

# *Research on Supply Chain Management Models from the Perspective of Cross Border E-commerce*

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**Abstract:** With the development of the Internet and globalization, the rise of cross-border e-commerce has become an important force driving international trade and economic development. In cross-border e-commerce, supply chain management is a crucial link, which is related to the coordination and optimization of various links such as production, transportation, inventory, and sales of goods. The supply chain management of cross-border e-commerce faces many challenges, such as the complexity of international logistics, the diversity of international trade rules, and the uncertainty of customs supervision. Therefore, conducting in-depth research on the supply chain management model of cross-border e-commerce is of great significance for improving supply chain efficiency, reducing operational costs, and enhancing enterprise competitiveness.

## **1. Introduction**

With the rapid development of the internet and logistics industry, more and more enterprises are starting to use cross-border e-commerce as an important means to expand overseas markets. In this field, the optimization and innovation of supply chain management models have become one of the important topics. It can not only enhance the competitiveness of enterprises in cross-border e-commerce, but also contribute to further promoting the liberalization and facilitation of global trade.

## **2. Strategic choice of international logistics supply chain management model from the perspective of cross border E-commerce**

With the continuous deepening of globalization, more and more enterprises are starting to use cross-border e-commerce as an important means to expand overseas markets. In this process, the optimization and innovation of logistics and supply chain management models have become one of the important topics. How to choose an international logistics supply chain management model that is suitable for their own business model has become a strategic choice that cross-border e-commerce enterprises need to face. From a strategic perspective, the selection of cross-border e-commerce supply chain management models needs to balance the goals of the enterprise and the actual situation. On the one hand, enterprises need to develop supply chain management strategies based on factors such as their own product characteristics, market positioning, and operational models, in order to improve response speed, reduce costs, and improve service quality; On the other hand, enterprises

need to consider factors such as the competitive environment, policies and regulations in the international logistics market to avoid risks and unnecessary losses.

### **3. The development status of international logistics supply chain management models**

#### **3.1. Complex logistics supply chain environment**

Due to significant differences in trade rules, laws and regulations, and tariffs among different countries and regions, this has brought great uncertainty to supply chain management. Due to the continuous strengthening of customs supervision, there is an increase in customs inspection and detention of goods, resulting in significant uncertainty in the logistics process of goods. With the continuous progress of technology, logistics information technology is also constantly updated, and logistics enterprises need to continuously introduce new technologies to better respond to market demand. The cost of international logistics is relatively high, especially in cross-border e-commerce scenarios, due to the complexity and uncertainty of cross-border transportation, warehousing, customs clearance, and other links, logistics costs are even higher. The complex logistics supply chain environment is the main obstacle to the development of international logistics supply chain management models, and how to use information technology to timely obtain logistics information and improve operational efficiency will become a challenge that international logistics suppliers must overcome.

#### **3.2. Uneven development of information technology**

In terms of information technology development, there is a phenomenon of uneven development among different countries and regions, which also affects the development of international logistics supply chain management models. In developed countries, information technology has been fully applied and developed, and enterprises have begun to implement digital and networked supply chain management models, such as the widespread application of technologies such as the Internet of Things and cloud computing. This innovative management model greatly improves the efficiency and accuracy of logistics, while also reducing operating costs and enhancing the market competitiveness of the enterprise. However, in some developing and underdeveloped countries, due to the relatively low level of technology, the imperfect construction of logistics infrastructure, the low level of informatization and other factors, the international logistics supply chain management model is limited and cannot achieve Digital transformation. Enterprises in these regions still rely on manual handling of goods throughout the entire process, resulting in low logistics efficiency, high operating costs, and difficulty in competing with enterprises in developed countries. In the face of this imbalance, we need to attach importance to technological innovation and infrastructure construction, promote the development of the international logistics supply chain management model with the support of information technology, and achieve Digital transformation as soon as possible. Countries need to strengthen cooperation and exchange, promote the common development of information technology and logistics, and make positive contributions to global trade liberalization and facilitation.

