Design of Logistics Information Management System Based on Information Technology

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Abstract. With the advancement of the times, network technology has gradually replaced manual operations; intelligent management has saved time and effort, and can ensure the efficient operation of enterprises. Information agencies We must be proficient in the application of logistics management information technology, which is also an inevitable result of the development of society to a certain historical stage. The arrival of the conference changed the face of the whole society. People have long been inseparable from smartphones and computers, and industries are increasingly dependent on information technology. As an important part of social and economic development, logistics enterprises bear the responsibility of freight transportation. Under such a development background, only by adopting scientific management methods scientifically and continuously making progress can we promote the sustainable development of enterprises. This article uses modern logistics and logistics information methods to explain the role of information technology in logistics information management. Introduce some design requirements of logistics information management system. Analyzing the problems of logistics management informatization and the reasons for the lack of modern logistics management informatization, it is concluded that logistics enterprises must pay more attention to logistics management informatization and apply it widely. Improve the relevant standards and levels of information technology, strengthen the supervision and management of information construction, and high-quality information technology.

Keywords: Information Technology, Logistics Information, Information Management, Transportation Management

1. Introduction
The rapid development of China's economy in recent years has driven the rapid circulation of various means of production and products. At the same time, with the continuous expansion of the domestic online shopping market, the rapid development of the express delivery industry has promoted the development and growth of the logistics industry. With the development of the economy, logistics transportation and other businesses are growing, and the role of the logistics industry is becoming more and more important [1-3]. How to use modern information technology and software technology to achieve the overall management of logistics companies. Improving management and optimization
of the logistics industry and reducing logistics costs are important issues facing the logistics industry [4, 5]. At present, the scale of the logistics market is constantly expanding, the logistics links are more complicated, and users' requirements for logistics efficiency and logistics services continue to increase. How to effectively improve the data collection and entry of logistics transportation management, data release and query, etc. are the current research hotspots in the field of logistics management.

Logistics information management is the process of collecting, storing, and disseminating logistics information. This is a process from decentralization to concentration, from disorder to order, making logistics information available [6]. The management platform is not only a collection of management software, but also a management system. It is a combination of tangible and intangible management systems used in the actual operation of enterprises [7, 8]. The most important role is to give full play to the efficiency of the use of internal and external resources. The core task is to ensure that the company's goals, tasks and results are achieved [9]. In short, a logistics information management platform is a logistics information management platform that is not much different in function from a logistics information management system. However, its object-oriented scope is wider, including various objects in the logistics business chain. Each object in the platform has a personalized module to meet its own needs [10]. The same modules have their own unique functions, but these modules cooperate with each other and the data are connected to each other. Therefore, it highlights the synergy between upstream and downstream companies in the supply chain, which has become the main development trend of the logistics industry.

In the Internet era, e-commerce is changing with each passing day, and business models are showing a trend of diversification. Logistics enterprises involve a wide range of management links. The information management mode is adopted, but the effect is not ideal. This requires the development and innovation of logistics enterprises to continuously adapt to the requirements of social development. Appropriately reduce costs, increase speed, and ensure that it is highly consistent with customer needs, thereby bringing good overall benefits to the enterprise. However, in order to meet the requirements of the development of the times, it has become an inevitable trend to realize the informatization construction of logistics management. This article will introduce the significance of enterprise logistics management information, analyze the problems of enterprise logistics management information, and the reasons for the lack of modern enterprise logistics management information, and finally study the innovative ways to improve the level of enterprise logistics management information.

2. Method

2.1. Modern Logistics
Modern logistics is a strategic measure that meets the needs of consumers and comprehensively considers manufacturing, transportation, sales and other market conditions. It is reflected in the organic combination of transportation, distribution, information processing and other basic functions. Distribution refers to economically reasonable regional scope, combined with the actual needs of customers. Logistics and distribution are often intertwined with actual activities, so people often put logistics and distribution together for expression. Logistics is an important ability for manufacturers to serve customers. The strength of this ability directly affects the results of customers' choice of goods, as well as the survival and development of the enterprise. To maintain customer loyalty, companies must quickly meet customer needs. From the perspective of the internal operation process of an enterprise, it is a process of internal logistics integration. However, in order to meet the needs of customers, not only the internal logistics process integration, but also the raw material suppliers involved in the sales process, the spare parts supplier and the seller must also cooperate well. The way works. Therefore, in the modern business environment, not only the integrated operation of internal logistics, but also the integration of external logistics.

