The “Internet +” Intelligent Agricultural Products Circulation Channel Based on the Fourth Party Logistics

Bingfeng Liu*
School of Management and Economics, Jingdezhen Ceramic Institute, Jingdezhen, Jiangxi, China
*Corresponding author (E-mail: liubingfeng@jci.edu.cn)

Abstract

The circulation of agricultural products is closely related to the development of agricultural industrialization and the process of agricultural modernization. Lack of effective circulation system of agricultural products will lead to poor circulation of agricultural products, especially some crops related to fresh agricultural products and agricultural products market. There will be a series of problems, such as the coexistence of difficult to buy and sell and “buy and sell”, the increase of agricultural output, or the increase of output and income. As a link in the supply chain of agricultural products, farmer cooperatives are one of the most important industrial organizations and institutional arrangements. They are an important part of the circulation of agricultural products, and their marketing channels are an important part of the circulation of agricultural products. It is this demand for agricultural products that produces the fourth party logistics, and the fourth party logistics is a brand-new logistics mode under the Internet business model. This paper studies how to utilize the logistics function of the fourth party logistics, improve efficiency and quality, reduce costs and environmental pollution, integrate the whole supply chain, and meet the various needs of the society for physical products. And the “Internet +” economic development mode, through the Internet to access big data of agricultural products, connect the Internet, cloud computing, big data and the Internet of things, so that the way of agricultural development will change. By analyzing the distribution channels of national agricultural products, this paper further analyses some models and characteristics of domestic agricultural products. On this basis, we constructed an intelligent agricultural product circulation channel based on the fourth party logistics “Internet +”. Agricultural products can be included in online and offline channels, and the circulation speed and quality of agricultural products can be improved through this model. In view of the demand of agricultural products circulation, some suggestions on strengthening agricultural products circulation are put forward.

Key words: Fourth Party Logistics, Internet Plus, Agricultural Products

1. Introduction

The formation of dual economic structure is mainly attributed to the long-term economic development ideas of “attaching importance to cities, despising rural areas” and “attaching importance to production and despising circulation”. On the basis of the dual economic structure, the current urban-rural dual market structure has been formed. On the one hand, the urban market system is characterized by perfect infrastructure and complete system; on the other hand, the rural market system is characterized by lack of infrastructure and system. This model eventually formed the segmentation of urban and rural markets. It is bound to be constrained by the bottleneck of backward development of the rural market. In order to solve this development dilemma, scholars have innovated the traditional agricultural product circulation channel model from different angles. The circulation modes of “super agricultural docking”, “agricultural docking”, “agricultural docking” and “agricultural elimination docking” were put forward. However, in practice, it is found that these channel models usually have problems of high default risk and low channel cycle efficiency between channel entities. The purpose of this paper is to optimize the relationship between node enterprises (or individuals) in agricultural products circulation channels by using the concept of mutually beneficial cooperative supply chain management. Focus on the effectiveness of the entire agricultural supply chain, establish partnerships between enterprises (or individuals) in all sectors, and improve farmers’ income level on the basis of win-win cooperation. Thus, the problem of “agriculture, countryside and farmers” can be effectively solved.

The circulation of agricultural products is related to the development of agricultural industrialization and the process of agricultural modernization. This cycle determines production. Only modern recycling methods can promote modern agricultural production. The ability to maximize the output of agricultural products lacks an effective circulation system [1-3], which will lead to poor flow of agricultural products, especially fresh agricultural products. The circulation time of agricultural products is too long, and the circulation cost and loss rate are too high. Compared with industrial products, agricultural products are greatly affected by natural
disasters, growth cycle and other factors, resulting in large fluctuations in agricultural prices. Agricultural products are the main source of farmers’ income and an important part of citizens’ consumption expenditure. How to ensure the price stability of agricultural products and avoid the emergence of “sale” and “high-price purchase” has become an important issue in the research of agricultural products circulation channels.

