit information smoothly, greatly increasing the sales volume of agricultural products, effectively solving the problem of unsold agricultural products and stabilizing farmers' income. However, this operation mode has a large cost, and China's supervision of wholesale markets is insufficient, lacking effective market systems and management measures, making the market relatively chaotic.

2.3. The new model of “Internet + agricultural products” supply chain

Since the introduction of internet technology in our country, with its growing maturity, more and more industries have been further deepened through the use of internet technology, thus changing people's lifestyles and living standards. The integration of internet technology with agricultural products has enabled efficient operations in production, supply, sales, and consumer purchases. Under the “Internet+” framework, the service model of agricultural product supply chain platforms takes consumer demand as a reference point, leveraging mature internet information technology to integrate resources such as business flow, logistics, and capital flow, developing diverse services to inject fresh vitality into the market. Simply put, farmers first need to register on an internet platform based on their own information, post photos and attribute parameters of their grown agricultural products on the platform website, and conduct transactions with buyers. Consumers can log into e-commerce platforms, browse sellers' products, place orders, and obtain local specialty agricultural products from afar. The greatest advantage of the agricultural product supply chain under “Internet+” is that consumers and producers can communicate directly, understanding various consumer needs through the network, which in turn influences the production and processing of agricultural products, enhancing the overall efficiency of the supply chain.

In recent years, due to the rise of “Internet + agricultural products” enterprises such as Yimutian and three hectares of land, enterprises mainly operating in the traditional agricultural supply chain have been greatly weakened. Compared with traditional enterprises, these new e-commerce enterprises have four advantages:

① To ensure the circulation of information, a large number of information and feedback on agricultural products are displayed on the platform one by one to provide help for agricultural products trading and for consumers to choose. ② Due to the large transaction volume of enterprises, most kinds of logistics distribution are completed with the help of third-party logistics or self-sufficient logistics distribution, completing the complete agricultural products delivery path from the agricultural origin to consumers. ③ The “Internet + agricultural products” supply chain operation mode enables the perfect combination of information flow and logistics. This combination enables producers and consumers to communicate through the platform, free from the constraints of time and space, and directly conduct transactions on the

network platform.^④ The “Internet + agricultural products” supply chain operation mode can make the sales of agricultural products not limited by regions and regions, so it expands the scope of demand for agricultural products, adjusts the allocation of market resources in China, and solves the big problem of unsold agricultural products for Chinese farmers.

3. Yimutian Enterprise Case Introduction

3.1. Introduction to Yimutian

Yimutian, established in 2011, is an electronic trading company for agricultural products that leverages mobile internet technology. It encompasses businesses such as supply, procurement, and logistics of agricultural products. By focusing on the enterprise core, it has built a broad-level agricultural product supply chain system, involving all parties from producers, processors, wholesalers, retailers to consumers. Its operational model is a new “Internet + Agricultural Products” supply chain model, which establishes a trading platform to facilitate successful transactions between buyers and sellers as a third-party platform. Since its inception, it has covered the sales of various types of agricultural products. The company’s philosophy is to promote the “flow of agricultural products into cities” and to make every mu of land more valuable.

On January 2, 2019, Yimutian completed a series of C-round financing totaling hundreds of millions of yuan. Following this, Yiguo Group and Huachuang Capital, after gaining a deep understanding of the company, proposed to lead the investment, followed by Sequoia Capital and other existing shareholders joining in. Currently, the Yimutian platform primarily consists of three major platforms: the Yimutian mobile APP, the Yimutian website, and the Yimutian direct number. The platform leverages internet information technology to help a large number of farmers expand their narrow sales channels, packaging agricultural products online, effectively addressing the issue of unsold agricultural goods. In the past decade since its establishment, Yimutian Group’s online platform has traded over ten thousand types of agricultural products; to date, it has served more than 250,000 customers and connected with over 2 million suppliers at various levels. In terms of business model, Yimutian integrates people involved in agricultural production, wholesale, sales, and logistics, leading the integration of the internet with the agricultural supply chain. In serving society, Yimutian Group has meticulously served the community by implementing the “Hundred Counties, Thousand Towns” program, training tens of thousands of agricultural producers, promoting the construction of new rural electronic information technology, and providing electronic information technology training for farmers.

