

# *Logistics and supply chain management of multinational corporations*

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**Abstract:** With the development of economic globalization, competition between enterprises is increasingly manifested as competition between supply chains. As the main participants in globalization, multinational corporations fully utilize the value of supply chain management to enhance their competitiveness, which is of great significance. At the same time, many enterprises in China, especially large ones, are actively exploring the path of international operation. It is impossible to carry out international operations without involving the global supply chain. Therefore, studying the relationship between global supply chains and international trade can help Chinese enterprises understand the characteristics and roles of supply chains in international operations, and provide reference for Chinese enterprises to formulate international business strategies and choose strategic partners. This article takes Dell, Haier, and Motorola as examples to analyze the supply chain management and logistics management models of multinational corporations. These successful cases are analyzed and discussed, and the logistics supply chain of multinational corporations is analyzed from the perspectives of suppliers, sellers, and internal companies.

## 1. Introduction

In the 1990s, some multinational companies in developed countries began to establish global supply chains, and the processing links began to enter China at the earliest. The global supply chain is mainly established and operated by international enterprises, mainly multinational corporations, and firmly controls core technologies and brands. Currently, our country is still at the end of the supply chain, so the added value that can be obtained is relatively low, and we cannot enjoy the overall benefits of the entire supply chain. In the process of business development, Chinese enterprises are also constantly exploring the path of international operation. In international operations, China's manufacturing industry inevitably involves the global supply chain. Therefore, it is necessary to strengthen the analysis and management of the global supply chain, understand the characteristics and roles of the global supply chain, and play a role in international operations, establish international cooperation relationships, build its own global supply chain, and enable enterprises to occupy a place on the international stage.

## **2. Global Supply Chain and Supply Chain Management**

### **2.1 Global Supply Chain and Supply Chain Management Concepts**

In the process of development, multinational corporations form an interconnected chain from the procurement, transportation, processing, sales, after-sales and other aspects of raw materials, which is called the supply chain. If all franchised enterprises are located in China during the establishment of the supply chain, they belong to domestic supply chain enterprises. If the franchise node is located in different countries, the supply chain becomes a global supply chain. In terms of structure and function, global supply chains belong to enterprises from different countries, and supply nodes are located in different countries and regions<sup>[1]</sup>. Therefore, global supply chains can improve supply chains on a global scale.

### **2.2 Supply Chain Management**

The definition of supply chain management. Supply chain management, abbreviated as SCM, refers to the planned coordination, operation, and control of the entire supply chain system to ensure that the products required by customers can be delivered to the correct location at the right time, with the correct quality and quantity, and at the lowest cost. Secondly, the value of supply chain management. In the process of continuous social development, new technologies are constantly emerging. If we rely solely on the products themselves in the development process, it will make it increasingly difficult for enterprises. Therefore, in the process of development, enterprises must start from improving operational efficiency, reducing costs, and other aspects to enhance their competitiveness. Through supply chain management, enterprises can reduce procurement costs, shorten delivery times, optimize production and sales processes, and provide better services and experiences for customers. Therefore, in the retail and manufacturing industries, multinational corporations will utilize advanced management concepts and information technology to achieve supply chain management and innovation, and help enterprises save costs through supply chain management. By saving logistics costs, transaction costs, optimizing processes, etc., the return on investment can be improved. It is also possible to reduce inventory and share equipment, thereby reducing asset occupancy, improving resource utilization, and promoting enterprise development<sup>[2]</sup>.

## **3. Characteristics and successful case analysis of supply chain management in multinational corporations**

### **3.1 Characteristics of supply chain management in multinational corporations**

Multinational corporations are companies targeting the global market, with logistics spread all over the world and a wide range of business operations, which also have a significant impact on the global market. Therefore, the supply chain management of multinational corporations has very obvious characteristics. Firstly, the root system of the supply chain is vast, and management tasks are very heavy. Secondly, multinational corporations play a dominant role in the supply chain. Thirdly, in the integration of the supply chain, the difficulty is very high. Fourthly, in the continuous development of information technology, it has provided technical support for multinational corporations in supply chain management and brought new characteristics to their supply chain management, such as flexibility, informatization, high integration, and rapid response.

### 3.2 Successful case analysis of supply chain management in multinational corporations

Based on the characteristics of supply chain management mentioned above, in order to improve the level of supply chain management, it is necessary to combine the operational and supply chain management situations of multinational companies, and reasonably choose a suitable supply chain model, thereby strengthening the integration of the supply chain and optimizing the supply chain. In today's globalized economy, scientific supply chain management and innovation can help companies rise rapidly, such as Dell. Continuous improvement can also enhance the level of supply chain management and enhance the competitiveness of enterprises, such as Haier and Motorola. The successful experiences of these multinational corporations can provide reference for other multinational corporations and operators, enabling them to have new ideas in supply chain restructuring, integration, and improvement, and enhance the level of supply chain management.