In recent years, the “Internet +” mode has penetrated into the entire agricultural industry chain, from production to sales to operation [4-7]. “Internet +” mode has changed the entire agricultural product chain through changing the material, capital and information flow of the entire agricultural industry chain, to achieve the goal of mutual benefit and win-win, thus changing the traditional mode of agricultural development. Next, we look at the deep impact of the “Internet +” agricultural development mode from the upstream, middle reaches and downstream of the whole agricultural industry chain. First, from the perspective of the upstream industry chain, the “Internet +” mode goes deep into the agricultural production information market, which will affect the production, sale, marketing and after-sales service of agricultural production materials, and in turn, the production of agricultural means of production. The traditional relationship between farmers and farmers has also changed. Secondly, from the middle reaches of the industrial chain, the “Internet +” mode has entered the field of agricultural production. Through the information integration of the Internet, big data analysis, cloud computing and remote control technology; [8-11] can realize agricultural intelligence and precision agriculture. Third, from the perspective of the downstream industry chain, the “Internet +” mode will change the traditional agricultural products consumption and consumption market from time, space, cost, safety, and so on, so that consumers of agricultural products can directly participate in and experience personally, so as to achieve a secure consumption and personalized consumption. From the “Internet +” impact on the agricultural industry chain, we can see that the e-commerce mode of agricultural products has an incomparable advantage. It can optimize the whole industrial chain, reduce the cost of agricultural production, increase farmers’ income, and mobilize farmers’ enthusiasm. As a new trade mode, electronic commerce has the characteristics of openness, globality, low cost and high efficiency. E-commerce of agricultural products will help to adjust the structure of agricultural industry and change the mode of agricultural development. As e-commerce of agricultural products is a new type of online marketing of agricultural products, there are no more successful models. Therefore, if we want to develop agricultural products, we must study and formulate the e-commerce marketing model of agricultural products according to local conditions.

Based on the above background, this paper puts forward the “Internet +” intelligent agricultural product channel model based on the fourth party logistics. The specific work is divided into three points:

1) Several typical modes of agricultural products circulation channels are analyzed.

2) On the basis of this, we build an “Internet +” intelligent agricultural product channel model based on the fourth party logistics.

3) Suggestions for the development of agricultural products circulation channels are given.

2. Analysis on the Circulation Channel of Agricultural Products

Logistics supply chain management produces goods by effectively combining suppliers, manufacturers, warehouses and stores to meet service level requirements while minimizing system costs. And a set of methods to transport a certain amount of goods to the right place at the right time. Agricultural supply chain management covers all business activities of agricultural production, supply, processing, transportation and sales, aiming at maximizing the value of the entire supply chain.

2.1. Circulation of Agricultural Products

At present, there are two typical models of agricultural product logistics in developed countries. One is the supermarket-based agricultural product logistics represented by the United States, the other is the agricultural product logistics led by the United Agricultural Association represented by Japan in recent years. Scholars at home and abroad have studied the logistics model of agricultural products from different perspectives. From the choice of agricultural products logistics mode, there are also differences in different regions or different types of agricultural products logistics mode. Agricultural products are an important category of many commodities. This also makes the circulation of agricultural products [12-15] relatively independent of other commodities in terms of storage equipment, transport means and professional technology. The circulation of agricultural products is the circulation of commodities from the beginning of farmers to the end of consumers. Reducing the cycle can effectively reduce the cost of agricultural products. This paper defines the circulation of agricultural products as the process of transferring from producers to consumers through continuous trading after the production of agricultural products. This includes the acquisition, storage, processing, packaging, transportation and marketing of agricultural products, to realize the “thrilling leap” of agricultural products.

