

Research on Development Strategy of Intelligent Logistics in Shandong Province

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Keywords: Intelligent Logistics; Countermeasure Research; Shandong Province

Abstract: Firstly, this paper expounds the connotation, characteristics and functions of smart logistics. Combining with the current situation and existing problems of smart logistics in Shandong Province, it puts forward the Countermeasures of developing smart logistics in Shandong Province.

1. Introduction

Intelligent logistics breaks the drawbacks of traditional logistics management mode. By combining Internet technology with logistics organically, the quality and efficiency of logistics management can be improved to the greatest extent, and diversification can be provided for customers. Under the environment of big data development, logistics enterprises must take reasonable measures to improve their work and comprehensively improve the level of intelligent logistics construction in the light of the development law and characteristics of intelligent logistics.

2. Summary of Intelligent Logistics

2.1. Connotation of intelligent logistics

In fact, the so-called intelligent logistics means that the logistics system can judge and solve some problems in the logistics operation by itself [1]. In a narrow sense, intelligent logistics is to widely use various advanced information technology means and equipment in the logistics system, to achieve real-time monitoring of all aspects of logistics, to collect and analyze data and information in all aspects of logistics, and to provide the best service for all parties [2]. Wisdom logistics in a broad sense is the use of human wisdom to develop logistics, is the Internet of Things, big data, information technology and other aspects of the combination, using wisdom means to serve people. Intelligent logistics pays more attention to the scientificization, automation and intellectualization of logistics system.

2.2. Characteristics of intelligent logistics.

Compared with the traditional logistics, the development of modern logistics is manifested in "pluralism" in every stage, including paying attention to logistics efficiency and logistics cost, logistics service quality and customer satisfaction. As a higher-level intelligent logistics, it can achieve coordinated development at every stage of logistics by combining logistics technology, application and operation management system, so as to achieve diversified development goals such as low cost, high efficiency, high quality service and high satisfaction.

With the application of automatic identification technology and intelligent technology, intelligent logistics has the ability of situational awareness to the greatest extent. Facing the ever-changing logistics market environment, in order to make the whole logistics process safe, reliable, efficient and high-quality, we must rely on modern logistics information technology to ensure the whole logistics transportation and distribution scenario perception. Logistics information technology, such as barcode technology, EDI technology, radio frequency technology and GPS real-time positioning and tracking, can obtain relevant data and information for the whole process of logistics, and provide the most reliable information support for the management of intelligent logistics.

Modern logistics activities focus on multi-party participation and relevance. As a more advanced intelligent logistics, its ecological system is based on the interconnection of all things. Through modern logistics information technology, it promotes the dynamic perception and intelligent

interaction of all participants in the whole intelligent logistics ecosystem, including the implementation of logistics services, logistics service recipients (customers), logistics equipment and goods themselves. Through the processing of modern logistics information, it realizes real-time communication and interaction, realizes real-time response, and then realizes the efficient operation of logistics process.

2.3. The role of intelligent logistics

Using intelligent logistics tracking and real-time wireless positioning technology can realize the collaboration and information sharing among production, wholesale and retail parties, so as to realize the efficient intelligent management of logistics, reduce the useless behavior in the logistics process, reduce the logistics cost, reduce the cost of the circulation process and increase the profits of enterprises.

The development of modern logistics industry needs the support of many kinds of information technology. Intelligent logistics conforms to the development trend of modern logistics intellectualization, automation, informatization, networking, real-time and visualization. Therefore, intelligent logistics will affect modern logistics industry in an all-round way.

With the popularization of sensor networks and RFID technology, the interconnection of goods and materials is conducive to the slow intelligent integration of logistics, production, procurement and sales systems of enterprises, and the integration of networks will produce the integration of intelligent production and supply chain, which is conducive to the establishment and development of intelligent enterprises.

3. The Present Situation and Existing Problems of Intelligent Logistics in Shandong Province

3.1. Status quo of intelligent logistics

With the popularization and application of modern information technology such as big data, Internet of Things, cloud computing in the field of logistics, the construction of logistics information platform in Shandong Province has been continuously promoted.

Intelligent logistics is the inevitable result of logistics development to a certain stage. Intelligent logistics has achieved good results in Shandong Province. At present, the main development modes of intelligent logistics are as follows: First, to establish an intelligent logistics information platform. Using Internet of Things, Big Data, Cloud Computing and other technical means, the government, enterprises and other leading, to establish a public information platform, through which logistics information can be queried, real-time monitoring of goods. Intelligent logistics information platform can provide more intelligent services for enterprises and users, and give full play to the advantages of information resources. Second, the enterprise alliance promotes the development of intelligent logistics. In the relatively developed areas of logistics industry, enterprises alliance is formed by government-led or spontaneous organization of enterprises, which promotes the unification of standards and technological progress through effective cooperation to promote the development of intelligent logistics.