#### **3.3. Lack of unified standards for institutional protection**

Due to differences in laws, policies, and other systems among countries, as well as the lack of unified standards, it has brought certain difficulties to international logistics supply chain management. In international trade, it involves multiple countries and regions, each with its own unique legal and policy system. This has led to the need to face different laws and policy regulations in the trade process, which has had a certain impact on the implementation of international logistics

supply chain management models.[1] For example, the documents, authorities, and procedures required for customs clearance of goods in the importing country are different, which requires enterprises to understand and comply with relevant laws, policies, and regulations of different countries and regions when conducting cross-border trade. There are also differences in service standards and quality among different international logistics service providers. In the absence of unified standards, enterprises often cannot accurately evaluate the service quality and cost-effectiveness of different logistics service providers, making it easy to choose unsuitable or inefficient supply chain management models.

## **4. Supply chain management models from the perspective of cross border E-commerce**

### **4.1. Directly affiliated with international express delivery companies**

This model is usually applicable to cross-border e-commerce enterprises with small, lightweight, high-quality, and high value-added goods, such as fashion clothing, jewelry, cosmetics, etc. These enterprises usually choose to cooperate with international express delivery companies, domestic express delivery companies, and international logistics companies, relying on their strong logistics network and professional service advantages to complete the delivery of goods and after-sales service.[2] The main advantages of this model are: short transportation time, low logistics costs, guaranteed product quality, timely after-sales service, and high customer satisfaction. However, this model also has certain drawbacks, such as opaque charging standards and uncertain customs supervision. Enterprises need to make choices based on specific circumstances.

### **4.2. Self-built logistics and warehousing center**

If cross-border e-commerce enterprises have a large scale, large business volume, and a variety of goods, they should adopt the method of building their own logistics and warehousing centers to meet the needs of various links such as commodity sorting, loading, inventory management, and transportation. Specifically, self-built logistics warehousing centers can effectively improve logistics efficiency and cost control.[3] By classifying and distinguishing different goods, unified inventory management and control are achieved, avoiding problems such as loss and expiration of goods caused by storage, and also enabling faster delivery of goods, improving customer satisfaction and trust. However, this management model requires enterprises to have a certain level of financial strength and experience accumulation, as well as logistics management capabilities and technical level. Because in the construction process of self-built logistics warehousing centers, it is necessary to consider the construction of logistics facilities, the introduction and cultivation of talents, as well as the subsequent logistics management and operation, which requires a large amount of manpower, material resources, and financial resources to be invested.

### **4.3. Cooperative logistics third-party platform**

For small and medium-sized cross-border e-commerce enterprises, choosing the appropriate logistics third-party platform is a wise choice. By choosing a third-party logistics platform, small and medium-sized enterprises can not only save funds but also enjoy high-quality logistics services. At the same time, logistics platforms can also provide comprehensive logistics services such as warehousing, transportation, customs clearance, and delivery, greatly shortening the transportation cycle of goods, reducing enterprise operating costs, and enhancing enterprise market competitiveness. In addition, third-party logistics platforms can also meet the needs of different enterprises through diversified logistics services, such as one-stop logistics services, direct mail services, warehouse

management, etc. At the same time, third-party logistics platforms can also assist enterprises in solving various logistics problems, such as customs supervision, return management, customer service, etc., thereby reducing operational risks and improving the comprehensive strength of enterprises. Choosing an international logistics supply chain management model in cross-border e-commerce requires considering various factors such as the actual situation of the enterprise, market demand, and policies and regulations, in order to formulate reasonable management strategies and improve the operational efficiency and market competitiveness of the enterprise. At the same time, enterprises also need to constantly innovate and optimize management models to adapt to constantly changing market demands and challenges.

## **5. Strategies for building an international logistics supply chain management model from the perspective of E-commerce**

### **5.1. Accelerate the construction of domestic logistics supply chain management**

Accelerating the construction of domestic logistics supply chain management should increase efforts in the construction of transportation networks, establish sound logistics warehousing, distribution nodes, and transportation networks, optimize the distribution and scheduling of logistics, strengthen multimodal transportation and information technology support, and improve logistics transportation efficiency and service quality. In the era of e-commerce, logistics warehousing and information technology are equally important. Information technology should be used to achieve visualization of material flow, which is not only conducive to improving logistics operation efficiency, but also helps to avoid risks, ensuring goods safety and fast delivery. In addition, in the construction of domestic logistics supply chain management, it is necessary to strengthen the coordination and integration of various links. To achieve seamless logistics integration, save time and costs, reduce logistics risks, and make the domestic logistics supply chain more efficient and transparent, we need to improve the informatization and automation level of each node in the supply chain. By adopting joint operations, sharing resources, and advancing together, a strong logistics consortium is formed to achieve resource sharing and complementarity, optimize logistics operating costs and service quality, and further enhance the level of domestic logistics supply chain management.