The circulation of commodities refers to the process of transferring commodities to consumers through multiple transactions by organizations carrying commodity movements after commodities are produced.
Therefore, we can define the order in which goods are brought from producers to consumer economic organizations as distribution channels. As a link between production and consumption, circulation channels are not isolated links, but an integral whole. According to the definition of distribution channels, agricultural products circulation channels can be defined as: the process of transferring agricultural products and related services from producers to consumers through interrelated organizational sequence includes circulation routes, circulation links, channel structure and organizational methods. At the same time, the circulation channels of agricultural products are not single, but a collection of these organizational sequences, which is the only way for farmers to convert products into income. Therefore, the circulation channels of agricultural products in China are various, including “farmers + wholesale markets” and “farmers + cooperative organizations”, “Farmers + Enterprises”, Super Docking of Agriculture, Agricultural Products and Other Forms of Electronic Commerce.

2.2. Fourth Party Logistics

Fourth Party Logistics [16-19] refers to supply chain integrators providing a series of logistics planning, demand forecasting, information integration and customer management solutions for agricultural suppliers and third party logistics companies. In essence, it does not undertake specific logistics activities. This model helps to reduce costs globally, integrate enterprise resources and control logistics activities. There are many similarities in the definition of fourth party logistics. Firstly, fourth party logistics not only provides pure logistics services, but also provides complete supply chain solutions for enterprises. Fourth party logistics strengthens the relationship between enterprises and stakeholders. Providing services is not limited to their own resources, but will integrate the advantages of resources, capabilities and technologies of other cooperative enterprises and even customers. In order to provide high-quality services to customers, customers are both partners and service providers in the process.

Unlike the third-party logistics, which focuses on the implementation of logistics, the fourth-party logistics focuses on the operation of the entire logistics industry and the smooth operation of the entire supply chain. The main components of the fourth party logistics in the operation process include cargo owners, management consultants, technical service providers, third party logistics and customers. In order to ensure the smooth supply chain, the fourth party logistics should coordinate the cooperation among all parties. Realize the high quality of the whole logistics service process. In this case, the effective transmission of information becomes extremely important, and information such as the flow of various projects, the dynamics of partners and the new needs of customers need to be timely transmitted to the fourth party logistics. In order to adjust in time in the whole supply chain, under the current traditional fourth party logistics system, information transmission is often one-way, gradual and inefficient. For example, if there are errors in the location of the project, the first information needs to be fed back to the third party logistics of logistics service, and the third party logistics will feed back the problem to the fourth party logistics. The fourth party will formulate a new logistics plan according to the problem, and the new logistics plan will be fed back to the third party logistics until the fourth party logistics will deliver the goods to the right location again. Only then can the customer know the relevant information. In the whole process, not only must the customer wait for the correct results, but also the feedback of the fourth party logistics is not timely.

Descriptive statistics can effectively show the general characteristics of the respondents, including the nature, the time to engage in logistics services, the time to join the fourth party logistics platform and other statistical variables. According to these statistical characteristics, the respondents can be refined. In this study, the object of the questionnaire is identified as the logistics enterprises participating in the fourth party logistics platform, because the fourth party logistics in China is still in the primary stage. In this stage, the fourth party logistics platform studied in this paper is also a logistics enterprise. Therefore, the object of the questionnaire is identified as logistics enterprises.

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<th>Table 1. Descriptive statistical result analysis</th>
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Lack of timely information feedback will lead to a great discount in logistics efficiency. The addition of the Internet of Things solves the problem of real-time information sharing in the fourth party logistics, and can obtain the information you want in real time. The dynamic changes of customers’ needs and logistics operation process will be reflected to relevant departments through the Internet of Things platform in time. It greatly improves the efficiency of the whole supply chain.

2.3. Agricultural Products Circulation Channel

Because of the characteristics of agricultural products themselves, agricultural products logistics also has different characteristics from other products’ supply chains, which are mainly manifested in the following aspects:

(1) Logistics has many participants and its structure is complex. This includes manufacturers, processors, wholesalers, retailers and end consumers. At the same time, there are many kinds of products in the agricultural product market, and the differences between products are very large. Therefore, the circulation and trading process of products is very complex in the whole logistics operation process.