3.2. Introduction to the “Internet +” agricultural products supply chain operation mode of Yimutian

3.2.1. Utilization of “Internet +” technology

The combination of Yimutian and Internet technology is very close. In order to improve the efficiency of agricultural products in production, processing, logistics, sales and other links, a large number of technologies such as Internet of Things and big data are used ^① The use of Internet of Things technology. Yimutian Company widely applies IoT technology in the storage and distribution of agricultural products. It collects and transmits information on transportation, circulation, and current

environmental conditions during the storage and transport processes. Therefore, Yimutian Company extensively uses technologies such as Radio Frequency Identification (RFID), Geographic Information Systems (GIS), and Global Positioning Systems (GPS). Given the unique nature of agricultural products, it conducts surveys on temperature, humidity, CO₂ concentration, and PH levels in the environment where the products are stored and transported.

② The use of big data technology. Currently, companies are leveraging big data technology more prominently in logistics traceability data. Big data technology helps Yimutian enterprises build intelligent logistics systems. Considering the calculation of logistics stop points during agricultural product transportation, it precisely calculates logistics routes through simple data processing software. This improves the rationality of agricultural product storage and transportation, reduces operational costs in logistics transportation, and enhances business efficiency.

③ The use of cloud computing technology. For cloud computing, Yimutian Enterprise collects, analyzes, and manages customer information resources. On the client side, it provides data mining of basic customer information such as regions and product details. It also predicts market trends and preferences for agricultural products in different regions, ensuring that the supply side has ample time and resources to prepare for the next batch of production.

④ The use of mobile Internet technology. The core of an acre of land is its Internet platform. The Internet platform has set up new sections such as today's market, supply hall, price, procurement order, customer search and so on. For consumers, it is enough to attract attention and enjoy the big data service of agricultural products provided by the platform, which greatly improves their income.

3.2.2. Convenient information transmission

The core of Yimutian is the Internet platform, which can avoid disputes between the two parties online through information transmission and processing through the Internet platform.

Adequate information on agricultural products. For a long time, the trading of agricultural products has been conducted through offline sales channels. It is important to note that in traditional supply chain models, producers and consumers cannot directly connect, leading to a closed market information flow and a single sales channel. Gradually, this results in issues such as unsold agricultural products or quality deviations, causing significant economic losses for farmers. For consumers, frequently purchasing agricultural products requires comparing multiple options to find high-quality and affordable products, which wastes a considerable amount of time and effort. Yimutian facilitates transactions between buyers and sellers by building an online trading information platform. It collects agricultural product information, presenting a wealth of data and feedback on the platform to assist in agricultural trade and provide consumers with choices. To ensure the authenticity of agricultural product information, Yimutian has also established numerous offline service stations for verifying the truthfulness of such information.

Comprehensive agricultural product trading dynamics. The official homepage of Yimutian allows consumers to find what they need through the categorization of agricultural products, including vegetables, fruits, seafood, tobacco, and alcohol. Users can browse according to their needs, making it very simple and intuitive for

both buyers and sellers. The website's design is exceptionally elegant and concise, primarily aimed at facilitating transactions between both parties, especially for farmers. After purchasing a product, both buyers and sellers can check the logistics route of the purchased item online. Consumers who need personalized or diverse services for their purchases can communicate directly with manufacturers. In addition, the website has five dedicated sections: Today's Market, Supply Hall, Price Trends, Purchase Orders, and Customer Search, making it convenient for consumers to follow today's special agricultural products. There are also two information exchange platforms: Agricultural News and Tianfen Forum, where consumers can communicate and share products with the public in a timely manner.

3.2.3. Simple and quick selling mode

There are two main types: one is to release supply information (Figure 2); the other is to offer quotations to purchasers (Figure 3). The simple and safe transaction mode provides a guarantee for both parties.