Logistics is considered a key factor in e-commerce, business strategy and the most important means of reducing the cost of goods. Modern logistics attaches great importance to customer
satisfaction and logistics efficiency. Generally speaking, logistics not only refers to sales logistics, but also includes procurement logistics and intra-company logistics. It includes not only the material and information circulation process before and during production, but also development marketing activities, after-sales service and post-production market organization. It includes not only production logistics related to sales booking, production plan booking, customer ordering, etc., but also various marketing logistics activities related to customer satisfaction. Under the conditions of a market economy, the division of labor will become more and more detailed. Purchased parts from a processing company. Raw materials, intermediate materials and final products required by manufacturers and retailers are usually provided by different logistics distribution centers. Social distribution can perform intensive and reasonable logistics, which can save a lot of costs, but the two parties are often not in the same geographical area, so if you want to quickly and cheaply deliver products, the logistics network will become an essential part. For logistics, the realization of intelligence is to help various operations in the logistics operation process, verify inventory status in real time, and help choose the best transportation route. Intelligent logistics has become a new development trend of logistics in the e-commerce environment.

2.2. Logistics Information

Logistics originated from military needs. In World War II, in order to provide better war information, the US Army first proposed and used the concept of "logistics management". Logistics is the entire process of transporting raw materials, semi-finished products, finished products or related information from origin to destination at the lowest cost through warehousing, distribution, and transportation to meet customer needs. Logistics is a system for managing materials, finished products and information through planning, control and implementation. From the beginning of supply, through the transfer and ownership of various intermediate links, logistics has reached the hands of consumers. Logistics information refers to the collective name of knowledge, materials, images, data and documents that reflect logistics activities. In a narrow sense, logistics information refers to information related to logistics activities. In a broad sense, logistics information not only refers to information related to logistics activities, but also includes information related to other distribution activities, such as commodity transaction information and market information. According to functions, logistics information can be divided into storage information, transportation information, and loading and unloading information. These classifications can be further subdivided. For example, warehouse information can be divided into warehouse information, warehouse information, and inventory information. Logistics information is classified by link. According to different action links of logistics information, it can be divided into input logistics activity information and output logistics activity information. Logistic information is categorized by functional level. According to the different functions of logistics information, it can be divided into basic information, operation information, coordinated control information and decision support information. Logistics information is classified according to different processing levels. According to the processing degree of logistics information, it can be divided into original information and processing information.

3. Experiment

During the circulation of most traditional commodities in China, due to the wide range of circulation, many contacts, many middlemen, and large losses, the circulation cost in developing countries accounts for about 30% of the sales price, while in developed countries, it is generally controlled at 10%. about. There are many reasons for higher logistics costs and lower efficiency. Logistics information system is a system for information collection, transmission and processing. Only by understanding the limitations of information collection, transmission and processing capabilities can we optimize the allocation of specific system resources. The essence of a good logistics information system is to reduce the cost of information collection through automation, reduce the cost of information transmission through industrialization, and reduce the cost of information processing through standardization. This article organically combines logistics management information system
and smart phone. The sensors and transmitters on the smartphone will then collect and transmit the required logistics data, which will then transmit the data information to the management information system. Process and save relevant and useful data for system or management analysis and decision making. Combine the two organically, and finally realize a systematic logistics information monitoring and management system.