(2) Agricultural products logistics has higher requirements for agricultural products in the whole logistics field. In addition to the diversity of people’s demand for agricultural products, products will be distributed in different regions. However, the perishability and short life cycle characteristics of agricultural products require high timeliness of logistics. This increases the cost of agricultural products in the circulation process, and limits the choice of circulation routes of agricultural products. Moreover, in the process of agricultural products circulation, the coordination of logistics, information flow and capital flow is very important. In the actual operation process, logistics is more represented by the process of commodity entities, constrained by the characteristics of agricultural products, warehousing, transportation and logistics distribution requirements are very high. Therefore, the cost and difficulty in circulation are very great. With the continuous development of e-commerce and the individualized pursuit of the demand for agricultural products, the problems in the circulation of agricultural products have become increasingly prominent. This also seriously affects the overall efficiency of logistics.

(3) The coordination of product circulation in agricultural product logistics is difficult to improve the overall value of logistics. Because the production and consumption links of agricultural products are decentralized, and the transmission of market information is also difficult, it is difficult to accurately grasp the market supply and demand and competition information; the seasonal characteristics of agricultural products affect the prices of agricultural products in the market, and this effect is difficult to adjust in a short time. In the traditional agricultural logistics market, logistics management, information flow and capital flow are very important. Lack of coordination will hinder circulation and the function of the whole system, and lead to structural contradictions in agricultural production. The development and evolution of logistics has certain laws. With the development of modern electronic information technology, especially the Internet, the supply and marketing industry chain of agricultural products has undergone tremendous changes. In particular, the emergence and application of new technologies such as mobile Internet, big data and Internet of Things have accelerated the transformation of production mode, transaction mode, consumer preferences and consumption mode, expanded the market boundary of agricultural production and circulation, and accelerated the circulation speed of agricultural products.

3. Construction of Intelligent Agricultural Products Circulation Channel

The formation of agricultural product logistics mode dominated by core enterprises is the inevitable development of agricultural product market. The core enterprise in this model is the choice of environment and enterprise’s own factors, including external factors, internal factors and the characteristics of the core enterprise itself. The specific factors affecting the formation of core enterprises include the development of economic globalization, the diversity of customer needs, the intensity of logistics competition, scientific and technological progress and other external environmental factors. The internal factors of logistics, such as the need for stable development, the need for revenue, the need for core competitiveness, as well as the scale, market influence, technological innovation ability and product market share, are based on these factors. The characteristics of agricultural products circulation market, enterprise-led agricultural products logistics has three main modes: leading enterprises, leading wholesale markets, leading chain supermarkets and so on.
The fourth party logistics based on “Internet +” is the first step of the fourth party logistics to the development of intelligent logistics. The Internet of Things combines Internet, cloud computing, data analysis and other technologies with fourth party logistics through the Internet. A method to make the fourth party logistics more intelligent. Logistics network logistics platform is a comprehensive, integrated and intelligent logistics information management center. Its core function is to integrate and monitor all resources, expertise and related technologies that are useful to suppliers. A platform for sharing information and resources between companies with different processes and without cross-cutting environments. The characteristics of the fourth party logistics system based on “Internet +” are mainly embodied in two aspects: information technology and automation.

3.1. Leading Model of Enterprises (Production and Processing)

The leading enterprises formed by the development of agricultural industrialization are the basic forms of agricultural management development in China. Leading enterprises use contract relationship to organize various farmers in decentralized operation, implement planned and professional production and operation. To provide ideas for solving the problems of agricultural production, processing and marketing, as well as the contradictions between small agricultural production and large markets. Leading enterprises in agricultural production and processing are the key to industrialized operation and the intermediate bridge between most farmers and sellers and consumers in the supply chain. And it plays a key role in the decision-making and plays a leading role. At the same time, by optimizing the cost, service quality and operation efficiency, we need to jointly develop the main market, external basic environment, information platform and other factors during operation. In order to achieve the optimal resource allocation method and the optimal logistics solution in the whole logistics chain control, the efficiency of logistics system can be improved. Reduce costs and maximize benefits.