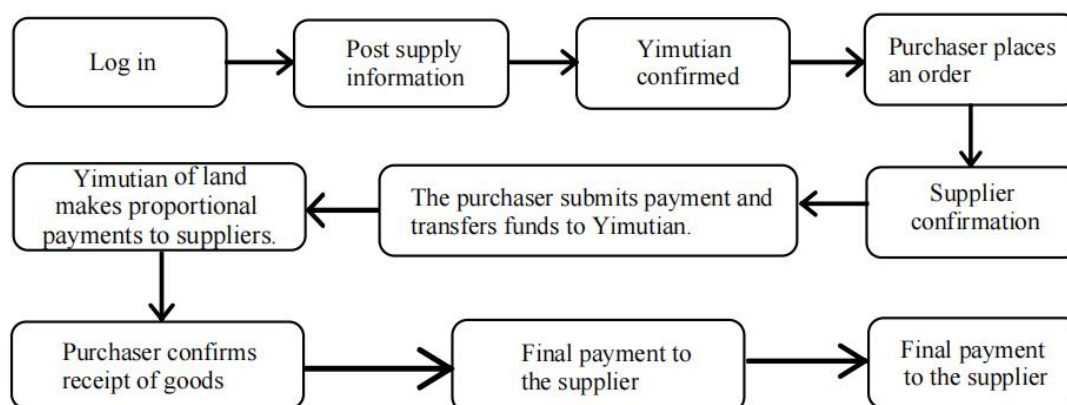


Figure 2. Release supply information.

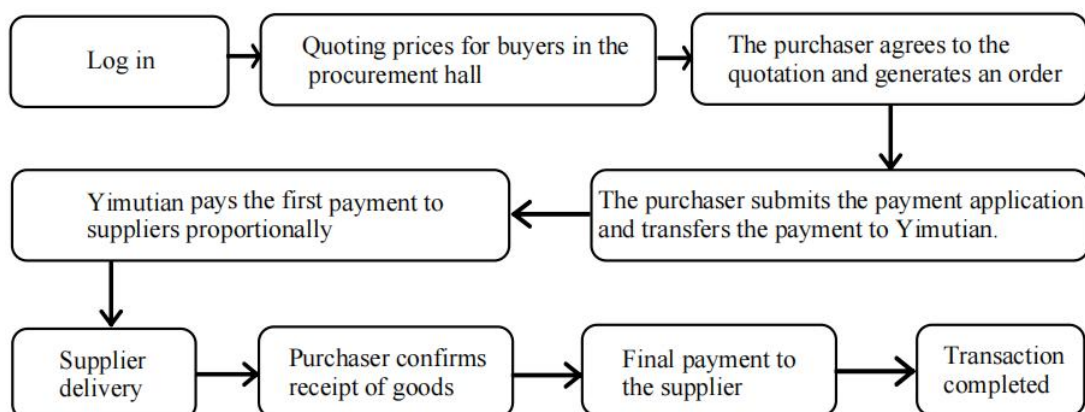


Figure 3. Buyer's quotation.

4. The Core Problem of the Existence of One Yimutian Enterprise

4.1. Negative behavior of the enterprise itself

In 2015, during a period of rapid growth for Yimutian, it was exposed that the company had engaged in data falsification. The public began to question the authenticity of the platform's transaction data, which often involved tens of thousands of transactions. Although the company's management quickly provided explanations,

subsequent investigations revealed that this was actually an operation to boost revenue through rebates, undoubtedly aimed at attracting more investment. However, this practice also brought irreversible negative impacts on the company.

Immediately following, it was reported that Yimutian Group was undergoing large-scale layoffs. An employee who had been dismissed began to expose Yimutian's fraudulent practices. As a result, many customers, due to these violations by the company, developed a trust crisis with the platform and automatically avoided it, leading to significant losses for the company and an immeasurable impact on the business.

4.2. Supply chain can support limited, value mining is not enough

From the perspective of agricultural product supply, the main suppliers for Yimutian are the production sites of agricultural products, so the vast majority are farmers as suppliers. Given that farmers' exposure and use of smart electronic devices pose a significant challenge and their low level of education and lack of technical personnel make it difficult to adapt to such complex processes compared to traditional sales methods. From the sales end of agricultural products, through data analysis and surveys, consumers who purchase agricultural products are mostly middle-aged and elderly people aged 40 to 60. Consumers in this age group tend to have conservative purchasing attitudes and prefer offline purchases, favoring traditional agricultural supply chain models. Objective factors have affected the number of consumers, with most still relying on large enterprises for bulk and multiple batches of purchases. It is evident that the value extraction from both the supply and sales ends of the supply chain has not been sufficiently deepened. Currently, Yimutian Network Company's transactions at both ends of the supply chain are limited to regular deals, leading to less than optimistic profit levels. The main revenue for Yimutian Network Company currently comes from transaction commissions at both ends, followed by small-scale reliance on existing platform traffic to attract attention to short videos, and additionally, membership fees and related value-added service charges. Therefore, the company has not considered how to more deeply tap into the value possessed by both parties in agricultural product transactions. The two primary issues it faces are: first, how to ensure that transactions continue on this platform; second, after the first transaction occurs, whether there will be an attempt to bypass the platform for offline transactions.

