

Research on Optimization of Supply Chain and Logistics Management under E-commerce Environment

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Keywords: E-commerce, Supply chain, Logistics management

Abstract: The rapid development of e-commerce has profoundly changed the development status of China's logistics industry. Perfecting the optimization of the supply chain and logistics management process is an important part of adapting to the development of logistics informatization, and will also play an important role in promoting the high-quality development of the logistics industry. The article analyzes the development status of China's logistics industry, analyzes the development characteristics, and finally proposes reforms.

1. Introduction

Under the e-commerce environment, the logistics industry is in a booming stage in today's society, and the operation of major applications is inseparable from the assistance of the logistics industry. After years of development, China's logistics industry has formed a relatively mature logistics system, and people's lives have become more convenient. The process of continuous development of logistics has also effectively improved people's understanding of logistics informationization. However, with the continuous development of information technology, how to optimize supply chain and logistics management in the e-commerce environment is still a problem that needs further research. In this context, this paper has conducted in-depth research on optimizing supply chain and logistics management processes in the e-commerce environment. The first part introduces the overview of supply chain and logistics management under the e-commerce environment. The second part introduces the status quo and existing problems of China's logistics development, and finally proposes optimization measures.

2. Overview of supply chain and logistics management in e-commerce environment

2.1 Concepts and features

Under the background of the rapid development of information technology, e-commerce has developed rapidly with the development of China's economic structure. In the context of the rapid development of e-commerce, the traditional logistics management model of logistics enterprises faces complex challenges, and the logistics industry has also become extremely active. Logistics management has many new features in the e-commerce environment. Firstly, it is highly informationized. Logistics management transfers and exchanges logistics information through its own system, realizing data transmission and exchange in business, so that the entire logistics service process can be effectively follow up. Secondly, it is networked. The entire logistics management system is based on network. If there is no network management, logistics information is difficult to effectively connect with the e-commerce system. Once again, it is intelligent, intelligent to provide better services for e-commerce, and thus achieve more scientific and effective decision-making and operations. Trade logistics in the supply chain environment also has some characteristics, mainly manifested in flexible response to the market, high information utilization, effective reduction of operating costs, and can also enhance the core competitiveness of enterprises.

2.2 Logistics Management Mode

Based on the supply chain, the functions of logistics management can be divided into four parts:

inventory management, procurement process management, distribution management and warehouse management. The procurement process management can be divided into three management contents: supplier management, demand management and document management. Inventory management is the distribution of logistics through the sale of existing items stored in warehouses. Purchasing process management can be divided into supplier management, demand management and document management. Distribution is a meticulous differentiation of goods. Under such management, goods can achieve their maximum value in the shortest time. Warehouse management is different from inventory management in that it can be liquidated at the point of inventory, and it can assist the transportation classification of goods in the logistics process through the emerging technologies of the new era.

With the vigorous development of e-commerce, the logistics industry is also developing at the same time. In the e-commerce business environment, logistics management also has a pattern change. In terms of logistics and distribution, e-commerce requires certain information processing technology and hardware foundation, and requires certain enterprise management capabilities. At present, there are three main logistics management modes for logistics enterprises: self-built logistics system, contract logistics, and fourth-party logistics alliance. The self-built logistics system is one of the management modes selected by the current large-scale and powerful enterprises. It can set the distribution network according to the distribution of its own customers and implement the mode of nearest delivery, which greatly improves the service efficiency. Contract logistics is the management mode of logistics enterprises selected by most e-commerce companies. It does not directly participate in trading activities, and only provides logistics services for e-commerce enterprises. The fourth party logistics alliance plays the role of coordinator and collaborator in the logistics supply chain. Based on professional management, it allocates and organizes all links in the logistics supply chain, and realizes logistics through resource integration management of the supply chain. Integrated management of the supply chain.

