

Study on International Logistics Supply Chain Management Mode from the Perspective of Cross-border Electronic Commerce

Hongxia Chen

Jiangsu Maritime Institute, Nanjing, 211170, China

hxchen1978 @163.com

Keywords: Cross-Border E-Commerce, International Logistics Supply Chain, Management Model

Abstract: With the development of electronic commerce, logistics based on big data background is gradually rising. The cross-border logistics mode refers to the intelligent and automatic process through the advanced Internet technology on the basis of the original logistics management[1]. The choice of logistics management mode mainly depends on the enterprise's own situation, including its capital capacity, scale, product characteristics, distribution scope and so on. This article mainly from the cross-border e-commerce perspective combined with the current reality, the cross-border e-commerce perspective of international logistics supply chain management model for reference.

1. Introduction

In recent years, cross-border e-commerce has gradually emerged, which has a great impact on the traditional logistics supply chain management mode, enterprises should keep pace with the times, innovate logistics management mode, so as to ensure the competitiveness of enterprises and sustainable development[1]With the development of international informatization and electronic commerce in China, the traditional logistics industry is also facing the reform of data and informatization. On the basis of Internet technology, combining big data, cloud computing and logistics distribution can help modern logistics to realize information, data, sharing and automation[2]The current development of China's cross-border logistics model should be supported by big data technology to improve service efficiency and enhance user experience.

2. Traditional Logistics Mode

2.1. Logistics Alliance

Logistics alliance refers to the long-term and stable cooperative relationship formed by the enterprises of both sides for the best interests. This model can integrate the differences between the two enterprises, so that the two sides can enjoy the benefits and jointly bear the risks. It can help enterprises to open the market faster, improve the competitiveness of logistics, and thus get a larger market share. But its shortcomings are also very obvious, so long-term cooperation model is difficult to change, once the enterprise has other needs or dissatisfaction of logistics distribution, it is difficult to reconcile. Especially in cross-border logistics transportation, we must pay attention to the cooperation between related transport enterprises and docking enterprises.



Figure 1 Logistics distribution

2.2. Self-Employed Logistics

Self-owned logistics refers to the enterprises that sell commodities through their own logistics distribution business operation and management. The advantage of this logistics mode is that the enterprise can master the time and distance of commodity distribution all the time, and ensure that the distribution link is monitored all the time[2]so as to improve the service quality of distribution, shorten the delivery time, but also save time for consumers. The disadvantage is that the first self-run logistics model requires a large amount of capital investment by enterprises to establish warehouses, physical distribution centers, distribution information systems, and so on, and the recovery period of this part of the capital investment is very long; the second is that this model needs to invest more human resources to meet the needs of distribution, and the human cost is also increased.

2.3. Third Party Logistics

Third party logistics refers to the third party logistics enterprises that entrust part or all of their own logistics distribution services to carry out logistics transportation according to the agreement[3]Its advantage lies in: first, the contract receives the legal protection, has the compulsion, the contract both sides undertake the responsibility clearly; second, the enterprise may obtain the personalized service. Third party logistics enterprises are professional, for the related logistics distribution processing ability is stronger, can better guarantee the customer demand; third, the distribution service is entrusted to the third party, reduces the capital investment to the logistics distribution aspect, reduces the distribution cost.

3. Construction of Logistics Mode Management

The concept of cross-border logistics model was put forward by international commercial machine company, and China introduced the sub-concept in 2009. Cross-border logistics model is based on the original logistics, through the use of intelligent technology, logistics system can only have characteristics, can independently deal with logistics links occurred events or unexpected situations. The main exploration route of the management mode of cross-border logistics mode in the current stage is the sensing end-transmission segment-cloud-application segment.

3.1. Construction of the Perceptual End

The cross-border logistics model is based on the Internet of things technology, and the comprehensive logistics information perception is the basis of the construction of cross-border logistics model system. At present, the sensing technology used by logistics companies mainly includes RFID and sensor perception, and communication technology, sensing technology and sensing technology need further research. These technologies can be more convenient and quick to collect information, help logistics companies to obtain consumer and goods information, and based on the Internet of things technology to establish the information of related goods, distribution

address and so on. The basis of cross-border logistics model is to establish a database. manage transportation equipment through GPS system, comprehensive monitoring and supervision. Cross-border logistics is characterized by distance, so its monitoring and control is the top priority, so it needs to spend the role of focus at this stage.

3.2. Construction of Conveyor Belt Transfer Section

The transmission band is the fusion network which gives the Internet and the Internet of things to see, carries on the information transmission, the classification, the aggregation and the processing through the Internet and the radio and television network and so on information transmission system. Transport staff do not have special professional data transmission technology, only need to understand the service at both ends of the data, ensure routing, congestion control and network connectivity, can ensure timely and accurate access to the corresponding information.

3.3. Cloud Intelligence

Diversified services need to be based on cloud computing. The processing ability and storage ability of cloud computing are good, which can provide effective help for the storage, calculation and processing of logistics transportation information. Cloud computing is the core foundation of information processing, which can simplify the delivery process and improve the efficiency of computing and information transmission. Cloud computing can also work as an information storage platform to provide users and enterprises with convenient logistics information query.