3.2. Problems of intelligent logistics in Shandong province

The cooperation at the end of Shandong Province is still in its infancy. At present, intelligent express cabinet is the main mode of terminal distribution in Shandong Province, but there are still some problems, such as idle intelligent express cabinet and insufficient intelligent express cabinet, which need the improvement of terminal intelligent management.

Nowadays, the level of logistics informationization in Shandong Province is on the low side as a whole. There are only few enterprises implementing logistics informationization in an all-round way, and most logistics enterprises have not applied high-tech technology, which causes problems in logistics information, such as low exchange rate, inadequate information transmission and so on. This is also due to the lack of efficient logistics information technology and backward logistics data, at the same time. The rising cost affects the quality of logistics services.

Data show that the no-load rate of vehicle transportation reaches 3000, and the idle rate of logistics warehouse reaches 1500. It can be seen that a large part of logistics resources in Shandong Province are wasted without reason. Moreover, the integration degree of transportation quality resources in Shandong Province is lower than that in other countries. For example, in 2015, Shandong Province had only 2.600 sea-rail intermodal transport, 2500 Indian national cities and 4000 developed countries such as the United States. In summary, it can be seen that Shandong Province's logistics resources were idle and did not fulfill their duties.

4. Development Strategy of Intelligent Logistics in Shandong Province

4.1. Building intelligent terminal system to improve intelligent terminal service ability

The ultimate goal of intelligent logistics is to centralize terminal logistics distribution and make the service as perfect as possible. Therefore, before the end of intelligent distribution, Shandong Province needs to encourage e-commerce, logistics and other enterprises to make use of advanced logistics information such as Internet of Things, cloud computing, big data, effectively integrate logistics resources through intelligent logistics information platform, and then achieve the ultimate goal through joint distribution and intelligent logistics model of UAV distribution.

Secondly, through automated warehouse, automatic sorting machine, electronic tag sorting system, picking robot and other automated equipment, to achieve rapid access, sorting, processing and other logistics operations, improve the efficiency of terminal logistics distribution. Finally, let terminal units jointly develop intelligent logistics terminal distribution facilities, such as intelligent express cabinet and intelligent express station, to improve the level of terminal Automation and intelligent service. Make terminal logistics operation become efficient and low cost.

4.2. Pay attention to the development of information technology and improve the competitiveness of enterprises

Technology is the first productive force, and it should be so at all times. The construction of intelligent logistics is the same. We should attach importance to the research and development of information technology as the core. For Shandong Municipal Government and enterprises in Shandong Province, it is necessary to increase research and investment in the development of information technology, gradually break through technical bottlenecks, and reduce technological costs, so as to develop logistics information technology with strong applicability and economic rationality. In addition, the Shandong provincial government should encourage enterprises to apply human intelligence, and give some policy support and financial support to enhance the application of logistics information technology in the Internet of Things, cloud logistics and so on. In the distribution route, we also need to use advanced logistics technology such as GPS and GIS to accurately collect road information, effectively realize the interface with the transportation system, establish a reasonable distribution route model, and enhance the competitiveness of logistics enterprises.

4.3. Creating shared cooperation model and optimizing social logistics resources

The core idea of intelligent logistics in Shandong Province is the sharing of logistics resources. Therefore, in order to construct the cooperation mode of social logistics resources sharing in Shandong Province, on the one hand, it needs mutual trust among enterprises, and on this basis, keep the transparency of enterprise logistics information. This not only eliminates the isolated island of enterprise informationization, but also forms the specialized division of enterprises, making full use of the logistics resources among enterprises. If all enterprises can share resources and form a network in the supply chain, it will not only improve the logistics resources of the whole supply chain, but also enhance the overall competitiveness of enterprises.

4.4. Collaborative training of talents and building of intelligent logistics force

The shortage of talents is also a problem facing the intelligent logistics industry at present. For this reason, Shandong colleges and universities should constantly study and develop the training

mode of intelligent logistics talents suitable for the development of modern logistics, so that Shandong Province can train the real logistics talents needed by the society as soon as possible, and also make logistics education and industry development closely integrated in talent construction.

5. Conclusion

The development of intelligent logistics in Shandong Province and even in the whole country is still in its infancy, and logistics infrastructure, logistics technology and management concepts are still relatively weak. The development of intelligent logistics must also rely on a strong support system for the development of intelligent logistics. The development of intelligent logistics in Shandong Province also faces many challenges, such as imperfect management system, lack of perfect information platform, backward information technology and lack of logistics professionals. Only by solving these problems one by one, can Shandong Province's intelligent logistics play its role.

References

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