Research on Development Strategy of Urban Intelligent Logistics

Foshang Li[1,2]

[1]*Jilin Business and Technology College, Jilin, 130033, China*
[2]*Department of Business Administration, Jilin, 130507, China*

Keywords: City; intelligent logistics; development strategy

Abstract: This paper first analyses the development of urban intelligent logistics distribution system in China, and points out its problems. The development trend of urban intelligent logistics is discussed. Finally, the development strategy of urban intelligent logistics distribution system is proposed.

The economic development of today's world has made tremendous achievements. Human beings are no longer purely pursuing economic growth, but begin to pay attention to the natural environment closely related to their own lives, and pay more attention to the improvement of the quality of life. Logistics, as an intermediate link between producers and consumers, has attracted more and more attention from the society. Many countries are committed to the development of modern logistics industry, not only in order to save the total cost of social logistics, but also to improve the quality of human life, and constantly promote the application of information technology in the logistics industry, gradually changing the extensive economic development model with high energy consumption and pollution.

1. The development status of urban intelligent distribution system in china

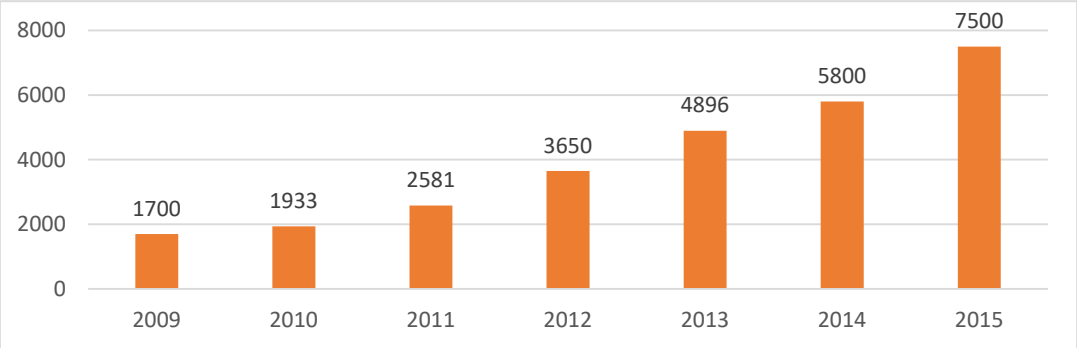

Figure 1. Analysis on the Market Scale of Internet of Things in China

With the continuous development of Internet of Things technology and intelligent terminal technology, urban logistics distribution in China is becoming more and more intelligent and intelligent, and the service capacity of the industry is further enhanced. Nevertheless, the problem of high cost of logistics and distribution enterprises is still prominent. At the same time, due to the

impact of enterprise size and core competitiveness, most distribution enterprises are still extensive management mode, single service variety, poor information processing ability, and there is still a certain distance from the smart logistics distribution city. Generally speaking, the development of urban intelligent logistics distribution in China has the following problems[1]. As shown in figure 1.

1.1 Lack of overall planning and design for urban logistics distribution system

The core of urban intelligent logistics distribution system is not only the application of intelligent technology, but also the integration and full sharing of resources. At present, the logistics distribution organizations in many cities in China are mainly decentralized. The lack of unified coordination, organization, planning and design of distribution enterprises results in insufficient information sharing, repeated infrastructure construction, low efficiency of logistics distribution and random distribution vehicle scheduling, which leads to increased urban traffic pressure. Urban logistics distribution needs corresponding facilities to support, such as small goods collection, temporary transfer allocation, receipt and assembly and unloading facilities in the business district[2].

For a city as a whole, it is necessary to plan the layout of logistics network as a whole, and for an enterprise, the distribution system also needs to be optimized and designed, so as to improve the overall distribution efficiency and reduce logistics costs.

On the one hand, the confusion of the receiving and delivering personnel and goods has brought great hidden dangers to the safety management and caused traffic congestion.

On the other hand, the chaotic freight vehicles cause traffic jams and inefficient logistics distribution, which not only wastes social resources but also deteriorates the social environment.

1.2 Lack of industry information mining and integration in urban logistics distribution system

With the development of information technology, major city logistics companies begin to strengthen the level of logistics information, but there are still some shortcomings. With the rapid development and growth of e-commerce, the demand of logistics distribution is also growing rapidly. In practice, there is not enough big data, Internet of Things technology and other popular and advanced technology applied to logistics distribution, so improving the level of logistics distribution information is the most important problem to be improved.

First of all, the construction of logistics distribution information platform is the construction of public logistics information platform. Public logistics information platform is a public platform to provide logistics information service for distribution personnel, logistics enterprises, government and other relevant departments by means of computer network technology, using the collection, processing and analysis of logistics-related information. However, the actual situation is that the lack of such public platform construction and construction in the city has led to some smaller enterprises unable to timely understand the market situation, resulting in duplicate construction, increasing enterprise costs, and also causing waste of social resources[3].