4.3. The food safety system and logistics distribution system are not perfect

Agricultural products differ from other common goods in several ways. First, the prices of most agricultural products are relatively low, yet their demand is high. Second, due to their perishability, they require rapid preparation and delivery, which incurs higher transportation costs, thus placing higher demands on third-party logistics companies chosen by Yimutian enterprises. Lastly, China has an enormous variety of agricultural products without a unified quality standard, making it difficult for consumers to determine the quality of purchased products based on online images or descriptions. For intermediaries, suppliers' products also need to be inspected, as there is concern about inconsistent quality. These factors contribute to lower acceptance of online purchases of agricultural products among consumers, leading to lower gross profit margins for companies.

5. Suggestions for the Development of Yimutian Enterprises

5.1. Supply chain integration and mining

In response to the insufficient value extraction from both ends of the supply chain, it is recommended that the company deeply integrate the entire “Internet + agricultural products” supply chain. This involves rectifying three aspects: upstream demand for agricultural products, midstream processing and wholesale of agricultural products, and downstream sales of agricultural products. It also includes establishing a logistics distribution system and improving after-sales service in the market.

5.1.1. Integration of upstream suppliers of agricultural products

There are two main types of upstream suppliers of agricultural products. One is to provide some raw materials and equipment needed for the cultivation of agricultural products. The other is fresh agricultural products produced by farmers.

Raw materials needed for planting agricultural products. The main products include various agricultural seeds, fertilizers, pesticides, farming tools, and agricultural machinery (such as harvesters, tillers, seeders, reapers, and cleaners), as well as raw materials required for building greenhouses. For such suppliers, Yimutian Company should select some strong and well-supplied manufacturers with high-quality products, and provide these companies with company certification.

Fresh produce. For fresh agricultural products, Yimutian Company can launch an “Elite Farmer” program, offering platform benefits and discounts to farmers with high sales and positive reviews. For example, the company can provide seeds and equipment that farmers need. By reaching agreements with high-quality enterprises, both parties benefit mutually. The company offers lower supply prices to “Elite Farmers,” which also increases the transaction volume of high-quality enterprises, allowing the company to profit as well.

5.1.2. Integration of midstream processors of agricultural products

Agricultural product processors mainly focus on premium packaging of agricultural products, such as local specialty processing (like ginseng, deer antler, silkworm pupae, and bee products), alcohol processing, and tobacco product processing. Therefore, Yimutian Network Company, understanding the demand for agricultural products from processors, communicates with suppliers to purchase at lower prices and better quality. For processors, this saves them the time and cost of traveling to rural areas for purchases. For suppliers, it allows them to sell their agricultural products steadily. For the company, it increases its reliance on the platform, and through operations within it, it can also gain financial benefits.

5.1.3. Integration of downstream sellers of agricultural products

For Yimutian Company, the demand from most sellers is relatively low, and the profit it can obtain from them is also relatively small. Therefore, Yimutian can shorten its sales channels by eliminating intermediaries, allowing agricultural product suppliers to sell their goods at lower prices while still achieving higher profits. This not only increases farmers’ income from agricultural products but also reduces consumers’ costs, significantly boosting sales volume and fostering strong goodwill and reliance on both ends of the business.

5.2. Establish a sound food safety system with the help of Internet of Things technology

First, integrate IoT technology to conduct online monitoring of agricultural production environment data, including air and soil temperature, humidity, and light intensity. This data is transmitted via the internet, uploading to headquarters on one side and to producers on the other, providing them with reference information. Second, given the wide variety of products, Yimutian Enterprise should establish highly professional evaluation standards for various agricultural products on the platform. Utilize IoT technology to study the attributes and indicators of different agricultural products, establishing a comprehensive quality standardization system for agricultural products. Furthermore, strictly prohibit non-compliant products that fail inspection from entering the market, and according to real-name registration, prevent individuals from selling other agricultural products. Strictly control the market to ensure customers receive safe, healthy, and edible products, thereby rebuilding customer trust and reputation.