(1) Dell mode. Dell mainly conducts supply chain management based on the "direct sales model". In terms of inventory, we can maintain a direct relationship with customers and reproduce after receiving orders, achieving a just in time production method without the need for any storage space. Accessories are also directly supplied to the production line by suppliers, and the produced products are directly sent to designated customers, achieving zero inventory of raw parts and finished products. In the process of information processing, the company directly interfaces with customers and provides services to them, so that customer feedback can reach the company in a timely manner and reduce information loss. By communicating with suppliers, we can consolidate our relationship with them, improve customer satisfaction, and enhance the efficiency of supply chain information processing<sup>[3]</sup>. In terms of delivery, the Dell model can effectively shorten the delivery time of the supply chain, giving the company great autonomy, allowing the company to establish cooperative relationships with third-party logistics companies, and jointly complete product delivery.

(2) Haier model. Haier Company mainly adopts the "first-class three networks" model, where "first-class" refers to the order information flow as the center, and "three networks" refer to the global distribution resource network, supply chain resource network, and information network. Mainly through the order information center, JIT one-stop logistics is implemented to help enterprises reduce inventory. By integrating the global supply chain resource network, external resources can be optimized and a strong global supply chain network can be built. The original 2200 suppliers can be optimized to become 721+, many of which are Fortune 500 companies. Through parallel engineering, some international enterprises and high-tech companies can participate in the design of Haier products. By integrating the global distribution network, the largest distribution logistics system can be formed, allowing products to be delivered to cities, rural areas, inland areas, coastal areas, domestic and foreign markets, greatly improving product distribution efficiency and reliability. In terms of information network, Haier Company implements ERP by building CRM and BBP platforms, adopting the highly integrated LES logistics execution system, and building an internal and external information highway, effectively enhancing logistics efficiency.

(3) The Motorola model adopted by Motorola mainly has the following characteristics. Firstly, enterprises should build digital logistics systems, achieve global material procurement, and manage various raw materials and products. Secondly, the enterprise should establish a dedicated logistics management team, with the main members being the company's backbone and logistics backbone, responsible for coordinating and managing Motorola's logistics work. Thirdly, through the management of logistics service providers, the efficiency of logistics management can be improved. Firstly, companies should select suitable logistics service providers through bidding. In the process of selecting logistics services, bidding is based on globally unified logistics standards, and logistics suppliers are determined in a "5+2" manner, including 5 freight forwarding companies and 2 express delivery service companies. In this mode, bidding forms a competitive mechanism to

improve the quality of logistics services. In logistics services, optimization and simplification can improve the efficiency of logistics services. Secondly, enterprises should evaluate the implementation of a global transportation management percentage system. Through global logistics resource companies, comprehensive assessments are conducted on logistics service providers to promptly eliminate those who fail. Finally, the allocation of logistics business volume follows the principle of 28%. For logistics companies with good services, they can receive 80% of the business, while for logistics companies with average services, they can receive 20% of the business. This ensures that there are two different logistics companies providing services on the same important route. This way, if one logistics company cannot provide services, the other logistics company can quickly take over all the business to prevent unnecessary risks.

#### **4. The relationship between supply chain management and logistics management in multinational corporations**

Multinational corporations target the global market and have a very large business volume, so there is a close relationship between supply chain management and logistics management in multinational corporations. Firstly, logistics management has a very high degree of dependence in supply chain management, and the two are inseparable. The interdependence between supply chain management and logistics management is higher in multinational corporations. In multinational corporations, the root system of the supply chain is huge, and the level of the supply chain has a direct impact on the level of logistics management. If the supply chain cannot be effectively integrated, the efficiency of logistics management will not be improved. Secondly, the mode of supply chain management has a significant impact on the strategic thinking of logistics management. Multinational companies choose a suitable supply chain mode based on their own situation. Afterwards, all logistics strategies of the company will only be optimized within the framework of the supply chain management model. Thirdly, as an important pillar of supply chain management, logistics management can provide important support for the supply chain through the integration of information and logistics. Only by integrating information and logistics management can the supply chain costs of multinational companies be reduced and the market response speed of multinational companies be improved. Therefore, it is necessary to enhance the logistics management strategy and level of multinational corporations, and fully leverage the role of the supply chain. Fourthly, logistics services and suppliers in multinational corporations should establish strategic partnerships to effectively improve logistics management levels.