1.3 The efficiency of urban distribution resource management needs to be improved

Nowadays, the logistics distribution market is facing an environment in which customers' demands for logistics services are constantly increasing, competitors are increasing and operating costs are increasing. In this case, it is difficult for distribution enterprises to digest costs by raising prices. With the increasing business volume of logistics industry, every logistics enterprise is facing the problem that the efficiency of management and resource allocation can not keep up with the growth rate of business.

2. Development Trend and Countermeasure Analysis of Intelligent Logistics City Distribution in China

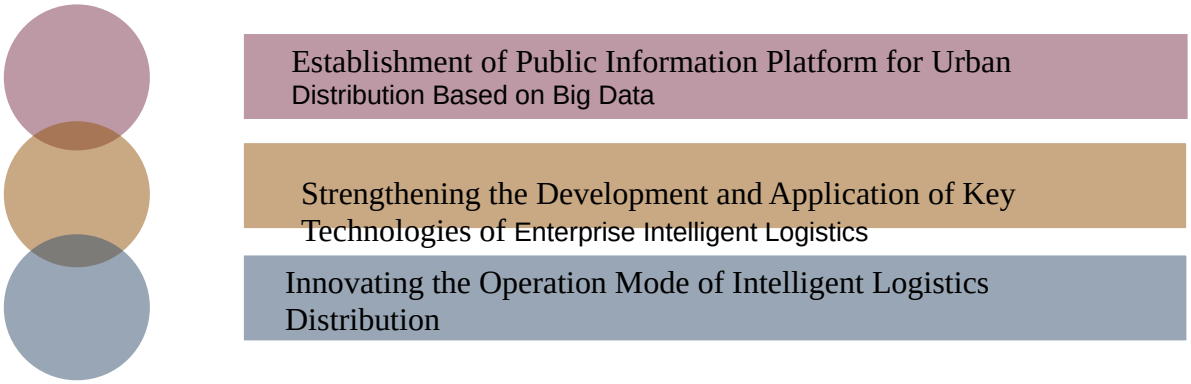

Figure 2.Development Trend and Countermeasure Analysis of Intelligent Logistics City Distribution in China

As shown in figure 2, a detailed analysis is presented below.

2.1 Establishment of Public Information Platform for Urban Distribution Based on Big Data

The characteristics of logistics network of e-commerce enterprises in China are based on the theories and technologies of logistics management, system engineering, enterprise operation management, cloud computing technology and other interdisciplinary disciplines. Intelligent network is taken as the research object, and its key technologies such as overall modeling method, warehousing management, service evaluation and resource management are analyzed[4].

- A formal model is established according to the collaborative sharing mechanism of cloud inventory, and a "cloud warehouse" inventory control model is established based on large data technology and intelligent logistics network to determine the optimal inventory of each distribution center.
- Based on the lowest total cost of cloud logistics, the cloud inventory distribution model is established, and the hybrid heuristic algorithm based on particle swarm optimization and genetic algorithm is implemented. The effectiveness and practicability of this method are proved by an example.
- The application research of cloud warehouse distribution is carried out with the production company as the application object.

2.2 Strengthening the development and application of key technologies of enterprise intelligent logistics

Applying EDI technology to the process of supply chain management:

- The first task is to do a good job in the procurement order. Because the sales department and the market department are the main source of orders, it is necessary to send orders through the sales department and the market department, which is conducive to ensuring a certain quality of work. In order to avoid errors in the process of work, the staff need to compare the information on the order with the customer information on the customer file.
- Then check the customer's letter of credit, if the customer's letter of credit shows that there are problems, we need to stop all work; on the contrary, if the customer's credit is good, we need to do a good job of reprocessing the message, which is conducive to promoting the quality of work. In the process of re-use of EDI technology, the products in the order will be classified.

Therefore, according to the different types of products, different people need to be notified to handle the work.

2.3 Innovating the operation mode of intelligent logistics distribution

Distribution is the extension of logistics transportation and the last link of logistics activities. For customers, logistics distribution is the criterion to evaluate the satisfaction of the whole logistics activities, that is, whether logistics providers can deliver customers' products on time and accurately. By providing advanced management technology and information network, intelligent logistics information system accurately calculates customers' needs, supplies of goods and optimizes reasonable distribution routes in distribution links, purchasing, packaging, sorting and processing commodities, and finally delivers them to customers safely and timely, so that the distribution links and other links of logistics can be perfectly connected and the whole logistics activities can be realized at a high level[5].

3. Conclusion

The development of urban intelligent logistics distribution system can not be separated from the comprehensive application of cloud computing, big data and Internet of Things, which has become the general trend. In order to truly realize intelligent logistics and promote the transformation and development of logistics industry, the government needs correct guidance, while investing in the construction of public information platform to provide support for the integration of resources and information sharing. At the same time, each logistics distribution enterprise must seize the opportunity brought by big data era and Internet of Things technology to innovate and reform its operation mode.

Acknowledgement

Research on the developement strategy of intelligent logistics in Changchun.

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