3. Development status and problems of logistics industry under e-commerce environment

3.1 Development Status of Logistics Industry under E-commerce Environment

In recent years, with the rapid development of mobile Internet technology, e-commerce has shown rapid development momentum, bringing great changes to the traditional trade of goods. E-commerce has completely changed the traditional consumption habits, and the scale of transactions has continued to expand, maintaining a high-speed growth trend and bringing strong momentum to the development of the logistics industry. After years of development, online platform transactions have become more and more popular, online shopping has become more and more popular, logistics service network system has been continuously improved, logistics service quality has been greatly improved, and e-commerce belt animal network construction has been continuously improved, forming a networked and diversified transportation. system. The application of digital information technology is increasingly widespread, the trade circulation is becoming more and more convenient, and the cooperation between e-commerce and logistics industry is increasingly enhanced, which effectively reduces the cost of logistics enterprises, improves the quality and efficiency of the logistics industry, and jointly promotes the coordinated development of logistics and e-commerce, logistics and electronics. Business industry links are getting closer. 70% of the total express delivery business in 2017 was generated by e-commerce. Since 2012, the online retail business has grown at a rate of 25.4%, far exceeding the growth rate of other retailers such as department stores, supermarkets and shopping malls, and has become a new consumer driving force. In 2017, the overall transaction scale of China's e-commerce market reached 29.16 trillion yuan, an increase of 11.7%. In 2017, the national online retail sales reached 7.18 trillion yuan, a year-on-year increase of 32.2%, accounting for 24.62% of the total transaction volume of the e-commerce market.

Table1.2013-2018 China's total e-commerce transaction and growth

Year	Total e-commerce transactions (trillion yuan)	Growth rate
2013	8.01	31.7
2014	10.2	30.03
2015	16.4	59.4
2016	20.8	27
2017	23	26
2018	30	11.69

Table2. Online retail sales in 2013-2018 accounted for the proportion of national e-commerce transactions

Year	National online retail sales	Growth rate (%)	The proportion of e-commerce transaction volume in online transaction volume (%)
2013	1.3	68	16.8
2014	1.8	50	18.7
2015	2.9	50.2	17
2016	3.88	33.4	19
2017	5.23	26.7	24.6
2018	7.2	33	24.5

3.2. Prominent problems

First, the policy system is difficult to adapt to the development requirements of e-commerce logistics. The policy and regulation system for the new model and new format is not perfect, and it is difficult to adapt to the new characteristics of e-commerce logistics development, which has constrained the creative vitality of logistics enterprises. The government's supporting services in terms of policies and regulations, information consultation, market supervision and other aspects have to be strengthened. There are also certain challenges in terms of market access, compliance management, and standard competition. The e-commerce market lacks standard norms, market supervision is not in place, and the enterprise integrity management system is insufficient, which hinders the integration and development of e-commerce logistics. The logistics information sharing is not enough, the logistics information is not connected, the standards are not connected, and the application of advanced technology equipment is not common, which restricts the high-quality development of logistics. At the same time, the segmentation status of internal supply chain management is very serious, and there is a general differentiation problem between some management and regional management.

Second, there are insufficient logistics facilities and supply systems. China's social logistics system is insufficiently coordinated, the logistics industry structure is irrational, the logistics scale and quality benefits are not matched, the organization and management level is not high, the quality of the logistics supply system needs to be improved, and the integrated comprehensive service capability of logistics enterprises is insufficient, informationization, standardization, The degree of automation is not high, resulting in low logistics efficiency and difficulty in adapting to e-commerce development requirements. The overall development of China's logistics industry is still unbalanced. Enterprise management is still extensive, and there is a lack of unified planning and coordination of logistics infrastructure construction, resulting in insufficient interoperability of infrastructure, difficulty in coordinating all kinds of transportation resources, and convenient and efficient three-dimensional integrated transportation network. Not yet formed. The logistics and distribution infrastructure of a large number of logistics enterprises is still not perfect, and the logistics distribution work often appears relatively lagging. The informatization modernization of some

logistics bases, logistics parks and logistics centers is not high enough to meet the requirements of modern logistics development.

Third, there is a lack of high-end compound talents. Compared with developed countries, the overall development of China's logistics industry is still not balanced, the quality of logistics practitioners is uneven, the practical experience is generally lacking, and the innovation ability and creative thinking are relatively lacking. Basic, forward-looking, and critical technology research is insufficient. The technological innovation system for industry, academia and research has not yet been established, the talent training system is not perfect, and the training system for higher education-related talents has not yet fully formed. It is difficult to adapt to the rapid development of the e-commerce logistics industry. Claim. The logistics management personnel and high-tech talents are obviously insufficient. In particular, the high-level compound talents who are familiar with modern logistics and e-commerce are extremely scarce, and become the constraints of the integration of e-commerce and modern logistics.