The leading supply chain model of leading enterprises in agricultural industrialization mainly includes “enterprise + peasant” mode, “enterprise + intermediary organization + peasant” mode, “enterprise + intermediary organization combination + peasant household” mode, “association + enterprise + intermediary organization alliance + peasant” mode. At present, the research finds that “association + enterprise + intermediary organization alliance + peasant” mode has gradually become the mainstream mode. Leading enterprises have a certain influence in the whole system, and have a certain scale and reputation. The supply chain of agricultural products can rely on this influence to form long-term cooperative relationship with upstream and downstream node enterprises and improve the control of the whole process of production chain, production, transportation and warehousing.

![Figure 1. Leading enterprise-led agricultural products logistics model](image)

3.2. Wholesale Market Leading Model

With the development of agricultural products market, in order to alleviate the contradiction between agricultural production and market, the wholesale market of agricultural products has gradually formed. The emergence of this model provides ideas for better handling the contradictions between production and market. By establishing the wholesale market of agricultural products in the producing and selling areas, it can provide agricultural products to consumers more quickly. The emergence and development of wholesale market model promotes the integration of supply and demand of agricultural products in China. This model belongs to a traditional model, but it occupies a dominant position in the development. The wholesale market is at the core of the supply chain. It can not only link up and down the processing enterprises and sellers through its own core
location, but also provide a place for the development of the supply chain to improve information sharing. The characteristics of large-scale wholesale market lie in its large variety, large quantity and wide range, but its transaction process is complex. The integrated effects of wholesale market of agricultural products on commodity supply and demand are as follows: (1) the economic scale effect caused by the concentration of a large number of agricultural commodities; (2) the scope economic effect caused by the concentration of agricultural commodities in categories and geographical location. (3) The time-economic effect of agricultural product information integration; (4) the transaction cost saved by integrating supplier and supplier transaction information.

Peasant household

Production and Processing Enterprises

Wholesale Market Management Platform

Supermarket chains

Retailer

Consumer

Figure 2. Wholesale market-led agricultural products logistics model

3.3. The Leading Model of Chain Supermarket

The biggest characteristic of chain supermarkets is that they are large in number and scale. Especially in recent years, with the rapid development of our economy, chain supermarkets have blossomed all over the big cities in our country. Secondly, supermarket chains can exert the effect of agricultural products, gather a large number of high-quality products and end-users, and have more obvious effect in product brand promotion. Compared with other models, supermarket chains have the strongest control ability. Chain supermarkets are mainly demand-oriented supply chain mode. The main audience is the huge number of residents in the vicinity. The purchase habits of individual consumers have little impact on the overall supply chain. Chain supermarkets can realize the connection between the scale production of agricultural products and the end consumption, thus realizing the flat management of supply chain.

Chain supermarkets play a leading role in the distribution center of logistics and information flow, which can reduce the total inventory cost and satisfy customers’ consumption needs by providing many kinds of products. Chain supermarkets reduce market risk by expanding market share through chain stores and establishing resource sharing among supermarkets. Distribution of supermarket chains makes customer information acquired by off-line stores regional, so it is necessary to integrate information to make timely response to customer purchasing behavior. The efficiency and sharing degree of information transmission in this model have a great influence on the response of suppliers, producers and retailers to uncertain market risks in the whole logistics. Traditional agricultural product logistics model management system has the phenomenon of information islands, which hinders the timeliness and effectiveness of information transmission between agricultural products production, transportation, sales and end consumers. The logistics mode of agricultural products dominated by core enterprises is based on farmers. The products they produce will eventually reach consumers through middlemen and logistics suppliers. The whole process is due to farmers’ lack of large-scale production thinking and trading initiative, resulting in the imbalance of interest in agricultural logistics.

