Analysis on the Restrictive Factors of Promoting Agricultural Products Cloud Logistics Mode under Smart Logistics

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Abstract: Equipped with the rapid development of e-commerce, the volume of e-commerce transactions in agricultural products has also shown a sharp increase. However, the low level of agricultural product logistics in China has seriously hindered the circulation of agricultural products. In the context of smart logistics, the use of cloud technology to transform the agricultural product logistics model has become a trend. This paper will analyze the Interpolation Factor Interpretation Structure Model (ISM) of agricultural product cloud logistics model, and provide relevant path reference for the transformation and upgrading of agricultural product cloud logistics model.

1. Introduction

1.1 Smart Logistics Becomes Dominant

With the continuous upgrading and transformation of the logistics industry, smart logistics has gradually moved from behind the scenes to the stage, gradually changing from concept to practical application. The rapid rise of emerging technologies such as the Internet, big data, Internet of Things, cloud logistics, artificial intelligence, etc., the traditional logistics model is increasingly unable to adapt to the needs of social development, the transformation of production methods and circulation methods, the upgrading of consumption patterns, and the emergence of The group's new retail, instant delivery, and new experience are also in urgent need of the support of smart logistics. The great transformation of smart logistics has become the axis of social development and has entered the historical arena.

1.2 The Drawbacks of Agricultural Product Logistics Model Are Obvious

At present, there are market information asymmetry in the main agricultural product logistics mode, and the relevant stakeholders are each in a row. The recognition of logistics technology is not strong and the investment is not enough. The agricultural product logistics continues the traditional operation method, resulting in low satisfaction of logistics service and high logistics cost. The disadvantages of the owners of agricultural products cannot be guaranteed. With the development of the Internet and e-commerce, the transition from sweat logistics to online and offline, and smart logistics has gradually changed. It is a trend to seek advanced construction and optimization of agricultural product logistics development models.

1.3 Cloud Logistics Makes It Possible to Upgrade and Optimize the Agricultural Product Logistics Model

The logistics model of agricultural products is based on smart logistics. In recent years, it has become a hotspot in the field of agricultural product circulation. It has built a cloud logistics platform targeting agricultural products. Under the guidance of terminal sales, farmers, logistics companies, distributors and other relevant stakeholders have been established. Publish, query, search information on the platform, apply cloud computing, big data aggregation and integration, and realize the sharing of supply and demand information, which can reduce the circulation of agricultural products, shorten

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the logistics time, make the logistics path more scientific, rationally allocate resources, and improve logistics. Efficiency, changing the layered price increase of traditional channels to make the prices of agricultural products remain high, has become a community of interest sharing. Cloud logistics makes it possible to transform and upgrade agricultural products, and it is also the general trend in the context of smart logistics.

2. Establishment of an Explanatory Structure Model for the Constraints of Agricultural Product Cloud Logistics Model

Promoting the cloud logistics model of agricultural products is a systematic problem. The author collects and sorts out related issues by consulting the literature on agricultural products cloud logistics, consulting and researching on farmers' dealers, understanding the user's personal experience and the operational difficulties of logistics enterprises. On the basis of the general trend and preliminary situation of the agricultural product cloud logistics model, the ISM discussion group discussed the constraints of the agricultural product cloud logistics model and the complex relationship between them. The main constraints of the agricultural product cloud logistics model include weak government regulation and rural areas. Lack of infrastructure, lack of rural logistics talents, difficulty in integrating agricultural resources, low level of industrial informationization, imperfect cloud logistics platform service system, low customer satisfaction, weak credit awareness, and logistics interests are nine aspects.

The interrelationships between these constraints are complex, mutually coupled, and the structural relationship is not clear. It can be represented by a matrix, forming an adjacency matrix that can intuitively express the relationship between the constraints of the agricultural product cloud logistics model, and then construct the model according to the interpretation structure. The module step follows the Boolean algebraic operation rule, and uses Matlab software to perform the auxiliary operation to obtain the reachable matrix. Finally, the skeleton matrix is extracted. According to the relationship between the constraints and the number of stages of each element, the hierarchical interpretation structure is obtained. The model diagram (Figure 1, explaining the process of establishing the structural model is omitted).