Fourth, the ability to resist risks is seriously inadequate. In the case of e-commerce to provide higher service efficiency and service level requirements for logistics enterprises, logistics equipment investment, facility construction, and later maintenance and operation costs are high, information sharing awareness is extremely weak, and such high investment of logistics enterprises is difficult to support. Its complete logistics management system is difficult to have strong anti-risk ability, which makes it difficult to improve the comprehensive competitiveness of the industry. . At present, most logistics companies lack intelligent management, which has caused obvious constraints for the further improvement of logistics management under the e-commerce environment. The re-innovation of logistics management in the e-commerce environment will inevitably raise the level of intelligence.

4. Promote the optimization of supply chain and logistics management under the e-commerce environment

4.1 Promote internal management innovation

Increase management innovation, improve logistics management through scientific improvement, reduce unnecessary costs and control continuous costs. Improve the central management system and develop a more complete central management system with the support of modern information technology. Innovatively by technology, enterprises can support foreign advanced technology, use intelligent management technology, develop a management system that matches the enterprise logistics management, and carry out intelligent integration, so as to strengthen coordination between various links and improve management efficiency.

Actively promote the application of Internet of Things, cloud computing, big data and artificial intelligence technology, vigorously develop digital logistics, accelerate the popularization and application of smart devices, promote the application of IoT technology in logistics parks, logistics bases and large storage facilities, and create new integrated logistics Ecology. Establish a business logistics management information system, and improve the business logistics management system under the supply environment.

4.2 Optimize the business environment for innovation and development

Governments at all levels must adhere to the top-level design, adapt to the e-commerce development environment, and scientifically formulate various policy measures. It is necessary to keep up with the new situation and new requirements of e-commerce development, boldly explore the concept of logistics operation management, continuously innovate new modes of logistics development, and promote the integration of e-commerce and logistics industry. It is necessary to further improve and improve the relevant policies and regulations, strengthen the construction of the responsibility system, deepen the reform of the “distribution service” in the logistics field, establish a list of logistics management matters, simplify the administrative examination and approval procedures for logistics enterprises, and improve and improve the supporting measures to support

the innovation of logistics enterprises. It is necessary to strengthen the coordination of government departments, further rationalize the e-commerce logistics management system, improve relevant functions, improve and standardize the standardization and standardization system of the logistics industry, further promote the pilot of logistics standardization and supply chain system construction, and strive to create a coordinated development of the logistics industry.

4.3 Continuously optimize the development layout of the logistics industry

Actively integrate the “One Belt, One Road” initiative, strengthen logistics cooperation with countries along the route, and build a number of overseas cooperative logistics parks, storage centers, transportation hubs and important ports for the logistics industry. With the advantage of e-commerce platform, we will promote the reform of the logistics industry, optimize the logistics industry and facilities layout, rationalize the infrastructure layout, and promote the interconnection of various infrastructures. Actively develop multimodal transport, improve service rules, and improve the standards of logistics facilities such as multimodal transport operations and loading and unloading stations. Accelerate the construction of multimodal transport public information service platform, promote the "seamless" convergence of multiple modes of transport, and effectively match the supply of goods with various transport resources. Further improve the rural logistics network, promote the sharing and sharing of facilities, and gradually build a two-way smooth logistics distribution network. Accelerate the modernization of trade logistics under the supply chain environment, accelerate the mechanization process, and realize the rapid development of trade logistics under the supply chain environment.

4.4 Focus on information construction

Widely apply logistics information technology, actively carry out information sharing, and improve logistics and transportation efficiency through bar code technology and electronic exchange technology. Focus on the construction of information service platform and the next-generation logistics information technology research and development project, and further improve the information system stability and anti-risk ability of SF Logistics. Actively carry out third-party logistics, continuously innovate the operation and management model, and improve service quality and customer satisfaction. Strengthen the implementation of corporate strategic alliances, focus on the integration and sharing of resources, form a stable and efficient dynamic enterprise alliance, and build a scientific and rational logistics industry supply chain. Actively cooperate with commercial logistics enterprises to cultivate professional trade logistics professionals in a high-quality supply chain environment, and vigorously recruit skilled and experienced technical personnel from the society to continuously expand the talent team in the supply chain environment.

5. Conclusion

In the current e-commerce environment, trade logistics under the supply chain environment has become an indispensable part of the development of Chinese enterprises. Logistics management should be based on the current background to implement continuous innovation, more effectively grasp customer needs and management mechanisms, enhance their service capabilities, and ultimately adapt to the requirements of e-commerce development. In view of the shortcomings of logistics management under the e-commerce environment, innovation from management, systems, technologies, models, etc., to enhance their scientific management capabilities and management efficiency, can provide more powerful support for the re-development of the logistics industry.

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