3.4. Application End Design

The construction of cross-border logistics model is closely related to the flow of information, rapid and efficient information flow and intelligent management center combined, participate in the creation of a technology platform for all users. Application-side is set up in data analysis and collation is closely linked, so in the design can be divided into several modules. such as enterprise information module, logistics transportation information module, customer demand module, etc. Refine smaller systems from several large modules to meet the individual needs of enterprises, such as query logistics systems. This kind of application design can provide convenience for users, but also optimize the logistics management mode.



Figure 2 Cross-border logistics

4. Choice Factors Cross-border Logistics Mode in the Age of Big Data

4.1. Enterprise Size and Economic Strength

For the choice of cross-border logistics mode, it depends to a great extent on the capital strength of the enterprise and the size of the enterprise. For large-scale enterprises, we can invest in the construction of a special logistics distribution center, design their own distribution system, so as to master the whole process of logistics distribution. After creating its own personalized logistics system, it can also deliver the remaining distribution resources and the resources that can not carry out its own distribution to other enterprises for cooperation. And small and medium-sized enterprises can not build their own logistics distribution system because of the size and capital strength, its management level and transportation cost limit are very high. Cross-border logistics

needs a variety of support, including transportation, cooperation between enterprises and so on, need to consider more factors, so the size of enterprises and economic strength is very important. In cross-border logistics also property, need to involve large transport enterprises, as well as tariffs and so on, enterprises need to consider in many ways to ensure economic benefits.

4.2. Logistics Network Resources and Product Features

If the enterprise product is single and the transportation mode is single, even if it does not have very high logistics management ability, it also applies to the self-run logistics mode. At present, there are small-scale companies to use the model of self-logistics cases. On the contrary, if the enterprise product is more complex, the amount of logistics management level is not high, it is not suitable for the self-run logistics mode, and it is more suitable to hand over the distribution service to the third party.

5. The Key Technology of Constructing Cross-Border Logistics Model in the Era of Big Data

5.1. Information Technology

Information technology is divided into three parts: information acquisition, network transmission and data processing. GPS systems in information acquisition technology are most widely used at present. The main technologies involved in the information network transmission system are the Internet of things and the block chain, and the Internet of things is a combination of Internet technology and sensor equipment[4]so that the network system can process information through information triggering. Block chains are decentralized, bringing consumers and businesses closer together.

5.2. Intelligent Equipment Technology

Intelligent equipment mainly refers to the intelligent sorting, transportation, packaging, storage and distribution of products in the cross-border logistics mode. Only the typical reserve is automatic storage, through the three-dimensional shelf and conveyor system for product classification, storage[5]Intelligent distribution is the embodiment of unmanned technology, such as drone delivery, which can automatically plan distribution routes and monitor the situation on transport routes to ensure product safety.

5.3. Systems Integration Technology

System integration technology is based on the platform of structured integrated cabling system and computer technology, and the function of separation equipment is unified and interconnected. Mainly involved in logistics integration, cloud logistics and so on. Be able to perform global services, support mapping of different standards, and help users get a better service experience[6].



Figure 3 Electronic commerce

6. Summary

To sum up, based on the background of the rapid development of big data and e-commerce, the logistics industry is facing the impact of technology. Therefore, we need to follow the pace of the times and carry out intelligent reform of the industry. Through big data technology can improve the management level and improve the user experience. At present, the more mature logistics modes in China are self-run transportation, third party transportation, logistics alliance, enterprises need to choose the appropriate logistics mode according to their own scale, capital capacity, product characteristics and so on. In addition, the Internet technology is changing with each passing day, and the cross-border logistics model needs to be built on a higher level of technology, its perceived end, transmission

References

- [1] Yu, justice., Ren, Linwei. A Study on the Mode of International Logistics Supply Chain Management from the Perspective of Cross-border Electronic Commerce. *China Strategic Emerging Industries*, no. 020, pp. 21, 2017.
- [2] Zheng. A Study on the Mode of International Logistics Supply Chain Management from the Perspective of Cross-border Electronic Commerce. *Modern Marketing*, no. 9, pp. 163, 2018.
- [3] Cui, Jin, Dan. A Study on the Mode of International Logistics Supply Chain Management from the Perspective of Cross-border Electronic Commerce. *China Market*, no. 11, pp. 79-81,102, 2015.
- [4] Hu, Qing. Construction of International Logistics Supply Chain Management Model from the Perspective of Cross-border Electronic Commerce. *National Circulation Economy*, no. 29, pp. 23-24, 2019.
- [5] Aie, Liu. Construction of International Logistics Supply Chain Management Model from the Perspective of Cross-border Electronic Commerce. *SME Management and Technology*, no. 35, pp. 39-40, 2018.
- [6] Zhou, Zhu. Construction of International Logistics Supply Chain Management Model from the Perspective of Cross-border Electronic Commerce. *China Management Informatization*, vol. 20, no. 8, pp. 118-119, 2017.