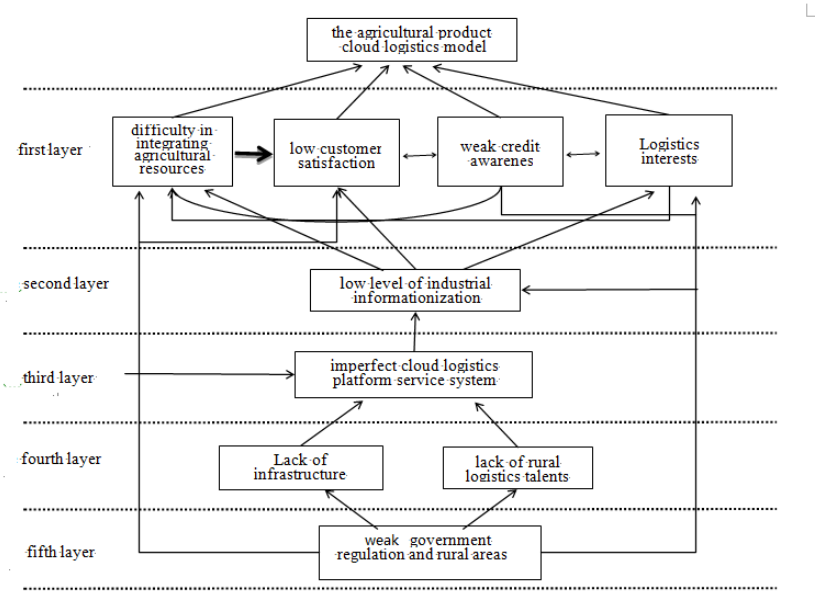

Fig. 1 the Interpolation Factor Interpretation Structure Model of agricultural product cloud logistics modell

3. Interpretation Structure Model Analysis of Constraints on Agricultural Product Cloud Logistics Model

It can be seen from the explanation of the structural model of the agricultural product cloud logistics mode constraint that this is a five-layer hierarchical structure model. The factor at the first level is the most direct factor affecting the model, and the factor at the fifth layer is the most affected model. The underlying factor, the higher the level, the deeper the impact.

The first factors include the difficulty in integrating agricultural product information resources, low customer satisfaction, poor credit awareness, and the respective interests of logistics stakeholders. This is a direct factor affecting the cloud logistics model of agricultural products. The long-term small-scale peasant economic thought has made the contradiction of “small production and large circulation” of agricultural products unresolved. Coupled with local protectionism in some areas, it is difficult to obtain real-time access and integration of production resources, and the supply and demand information is not well matched. Large, resulting in low user satisfaction. Driven by the interests, all stakeholders first consider the various logistics decisions with their own interests. In addition, the people's credit awareness is weak, which can easily lead to unfulfilled and untrustworthy behaviors in the service process, resulting in the viscous separation of users. Barriers to the implementation of cloud logistics platforms.

The second and third layers of factors include low informationization of agricultural products and imperfect agricultural product cloud logistics service platform, which is the next deepest factor affecting the cloud logistics model of agricultural products. The modernization of China's agricultural industry logistics is lagging behind, especially in the construction of information technology, which makes a large part of agricultural products supply and marketing more inclined to traditional circulation channels. Farmers and consumers cannot timely realize information docking. At the same time, the traditional supply chain model chain is too long. These reasons have caused the agricultural product price to rise and the sales have been affected, which has greatly hampered the enthusiasm of farmers and the development of the agricultural product cloud logistics model has been hindered.

The fourth factor is the backwardness of rural logistics infrastructure and the lack of talent, which is a deeper factor. The agricultural product logistics infrastructure is backward. In the transportation of agricultural products, for example, normal temperature transportation is still the main circulation mode in China. Agricultural products cannot overcome the influence of external factors such as time and space and natural conditions on the quality of agricultural products, resulting in higher agricultural product damage rate and higher cost. Economic development of agricultural products. In addition, the rural economic background and living conditions are not attractive to talents, and the quality of rural practitioners is low and aging is serious. These realities are also important factors that can not be ignored in the promotion of agricultural cloud logistics.

The fifth factor is government regulation, which is the most fundamental cause of the development of agricultural cloud logistics model. The development of agricultural product cloud logistics model involves all links in the entire supply chain of agricultural products. The lag or lack of any link may result in unsatisfactory results. In order to closely link farmers, logistics enterprises, distributors and consumers, form A cloud logistics service platform collection with a more rational and benign interaction of resources is not feasible without the unified regulation, support and coordination of the top-down government. Only the government has the possibility of promotion and supervision. The government is the most important promoter of cloud logistics development and the most fundamental reason for the development of cloud logistics model.

4. Corresponding Measures for the Transformation and Upgrading of Agricultural Product Cloud Logistics Mode under the Background of Smart Logistics

Through the analysis of the explanatory structure model of the above-mentioned agricultural product cloud logistics mode constraints, the corresponding measures of cloud logistics promotion should adopt the “bottom-up” direction according to the hierarchical structure of the restrictive

factors, starting from the most fundamental factors of government regulation, and promoting the agricultural products at different levels. Circulation creates a healthy and benign operating environment, and proposes a feasible channel for promoting the construction of agricultural products cloud logistics.

