Optimization Application of Fresh Agricultural Products Efficient Logistics Distribution System from the Perspective of Big Data

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Abstract. As a sunrise industry in the development of modern agriculture, the development of fresh agricultural products industry has a huge space. Because of its various categories, and planting all over the country, the logistics distribution problems. The idea of "Internet +" modern agriculture combines big data with fresh agricultural logistics. By analyzing the current situation and mode of logistics distribution of fresh agricultural products, we find out the weak links of fresh agricultural products logistics distribution, and analyze the best way of fresh agricultural products logistics distribution system by using big data technology, which can effectively reduce the wastage of fresh agricultural products in logistics and transportation. Provide optimization platform for logistics distribution between regions. It is expected to provide important theoretical and practical guidance for the development of modern logistics big data of fresh agricultural products.

Keywords: Big data, Fresh agricultural products, Logistics distribution, System optimization

1. Introduction
The arrival of the era of "big data" provides many conveniences for people's life. Through the use of big data thinking, many industries have achieved unprecedented development, among which Alibaba group optimizes the logistics system through big data analysis as a successful example[1]. The fresh agricultural products industry should also keep pace with The Times, learn from the experience of big data application in other industries, and pay attention to the impact of big data thinking on industrial development. With the increasing demand for fresh agricultural products(hereinafter referred to as products), the industrialization of products and the development of cultivation technology provide the foundation for the deep market of products. Driven by the cold chain logistics technology, products are even exported to many countries, contributing to China's economic growth. However, as products, it is still a major problem to ensure the fresh and fast delivery of products to customers[2]. High transportation cost, perishable products, and logistics circulation are the difficulties faced by products in the logistics process. Therefore, how to make use of the big data platform to plan the logistics management of products, and constantly improve the efficiency of logistics management in
combination with the actual situation, the research and development of logistics technology can promote the information development of logistics system data. Through big data analysis, the product logistics network will be transformed from single to diversified, which will increase the feedback of products in the logistics process, improve user experience, and provide a modern development path for the development of product industry [3].

2. Logistics development status under the background of big data

2.1. Innovation of logistics distribution brought by big data
The development of logistics distribution in the era of big data refers to building a logistics platform through the Internet, uploading the logistics data to the Internet platform for data processing and analysis, screening the required information, so as to speculate the purchase intention of consumers, and through integrating the problems in logistics distribution, making the corresponding production, processing and transportation plans, reducing the operating cost, and through the big data platform establish a perfect logistics system, realize the sharing and feedback of logistics information, and improve customer satisfaction. From the aspect of distribution, big data undoubtedly brings innovation to the logistics system, urges all industries to reexamine the importance of logistics, and gradually improves the optimization of logistics system to an important strategic position [4].

2.2. Logistics distribution status of products from the perspective of big data
As products, products have very high requirements for logistics and transportation. Different natures lead to different logistics distribution of products from other products. Some rare products even require full cold chain transportation. For customers, they not only hope to receive products purchased by themselves quickly, but also hope the quality and food of products Safety is guaranteed, so what kind of distribution mode should be adopted, how to simplify the logistics distribution procedures of products, and how to effectively deliver products to customers become the top priority of the development of products enterprises [5].

At present, the analysis of product logistics distribution from the perspective of big data mainly focuses on the simplification of logistics process and the feedback of logistics information. The product logistics mode is simply divided into three main modes: enterprise self-operation, third-party logistics and self-operation + third-party logistics. Due to the late start of cold chain logistics technology in China, the construction of cold chain platform is not perfect, and the combination of big data and cold chain logistics is not very good [6].

3. Analysis on the logistics distribution mode of products in Hubei province

3.1. Logistics distribution status of products in Hubei province
In Hubei Province, due to the support of economic development level, the application of big data in Hubei Province is combined with cold chain logistics distribution. Big data technology can fully mine the massive data needed by cold chain logistics of products, collect data sources, and associate each link of products from cultivation, production, processing to transportation, so as to effectively promote the development of the lake. In order to ensure the food safety and product quality of products to a certain extent, the source of products in the counties and cities of northern province should be tracked [7]. In combination with the current advanced Internet cloud technology and mobile app, Hubei Province has also created a batch of data platforms, such as Wuhan Sanxiang engineering network, agricultural cloud network and other data network platforms, to master the production process of products in the form of two-dimensional digital coding. Customers can quickly find the types of products, production and circulation information through the query of coding, and purchase the products tracing the origin of products. This is an important contribution of big data application to product safety assurance of cold chain logistics of products in Hubei Province.
In addition, some enterprises in Hubei Province also use big data survey to analyze customers' consumption habits and logistics demands through the integration of logistics related information. According to the trend of data analysis, they can accurately coordinate logistics distribution activities according to different customers' preferences, plan logistics links in advance, improve logistics distribution efficiency and increase customer satisfaction at the same time. Big data not only brings benefits to enterprises, but also shares some big data of products logistics among enterprises under the promotion of government policies. By enjoying the achievements brought by big data, the products industry in Hubei Province is gradually developing to a higher level.