3.4. Fourth Party Logistics Based on “Internet +”

The fourth party logistics based on “Internet +” is a set of information. The main force of “Internet +” is the hottest Internet of things [20]. The sensor systems of various sensors in the Internet of Things realize the complete connection between all objects, between objects and between enterprises. In the Internet of Things system, any operation process of the fourth party logistics will produce huge amounts of data, and through the Internet of Things platform, these huge data will be analyzed and processed, thus promoting the smooth flow of the fourth party logistics from the shipper’s logistics demand to the fourth party logistics receiving orders, as well as management consultants, technology providers and other intermediary participants to design supply chain logistics solutions.
The information flow can be said to be ubiquitous in the process of implementing the whole logistics plan in the fourth party logistics, then delivering goods to customers, and finally evaluating logistics services by customers. Through the powerful information and data processing platform, the information generated by the whole logistics plan can be timely fed back to all the relevant participants of the fourth party logistics. Customers and partners can timely access to relevant information and logistics service processes. Based on the reputation of their own industry, the fourth party logistics enterprises integrate the vehicle, storage, information and other resources of the third party logistics enterprises through reputation influence. Information systems such as automatic warehouse application system, automatic distribution application system and logistics resource dispatching system are also used. In the era of rapid development of information, the fourth party logistics (4PL) effectively achieves the correctness of information through the Internet of Things, and can be processed quickly to ensure the quality of logistics services provided by 4PL.

In the emerging era of the fourth party logistics system, each part is independent of each other. Agricultural producers send logistics demand to the fourth party logistics company. In addition to the ability to transmit information directly between adjacent subjects in a timely manner, the third topic is needed to transmit information between other subjects. Fourth party logistics not only plays the role of “connection” and “management”, but also updates and supplements knowledge in real time according to the changes of actual situation. Change or adjust strategies in time so that they can operate effectively. The fourth party logistics company carries out order analysis with management consultants and technical service providers. Then, the plans formulated in this series will be communicated to the third-party logistics enterprises, which will arrange logistics according to the logistics plan to realize the transmission of agricultural products. After the owner receives the logistics, the goods are extracted and delivered to the customer. The corresponding information flow is sent by the customer to the third party logistics, and then transferred from the third party logistics to the fourth party logistics, and the fourth party logistics is delivered to the shipper.
Fourth party logistics unifies the management of the entire logistics system, integrates the company’s resources, relevant capabilities and professional technology and other company services, and solves the problems in the entire logistics chain. Form an organic whole. Based on the basic environment of E-commerce logistics complex Park and bonded logistics park, the internal platform of third-party logistics enterprises with the same standards but separate from each other is integrated into a customer service system, that is, to build a fourth-party logistics platform, so as to realize the matching of logistics demand and supply, reduce resource waste, reduce logistics cost, and provide more advanced logistics support services. For example, logistics solution design and supply chain optimization.

Figure 5. Fourth party logistics system based on “Internet +”