4.1 Strengthen the Government's Macro-Control and Support

The transformation and upgrading of the agricultural product cloud logistics model, the government's unified planning and macro guidance is the key. With the support of the government, it can reduce detours, reduce redundant construction waste, and build a cloud logistics service platform covering the entire industrial chain of agricultural products, and support related interests. Join, introduce relevant policies and standards, standardize the market, improve the platform trading interest distribution system and evaluation system, and create a harmonious ecological trading platform and market. Under the policy of national priority development of agricultural products logistics industry, local governments should also formulate corresponding support measures to build an efficient and intelligent cloud logistics platform as soon as possible, so that agricultural product logistics distribution is non-standard, more dispersed, small in scale, multi-link, high loss. The problem is solved.

4.2 Strengthen the Infrastructure of Rural Logistics

It is the basis for improving the circulation efficiency of agricultural products, strengthening the construction of rural logistics infrastructure, and the necessary conditions for the transformation and upgrading of the cloud logistics model of agricultural products. Implement village infrastructure construction projects, improve county rural logistics infrastructure networks, build storage and preservation of agricultural products, grading and packaging facilities, encourage qualified villages to establish agricultural product distribution outlets, and strengthen their logistics backbone network and construction. At the same time, due to the special nature of agricultural products, some agricultural products need to be fresh-keeping and refrigerated, and the construction of the cold-chain logistics system needs to be carried out simultaneously to solve the problem of “can’t sell, can’t be transported, can’t be stored, high cost, and large losses”, which seriously affects farmers’ income. The problem of poverty alleviation for poor households.

4.3 Introduce and Cultivate Modern Logistics Talents Who Are Proficient in Agricultural Products

The talents who master the wisdom of logistics technology are the most important technical and intellectual support for the transformation and upgrading of agricultural products cloud logistics under the background of smart logistics. In the context of smart logistics, what is needed is a modern logistics talent with equal emphasis on “things” and “flows”. This training philosophy and direction must be clear. Refining the cultivation of agricultural product cloud logistics model talents, taking into account the characteristics of agricultural products and the background of the times, the talent training specifications should not only master the logistics professional knowledge, but also not restrict the professional restrictions, be proficient in the growth law of crops, and be familiar with the characteristics of agricultural products. Mastering the emerging technologies of smart logistics, understanding accounting, knowing marketing, applying modernized and comprehensive talents with big data and management.

4.4 Accelerate the Construction of Cloud Logistics Service Platform

The construction of agricultural product cloud logistics service platform is a systematic project. It is the key to actively build an efficient agricultural product information platform that serves the interests of all parties. It is necessary to apply cloud technology to the field of agricultural products circulation, integrate the market appeals of agricultural products information, logistics providers and other relevant stakeholders, and form an integrated logistics service platform that integrates resources, including the request side, service integration end and supply side of agricultural product cloud

logistics. . The best way to build is to be led by the government, determine the type and scope of the information needed by the platform, give full play to the government's macro-capacity, select advanced integrated software and technology, ensure the security of relevant stakeholders, and formulate and introduce agricultural logistics industry standards. Relevant policy measures, through the advantages of cloud logistics service platform, truly promote the development process of China's agricultural product logistics industry.

4.5 Strengthen the Information Construction of Agricultural Products

Carry out the construction of agricultural product cloud logistics platform, effectively integrate relevant information of various agricultural products, realize information sharing of relevant agricultural product stakeholders, and introduce and optimize a series of standards for agricultural product information collection, input, output, storage, screening and configuration. system. The successful construction of the cloud logistics platform can enable all links and subjects of the agricultural product to share information, automatically match the agricultural products of different quality, characteristics and freshness according to the information of agricultural products, and optimize the logistics solution, logistics efficiency and customer satisfaction. The degree will be improved and the multilateral win-win situation of all entities will be gradually realized.

4.6 Improve the Cooperation and Win-Win Faith of Relevant Stakeholders

Further improve the interest distribution system and quality evaluation control system under the cloud logistics platform, and establish the standard allocation mechanism according to factors such as input, risk, contribution, service quality evaluation, etc., and strive to make the interests of the cooperation entities return to equal returns and create sustainable development. Cloud logistics platform. Of course, all stakeholders should also abandon their previous small-peasant awareness, carry out a thorough psychological revolution, improve the sense of integrity of cooperation and win-win, promote the transformation and upgrading of the agricultural cloud logistics model, and promote the early realization of smart rural areas.

5. Conclusion

This paper analyzes the shortcomings of agricultural product logistics mode under the background of smart logistics and the possibility of establishing agricultural product cloud logistics mode. It analyzes the structural model of the restrictive factors of agricultural product cloud logistics mode and proposes the corresponding measures in the process of agricultural product cloud logistics mode promotion. The “bottom-up” direction provides decision-making reference for the construction and operation of agricultural product cloud logistics. Of course, the establishment of the cloud logistics model is a systematic project. The difficulty and problems will be complicated and diverse. The constraints and the corresponding measures proposed in this paper are not comprehensive and accurate, and further modification and improvement are needed.

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