4. Discuss

4.1. Logistics Management Business Process

According to the logistics company's business survey and related personnel's exchanges and discussions, the logistics management system addresses the application needs of logistics warehousing management, order management, cargo management, distribution scheduling management, customer management and logistics management. Logistics tracking management of logistics companies. The users of the system mainly include customers, logistics distributors, and logistics administrators. According to the needs analysis and business process analysis of the company's logistics management, different users of the logistics management system have different operation rights for each functional module. Please refer to Table 1 for permission setting of certain roles in each functional module of the logistics management system.

| Functional Module | User | Operation authority |
|-------------------|------|---------------------|
| Logistics And Warehouse Management | Logistics manager | Add, modify, delete, query |
| Order Management | | Add, modify, delete, query |
| Logistics Tracking Management | | Add, modify, delete, query |
| Distribution Scheduling Management | user | Add, modify, delete, query |
| Customer Management | | Add, modify, delete, query |
| Order Management | | Add, modify, delete, query |
| Cargo Management | | Inquire |
| Order Management | | Inquire |
| Distribution Scheduling Management | Logistics delivery staff | Add, query |

The business processes of the logistics warehouse management function mainly include warehouse information management business processes, warehouse query business processes, warehouse inbound management business processes, warehouse outbound management business processes, and warehouse statistics management business processes. In the logistics warehousing management business process, first add and enter the basic data of the warehouse, then query the basic data of the warehouse, check the capacity of the warehouse and store the goods at any time. In the logistics warehousing management business process, it realizes the registration management of the inbound goods and the addition of outbound information, including outbound time, outbound name, outbound type, outbound quantity and other information, forming an outbound record. At the same time, it has the function of logistics warehouse management in the business process, to achieve the statistical analysis of the warehouse capacity, the number of goods and the type of goods, summarize various data, and form a statistical analysis table of the goods warehouse. Logistics warehouse management function business process is shown in Figure 1.
4.2. **Innovation In The Level Of Logistics Management Informatization**

Information in the logistics industry is updated quickly. In order to improve the efficiency of logistics management, logistics companies should learn advanced logistics management concepts. At the same time, combining advanced logistics management technology and advanced information technology, we strive to achieve the sharing of information resources between departments and provide quality services according to customer needs, thereby improving the company's economic efficiency. To improve the informatization level of enterprise logistics management, it is also necessary to improve the logistics information management system to ensure a significant increase in logistics management efficiency. First, establish a network interaction platform between logistics enterprises and suppliers to realize the sharing of logistics information resources. This will help the friendly and cooperative relationship between the two parties, and also resolve the conflict in a timely manner and resolve common difficulties encountered by everyone. Secondly, logistics enterprises should monitor the information sharing platform in real time, understand the problems encountered by current customers, and solve problems raised by customers in a targeted manner. In other words, only by continuously improving the logistics information management system, everything is for customers, and the urgency of customers can win the trust of customers and fundamentally enhance the core competitiveness of logistics enterprises. Figure 2 shows how to innovate the logistics management informatization level in logistics.

Figure 1. Business flow chart of logistics warehouse management function

Figure 2. Proportion of innovation path of logistics management informatization level in Logistics

Logistics enterprises must fully understand the important role of logistics information technology
in logistics. Encouraging logistics enterprises to use logistics information technology is conducive to information sharing and avoids waste of resources and low reliability in logistics activities. At the same time, logistics enterprises are encouraged to introduce IT personnel and independently develop logistics information technology.

5. Conclusion
Under the rapid development of science and technology and the continuous update of the Internet. Logistics management is beginning to achieve information-based development. Logistics management is an important part of production and operation. Internet-based logistics information management can not only improve work efficiency, but also bring good economic benefits to enterprises. Therefore, modern logistics information management has become an inevitable trend of logistics development. Logistics enterprises must pay more attention to the informatization of logistics management and apply it widely. By continuously updating advanced concepts, increasing capital investment, and strengthening information technology research to further develop information resources. Improve the relevant standards and levels of information technology, strengthen the supervision and management of information construction, and high-quality information technology. High-capacity management talents, thus realizing the construction and development of enterprise management information. Establish a logistics information management system to solve problems conveniently and efficiently, and promote the healthy and stable development of the logistics management industry.

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