3.5. Operation Results and Evaluation

Logistics companies rely on the management concept and mode of third-party logistics services, focusing on the integration of logistics, information flow and capital flow to provide customers with differentiated solutions to problems. The company has good basic conditions, including: (1) warehouse distribution. X Logistics Company has a warehouse area of more than 200,000 square meters in China, including self-built, joint-built and leased warehouses. In addition, the company’s industrial warehouse has a land reserve of more than 1200 mu. (2) Vehicles and suppliers. X Logistics Company owns 225 vehicles, mainly including city cargo distribution vehicles, refrigerated cargo vehicles and dangerous chemicals transportation vehicles. In addition, more than 1200 vehicles are under long-term contract with the company, and more than 60 transport suppliers cooperate with 20 major business cities in the country. (3) Company information network. The IT team of X Logistics Company has designed and developed related operating systems, including: WMS warehouse management system, such as daily maintenance of goods in and out, goods inventory and statistical analysis of inventory reports; TMS distribution management system, such as order planning, vehicle scheduling, transportation tracking and KPI report analysis, can dock with customer information system, hand-held RF scanning checking in Operation of goods out of warehouse. In addition, X Logistics Company is a member of China Supply Chain Association, France International Supply Chain Association and German Chamber of
Commerce and Industry. In the process of learning and communicating with foreign countries, it has grasped some advanced information technology and experience. At present, the business of X Logistics Company has expanded from simple warehousing and distribution to integrated services such as warehousing, document storage, distribution services, training, use services, goods return or transfer services, express delivery services and receiving services.

The following is the operation of the company under the “Internet +” fourth party logistics system.

The business situation in one year is as follows:

The following is the acceptance of the system by the employees of the company.

From the above survey results, we can see that the system is very good in the company’s application, the company’s structure is very reasonable, and the output value within one year can also achieve a very satisfactory result. Finally, the customer satisfaction survey shows that the system is very suitable for X company to develop its business.

3.6. Fourth Party Logistics Based on “Internet +”

Based on the domestic and foreign agricultural products circulation mode, this paper constructs the agricultural products circulation mode proposed in this paper, which is mainly to optimize the logistics mode and construction centered on the fourth party logistics, “Internet + Express + Agricultural Products” Logistics Model, Increasing the Development of Direct Sales Model, Promoting “Vehicle Sale” Agricultural Products Circulation Model, Drawing on the “Batch and Zero Alliance” Model, etc. In order to ensure the smooth
implementation of the above model, this study believes that the authorities should strengthen policy research, strengthen market management, build a non-profit agricultural products trading market, increase investment in cold-chain logistics equipment, and optimize the network information platform. It is further emphasized that the choice of agricultural product logistics mode should fully understand the advantages and advantages of different modes and not adopts specific modes.

![Accreditation Survey](image)

**Figure 8. User acceptance**

Optimize the channel circulation mode. Drawing lessons from the circulation experience of agricultural products at home and abroad, combining the actual development of domestic agriculture and the actual distribution channels, simplifying the circulation link, introducing the Agricultural Internet platform, while the relatively professional third-party logistics and third-party payment platform participate in the whole circulation process. The government will coordinate and coordinate the resources of all parties, strengthen the supervision and guarantee of the circulation process, increase the support for the circulation of agricultural products, and reduce the logistics by optimizing the logistics model of products, the sales model of Internet platform, and the planning of large data analysis, to guide and promote the cooperation of third party logistics and complete the construction of fourth party logistics and intelligent agricultural products.

4. Conclusions

Firstly, on the basis of agricultural products logistics management and channels, this paper expounds several classical ways of agricultural products circulation. This paper analyses the intelligent agricultural product logistics mode produced in different periods, and probes into the relationship between the fourth party logistics and the circulation channels of agricultural products. Then it introduces the logistics maturity model and upgrades the logistics system of agricultural products. Agricultural product logistics management model is a process of evolution from low-level to high-level, from internal integration to external collaboration, from chain structure to network structure. Based on the systematic evolution mechanism, under the combined action of external factors and internal factors, it gradually upgrades and optimizes. Secondly, based on the analysis of the current external environment and internal problems of agricultural products, it puts forward and establishes a new model. Finally, based on the method proposed in this paper, the suggestions for the development of circulation channels of agricultural products are put forward, so that the circulation channels of agricultural products are really intelligent in the current stage of “Internet +” rapid development.

**Acknowledgements**

This work was supported by general project of management science of Jiangxi natural science foundation in 2018 “The Impact of R&D Team Knowledge Governance on Breakthrough Innovation Performance: An Empirical Study from Ceramic Enterprises” (20181BAA208007).
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