#### **5. Logistics Strategy Analysis of Multinational Companies**

In order to improve logistics efficiency, multinational corporations need to choose appropriate supply chain management models, strengthen the integration of the supply chain, and start selecting appropriate logistics strategies from the upstream and downstream of the company's supply chain as well as within the company. Firstly, supplier logistics strategy. In the upstream of the supply chain of multinational corporations, there are suppliers, and the logistics strategy between multinational corporations and suppliers includes the following points Contracting strategy. Multinational corporations attach great importance to their core businesses and utilize their dominant position in the supply chain to share customer information with suppliers. They also outsource some non core businesses to suppliers through bidding, while outsourcing supplier logistics to suppliers. Based on this, they transfer tasks to suppliers through JIT procurement, raw material distribution, inventory transportation, and other methods Procurement strategy for digital systems. Multinational companies establish digital systems and purchase JIT materials from around the world through massive amounts of information, reducing inventory by implementing JIT raw material distribution

JIT strategy. ④ Build to order strategy. In the application process, this strategy can manage order information and purchase and produce raw materials after receiving orders, thereby eliminating stagnant inventory and achieving intensive logistics. This strategy is used in conjunction with other strategies Strategic partnership strategy. Establishing strategic partnerships between multinational corporations, suppliers, and logistics services to achieve integrated logistics in the upstream of the supply chain and promote better development of multinational corporations. Secondly, the logistics strategy of the sales side. The downstream of a multinational company's supply chain is the customer, and the logistics strategy between the multinational company and the customer includes the following points Construction and integration of distribution system. Multinational companies, based on their own business characteristics, integrate their global distribution system through information technology and networks, and establish JIT finished product distribution logistics system, return logistics system, and spare parts distribution system Logistics provider selection. By adopting a competitive mindset, enterprises choose excellent logistics services and maintain flexible competitive contractual relationships with logistics services, ensuring the efficiency of finished product distribution and improving the reliability of on-site production strategies. Enterprises reduce downstream distribution tasks through global procurement and on-site production. Thirdly, the internal logistics strategy of the company. Multinational corporations are an open system, and each logistics strategy can be selected based on external logistics strategies. Typically, the internal logistics strategy approach primarily utilizes advanced information systems to minimize inventory and prevent stagnant inventory.

## 6. Outlook for Adapting to Global Supply Chain Development

### (1) Jointly building the supply chain ecosystem of China's manufacturing industry

China is currently in a crucial stage of modernization, and many core technologies still need time. Multinational corporations are collaborating with China to leverage the policy dividends of supporting innovative development. They are adopting various measures, such as patent cooperation, authorized research and development, and innovation funds, to deepen the research and innovation of key industrial technologies, ensuring that China has a certain competitive advantage in the international market. At the same time, multinational corporations are strengthening cooperation with local enterprises in China, increasing the proportion of localized procurement, actively guiding multinational supporting enterprises to enter China, creating a localized industrial ecosystem, and building systematic competitive advantages. At the same time, there are still certain differences between the local service level in China and the supporting services of high-end manufacturing. As a multinational corporation, we should externalize our internal capabilities based on our mature supply chain advantages, extend the development of service-oriented manufacturing, actively expand the production service industry fields urgently needed in the Chinese market, such as research and development design, finance, logistics, and supply chain management, and share the development dividends of the Chinese market. In addition, as a multinational corporation, we should deeply implement the core strategy of "in China, for China", follow the development trend of consumer upgrading in China, continuously adjust technological development, and develop products and services that are suitable for China's consumer needs.

### (2) Accelerate the pace of digital transformation and innovation in the supply chain

In the context of the re integration of global factor resources and supply chain patterns, digital technology is an important force. In the future development, the digital transformation of China's manufacturing industry will continue to deepen. Multinational companies need to seize the key elements of digital industry development, strengthen cooperation with domestic enterprises and

institutions, conduct research in key areas, help the CCP's digital industry play and develop, and form a unique competitive advantage deeply embedded in the global supply chain. At the same time, multinational corporations upgrade and optimize the manufacturing industry at different nodes and links in the supply chain, accelerate the application of intelligent equipment and the deep integration of management processes, enhance the ability of supply chain analysis, prediction, and response to market demand, build a flexible and smart supply chain system with data collaboration, and also alleviate the pressure of rising labor costs.

### (3) Taking on the Social Responsibility of Green and Low Carbon Supply Chain

The carbon emission strategy is an important goal for global economic development. As a multinational corporation actively responding to China's dual carbon strategy, we will actively leverage China's role in the carbon emission system. Multinational corporations should promote the concept of green development. Under the rigid constraints of the "dual carbon" goals, multinational corporations need to formulate transformation and development plans based on the "dual carbon" goals, and form a clear green and low-carbon development roadmap. In addition, multinational corporations should seize opportunities to strengthen technological research and development in carbon reduction, vigorously promote green and clean production, develop circular economy, and build a green and low-carbon supply chain system from design, material selection, procurement, production to packaging, transportation, and recycling in the context of China's green transformation, in order to gain a first mover advantage. Multinational corporations should also actively adapt to the needs of energy structure adjustment, strengthen investment layout in new energy industry chains such as wind power, photovoltaics, hydrogen energy, and nuclear energy, and achieve green and low-carbon transformation of traditional high carbon industries.

## 7. Conclusion

In short, multinational corporations need to choose a suitable supply chain management model based on their own characteristics in the development process, and reasonably utilize information technology to integrate the entire supply chain. On this basis, selecting appropriate logistics strategies and strengthening logistics management can improve logistics distribution efficiency, effectively reduce logistics costs, and comprehensively enhance the level of supply chain management, promoting the competitiveness of multinational corporations.

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