3.2. Basic mode of logistics distribution of products in Hubei province
There are three basic modes of product logistics distribution in Hubei province, namely self-support, third-party logistics and self-support + logistics. The role of big data is to realize the resource sharing between enterprises and 3PL. Under the big data platform, the original logistics management mode is no longer single, but a benefit combination between products management enterprises and logistics enterprises to complete the distribution activities. Due to the special growth environment of products, in order to save costs, enterprises will also combine self-supporting logistics and third-party logistics at some times.

4. The optimization path of efficient logistics distribution system for products based on the perspective of big data

4.1. Logistics management procedure of products enterprises
Whether it is Hubei province or other provinces and cities, most of the third party logistics model. In the third party mode, product enterprises lack absolute control over the logistics process and links. In the context of the application of big data, product enterprises can enhance their understanding and participation in logistics to ensure the procedural distribution of products. Product performance is special, high requirements for transport environment. In the past, improper coordination between product enterprises and third-party logistics enterprises could easily lead to product quality decline, or even lead to food safety problems, resulting in losses to enterprises. The development of big data technology can put forward a solution to this problem, that is, through the application of big data, realize the procedural logistics management. To be specific, the original single third-party logistics distribution mode is transformed into the joint management of product enterprises and third-party logistics enterprises, and the big data technology is used to continuously optimize the product logistics distribution process. First of all, product enterprises can integrate the distribution process through the relevant information of big data to understand the habits, so as to simplify some redundant processes and adjust the logistics capacity in advance. The third-party logistics industry can optimize the transportation route, shorten the transportation time, and guarantee the quality and safety of products as much as possible through the big data of logistics. Second, it can shorten delivery time and improve customer satisfaction.

4.2. Technical logistics distribution system of products
At present, RFID technology and GPS technology are widely used in China's logistics big data technology, which mainly USES the technology perception and positioning means of big data to collect and sort out logistics information. However, from the current development of the logistics industry, the current big data technology is far from enough, need to increase the intensity of research and development and utilization. Product logistics distribution depends on cold chain technology, but cannot blindly rely on cold chain technology. Only by continuously improving the efficiency of logistics distribution can the competitiveness of enterprises be continuously improved.

The technical development of logistics distribution system is an effective way to construct efficient logistics. At present, the innovation of logistics technology is mainly to change the thinking of logistics technology and combine logistics distribution with intelligence and informatization. The
logistics distribution of products needs to collect key data and store useful information, so it is particularly important to apply big data to the automatic collection of logistics data and the update of digital storage technology. In the actual product logistics and distribution process, it is also possible to improve the delivery efficiency of product logistics through intelligent sorting, scheduling optimization and intelligent monitoring. At the same time, considering the application of artificial intelligence, it can save costs and improve efficiency, and really make use of big data.

4.3. Informatization of products logistics distribution system
The logistics distribution system should be the center and bridge between the production and processing of products enterprises and the transportation and distribution. It is also the direct channel to transmit information as a big data resource platform. The government can integrate the collected big data, establish a good data sharing system on the platform, and the enterprise can make decisions that are beneficial to the enterprise according to the big data of the platform. Mobilize all kinds of distribution resources and improve the efficiency of logistics distribution.

4.4. Diversified logistics network channels of products
The basic logistics network of products logistics distribution in Hubei Province has been basically formed, but the systematization of each node of the logistics network needs to be improved, and there is a lack of unified planning. In fact, the logistics network distribution channel should realize a coordinated distribution channel of "point to area". No matter the products enterprises or logistics enterprises, they should gradually transit from the first level products data center to the second level, spread out to the surrounding in the form of the center point, and realize the current or next day arrival of products through the route optimization of big data. When economic resources allow, we can also build two-level and three-level distribution centers, which can distribute down level by level to achieve efficient and fast logistics transportation. In addition, in some places where there is no logistics network center, some idle traffic resources in cities and towns can be integrated into the logistics network distribution system to complete the distribution of products and greatly save the distribution time.

4.5. Humanization of products logistics feedback service
The application of big data can also make the logistics feedback of products more humanized, and the application of big data can improve the service level of logistics distribution. Customer satisfaction is the final link of product logistics and distribution, and it should also be the object of application of big data technology. Big data information integration can also be focused on "customers". What kind of delivery service does the customer need? What kind of delivery service does the customer need? For example, some customers in a secondary network can deliver a product to a customer by same-day delivery, but the customer may not need to do so quickly. At this time, big data can help us identify the needs of customers for logistics, so as to predict the preferences of customers, and put them into good logistics distribution, in the process of distribution to increase customer feedback, logistics distribution more humanized. On the basis of the construction of big data network nodes, the number of customers can be counted and self-service can be provided according to relevant consumption habits. On the one hand, we can save the cost of logistics delivery, on the other hand, we can also let customers buy products at a comparative advantage.

5. Conclusions
In the current process of product efficient logistics distribution, the role of big data cannot be underestimated. As an important basis for product transaction, if the logistics link cannot be effectively managed and the multi-frequency, small-batch and non-standard logistics distribution mode is adopted, it will inevitably increase the production and operation costs of product enterprises. Combining with the development trend of Internet technology and big data application, strengthening the big data flow network analysis of logistics management, logistics technology, logistics information
and product materials, logistics feedback and other aspects are the top priorities for enterprises to establish efficient logistics distribution links.

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