

The Construction of Logistics Information Intelligent Platform Under the Background of Big Data



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Abstract Intelligent logistics is based on massive data and related technologies. It has great advantages in improving logistics efficiency, reducing logistics cost, and improving user experience satisfaction. Therefore, it represents the development direction of logistics mode. Intelligent logistics information platform supports the efficient operation of intelligent logistics. The platform integrates various logistics information and resources, uses advanced information technology and intelligent technology, integrates supply chain logistics, and intelligently solves logistics problems. The intelligent logistics information platform is helpful to solve the problems of repeated construction, information isolation, and lack of intelligent functions of the main information platform of logistics business. Through the integration of various logistics information and resources, the comprehensive application of artificial intelligence technology, intelligent logistics information platform can provide efficient, low-cost, comprehensive logistics services, and promote the development of local economy.

Keywords Big data · Logistics information · Platform construction · Research

1 Introduction

As a big trading country, China plays an important role in the world economic arena. In recent years, China's society, economy, and Internet technology have made great progress, and people's living standards have also improved significantly. The era of online shopping and consumption has taken root. As a strategic industry, logistics has always been the focus of national and social attention, and also the strong foundation of China's new economic growth. At the same time, the emergence of big data brings unprecedented opportunities and challenges to the logistics industry, especially the logistics information platform can not only provide effective multi-interactive information, but also make correct logistics management decisions, and

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improve the comprehensive efficiency of production and operation of enterprises. It can be said that the application of big data information technology and network technology in the logistics industry can promote enterprises to enter a new stage of historical development.

2 Demand Analysis of Intelligent Logistics Information Platform

2.1 Logistics Integration

Logistics integration includes two aspects: the integration of logistics equipment, perceptual information data collection, information processing, and other technologies within the system to achieve functional docking; in the whole logistics supply chain management, the integration of information platform and other logistics information systems is necessary. By integrating and integrating the resources and information of each system, the information platform provides comprehensive intelligent logistics services and decision support for relevant users.

2.2 Information Standardization Integration

Intelligent logistics information platform involves logistics enterprises, logistics demanders, relevant government departments, etc. It needs to integrate all kinds of information systems of different disciplines. The data standards, interfaces, and specifications are different due to the inconsistency of information transfer standards, storage standards, and development environments of different subjects and systems. Therefore, the problem of heterogeneous data exchange and information sharing between these different systems needs to be solved. Information standardization integration platform can complete the standardization and definition of information and realize the data exchange and format conversion between heterogeneous systems and heterogeneous data formats by providing corresponding data interfaces. In this way, different systems can connect and interact with each other on the platform.

2.3 Intelligent Logistics

Logistics intelligence is the highest level of logistics development. Platform users want it to provide visible, traceable, and automated integrated logistics services. Intelligent logistics information system can realize intelligent management process and provide higher quality value-added logistics services for customers. Through

the integrated application of RFID, sensor technology, GPS, and other technologies, the real-time tracking and scheduling of transportation tools and storage is realized, and large-scale data mining and analysis technology is applied, and the platform can provide transportation path optimization and customer depth development services. Provide decision support for enterprise users and relevant government departments.

2.4 Mobile Platform Services

The popularization and application of mobile Internet and smart phones put forward higher requirements for the convenience of platform services. Through the intelligent terminal equipment, users want to release demand information and logistics services on the platform at any time, query which link and state the goods are in logistics on the platform in time, and realize the tracking and positioning of vehicles and personnel. This requires the platform and related websites, clients, mobile apps, and other channels to achieve interoperability and interaction.

2.5 Credit and Security

On the platform, there are many participants, complex service content and links, and relevant subjects pay attention to the security needs of enterprise credit, transaction security, and information security. The platform needs to cooperate with the transportation and industrial and commercial departments to conduct credit audit and tracking for the platform body in the station. At the same time, with the help of the third-party management organization and security management tools, we provide a secure trading environment to ensure the security of capital and data information (Fig. 1).