### **5.2. Introduce and cultivate logistics supply chain management talents**

Enterprises need to determine the type, quantity, and professional skill requirements of logistics talents required based on their own business characteristics and development strategy planning. Excellent logistics talents can be introduced through recruitment channels, campus recruitment, and other means, and attention should also be paid to the cultivation and improvement of internal employees. For example, offering relevant training courses, organizing internal talent selection and training plans, etc., to enhance employees' professional literacy and skill levels. Enterprises need to provide logistics talents with broad career development space and a good working environment. By establishing a sound promotion system, salary incentive mechanisms, and other means, logistics talents can be attracted and retained, enhancing their sense of belonging and loyalty. They also need to provide a wide range of learning and communication platforms for logistics talents, allowing them to expand their horizons, understand external industry trends and new technologies. Thus continuously improving professional level and innovation ability. In order to better introduce and cultivate logistics supply chain management talents, enterprises can strengthen cooperation and exchange with universities, research institutions, etc., actively participate in industry university research cooperation projects, and jointly cultivate logistics talents. By establishing industry associations and conducting professional forums, we aim to promote communication and cooperation

among logistics talents and promote the development of the logistics industry.

### **5.3. Improve industrial clustering**

In the process of e-commerce development, industrial clustering has become one of the important ways to promote innovative development of enterprises, improve market competitiveness, and reduce transaction costs. By establishing industrial chain partnerships, jointly formulating standards and norms, and sharing talent, technology, and information, industrial clustering can be achieved. Enterprises can establish a complete industrial chain and form an industrial cluster by strengthening communication and collaboration with the upstream and downstream of the relevant industrial chain. For example, e-commerce platforms can establish cooperative relationships with logistics, payment and other enterprises to jointly promote the development of the e-commerce industry, forming an ecosystem and sustainable growth model. Promote industrial clustering by establishing standards and norms. Developing and implementing unified standards and norms is conducive to improving the collaboration efficiency and transaction security of industrial clusters, helping enterprises reduce costs and risks, and promoting the development of the entire industry. Sharing resources is also an important way to promote industrial clustering. Enterprises can open their advantageous resources to other enterprises through the establishment of shared platforms, shared facilities, and shared data, achieving resource sharing and complementary advantages, thereby promoting the coordinated development of the entire industry. The sharing and exchange of talents, technology, and information are also important contents of industrial clustering. By establishing professional training and exchange platforms, holding professional forums, and other forms, we can strengthen talent exchange and knowledge sharing among different enterprises, enhance the technical and innovative capabilities of the entire industry, and achieve a mutually beneficial and win-win situation.

### **5.4. Strive to become a mainstay in cross-border logistics supply chains**

As an e-commerce enterprise, in order to become a mainstay in the cross-border logistics supply chain, it is necessary to first establish an independent and independent logistics supply chain system. By establishing a complete logistics system through its own logistics network or collaborating with professional logistics companies, we can achieve full chain logistics management from procurement, warehousing, distribution to after-sales service, improve the delivery speed and quality of goods, and enhance the voice and competitiveness of enterprises in the cross-border logistics supply chain. The complexity of cross-border logistics supply chains requires enterprises to have high-tech information systems and data analysis capabilities, in order to better control logistics links, accurately predict market demand, and optimize warehousing and distribution processes. Therefore, enterprises need to strengthen their research and application of logistics technology, combine big data, cloud computing, and artificial intelligence technologies to improve logistics efficiency and operational cost control capabilities. At the same time, through data analysis of multinational partners, optimize supply chain structure and improve overall efficiency. To become a mainstay in the cross-border logistics supply chain, enterprises need to actively explore overseas markets and build their own international brands. By establishing a sales network, optimizing product quality, and providing differentiated services, we aim to increase market share and influence, increase the loyalty of overseas customers, and thus achieve our leadership position in the cross-border logistics supply chain.

## **6. Conclusion**

In summary, this article explores the supply chain management model from the perspective of cross-border e-commerce, providing a certain reference for e-commerce enterprises to establish a

scientific supply chain management system in cross-border trade. It is hoped that it can be further verified and applied in practice.

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