5.3. Improve the logistics distribution system with the help of big data technology

Due to the special nature of agricultural products, the logistics and distribution system of enterprises is a key issue. First, companies need to increase investment in agricultural product logistics, particularly in cold chain logistics, to ensure that fresh produce reaches customers. Therefore, big data technology should be widely applied. Establishing agricultural product logistics centers at necessary urban transfer points can allow for short-term storage of fresh fruits and vegetables before further distribution. Second, collaborating with third-party logistics companies is essential. It is crucial to refine all logistics distribution routes and find the most efficient channels, utilizing various transportation methods to minimize logistics costs as much as possible. Both aspects require extensive data analysis for professional evaluation to reduce operational costs.

5.4. Combined with cloud computing technology, a new situation of smart agriculture has been built

For the use of cloud computing technology, the company can build a remote sensing monitoring cloud system for agricultural conditions. By leveraging cloud computing, it can process factors such as local climate, soil, and crop growth status to predict their impact on crop yields in different regions. Accurate predictions of crop yields can then be made and communicated to suppliers. This ensures that the company has sufficient inventory while also safeguarding the bottom line of agricultural businesses, which is crucial for long-term corporate development.

6. Conclusion and Outlook

6.1. Conclusion

Based on the agricultural products supply chain, this paper first expounds the concept of “Internet +” agricultural products supply chain, analyzes the operation mode of Yimutian enterprise with cases, discusses the problems of the “Internet +” agricultural products supply chain operation mode of this enterprise and puts forward suggestions, and finally summarizes the improvement measures of China’s “Internet +” agricultural products supply chain.

6.1.1. We will further increase government support for “Internet plus” agricultural enterprises

Improve the policies, laws and regulations related to “Internet + agricultural products” enterprises, and create a good legal environment. Punish some bad enterprises by law, revoke their business licenses, standardize online behavior, and purify the online environment. Increase the construction of basic environment in new rural areas, professionally train farmers’ planting techniques, and make rational planting use of science and technology. The cadres of the village committee popularize modern electronic information technology to all villagers, so that villagers can simply operate mobile phones, computers and other electronic devices to surf the Internet, and master the use of wechat, platform, Alipay and other APPs. The rights and interests of consumers should be protected, and illegal operations such as selling inferior products and cheating consumers on the client side should be strictly dealt with.

6.1.2. Establish an exchange platform to strengthen the guidance of consumers

According to market research, most consumers still prefer traditional methods for purchasing agricultural products, favoring offline retail over online shopping. Therefore, companies need to provide good guidance. First, they should establish communication platforms, such as WeChat work accounts and short videos, to promote and enhance public awareness. Second, they should set up a consumer review system to gather customer feedback, improve after-sales service, and build a positive reputation.

6.1.3. Establish innovation awareness, build competitive advantage

In today’s rapidly developing economy of our country, various industries urgently need to seek breakthroughs, and innovation is the foundation for enterprises to survive and thrive. The integration of agricultural product supply chains with the internet requires even more innovation, as some loopholes and drawbacks of enterprises can be infinitely magnified online. Moreover, due to intense competition among internet companies, any misstep can lead to being overtaken. Therefore, “Internet + Agricultural Products” supply chain enterprises strongly advocate innovation within their companies. First, they establish brand awareness, create unique characteristics, and develop marketing strategies based on these features to form competitive advantages and gain a foothold in the market; second, they actively recruit young personnel and technical professionals, fundamentally infusing fresh blood into the company, aligning with the times, and achieving sustained development.

6.2. Outlook

Based on the in-depth investigation of Yimutian Enterprise, some improvement measures are summarized. However, there are still some deficiencies in this study:

The supply chain of agricultural products is complex and diverse, with a variety of modes coexisting. Due to the limitations of research scope and level, the details of the supply chain of enterprises in this paper may not be accurate, including the agreements signed privately by enterprises and the specific data of the platform’s background.

There are many kinds of agricultural products and various supply chain models. The “Internet +” agricultural product supply chain model of one enterprise of Yimutian

cannot represent the whole picture of the agricultural product supply chain of the whole market, and more extensive and in-depth research and discussion are still needed.

In view of the above problems, we will continue to study and discuss in the next step. First, we should deepen theoretical learning and discussion to improve our theoretical and academic foundation; second, we should conduct in-depth investigation and practice in the industry to improve our understanding of the application of agricultural supply chain, so as to lay a solid foundation for further research.

Conflicts of Interest

The authors declares that there is no conflict of interest regarding the publication of this article.

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