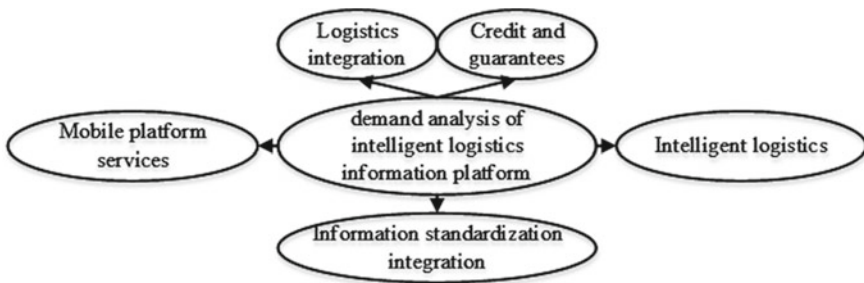


Fig. 1 Demand analysis of intelligent logistics information platform

3 Thinking About the Construction of Logistics Information Platform Under the Background of Big Data

Logistics industry is one of the industries concerned by hackers and other criminal groups. This is directly related to the centralized storage of data. The existence of a large number of invalid data will provide opportunities for malicious error information. According to the survey, the annual industry loss will reach about 28%, and the trend is still rising, which shows how important it is to strengthen the security performance of large data information platform. In addition, the data information of logistics information platform is very extensive [1]. It needs to improve the security performance based on the investment of hardware and software and strives to achieve the goal of automatic screening, real-time storage, and refinement of data information system.

4 Countermeasures for the Construction of Logistics Information Platform Under the Background of Big Data

4.1 Increase Efforts to Introduce Big Data Talents

With the rapid development of logistics industry, data logistics needs the support of data talents. However, in the current situation of insufficient data talents, the logistics industry should actively focus on the selection and employment of diversified talents. At the same time of strengthening its own infrastructure construction, it is necessary to break through the inherent thinking mode of the company and explore the overall multi-part outsourcing of large-scale data logistics information platform. With the help of outsourcing mode, we can focus on core management. The external data information group is responsible for the development and application of logistics data. Logistics enterprises should also select high-quality IT professionals on logistics posts, actively do a good job in professional training, and cooperate with relevant colleges and universities, through targeted training to achieve the training of professional talents [2].

4.2 Improve the Cooperation Mechanism of Multiple Enterprises

In order to ensure the convenience, effectiveness, and scientificity of large-scale data collection and evaluation, the management of early warning system should be strengthened in the construction of logistics platform. As we all know, the large-scale data logistics platform is very complex and new. In order to make the enterprises

obtain more benefits, it is necessary to improve the multi enterprise cooperation mechanism, select the enterprises with specific resources to build the platform, and form the complementary, effective and balanced advantage of benefit distribution, so as to ensure the stable and lasting operation efficiency of the whole logistics platform. In addition, a comprehensive consideration must be given to pattern design and the distribution of benefits must be open and fair so that participants can work together to create a truly effective platform.

4.3 Establish and Improve Safety Protection System

With the popularization of information technology innovation and application, people enjoy the advantages of convenience, science, and efficiency in the information age, and also bear the corresponding risks. Among them, information leakage is the main cause of economic loss. It can be seen that in the information exchange environment in the era of big data, management departments, including logistics enterprises, should attach importance to the establishment of a sound security system. In the current era of big data, we should not only pay attention to the characteristics of no loss, no tampering, and no confidentiality of data, but also expand the scope of security protection and filter invalid data and should do a good job of monitoring the data stored in the center. Specific measures can be analyzed from the following aspects: first, improve data security by planning big data application fields. In the era of big data, data use and data provider duplication can strengthen the effective management of key data applications through data division, so as to achieve data protection, and can be achieved through the data filtering mechanism within the region. Avoid invalid data in big data logistics information platform; use unit measurement data to improve data application efficiency through data classification; strengthen logistics information platform management, strengthen platform supervision and protection, and establish a large data platform management organization, supervised by professionals, to improve the security of large data information platform.

4.4 Improve the construction quality of logistics information platform through reasonable cooperation mechanism [3, 4]

The characteristics of integration in the era of big data need logistics information platform, through the establishment of effective cooperation mechanism to improve the construction capacity, and cooperation mechanism should be based on the common interests and development pursuit of enterprises, so that big data can contribute to the construction of logistics information platform. Among the cooperation mechanisms,

there are big ones and small ones, among which the innovation mode and comprehensive strength are the core data logistics information processing platform of the cooperation mechanism, while the groups with the same interests are the subordinates of the cooperation mechanism. In order to improve the operation efficiency of the data platform, it can provide advantages and complementarities for enterprises in this mechanism. In order to make the cooperation mechanism more reasonable, in the construction of multilateral platform, the strength, contribution, advantage, and risk of partners should be fully considered in the principle of openness, fairness, and justice, and logistics confidence platform can be actively operated [5].

5 Conclusion

Supported by massive data and Internet of things technology, the intelligent logistics information platform integrates the application of cloud computing, mobile Internet, artificial intelligence, and other technologies to provide relevant users with intelligent logistics services such as process visualization, dynamic tracking, and integration. On this sharing information platform, the relevant subjects can realize real-time data exchange and information sharing, so as to greatly improve the efficiency of logistics integration of upstream and downstream enterprises of the supply chain and promote the development of local economy.

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