

# ***Research on Supply Chain Management of Jingdong with SWOT Model***

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**Abstract:** As the development of the Internet and the acceleration of people's pace of life, e-commerce as a new shopping mode is accepted and used by more and more people. However, logistics is the guarantee of realizing e-commerce, and the efficiency and quality of logistics service is the key to determine the success of e-commerce. Therefore, this paper selects Jingdong Logistics as the research object, analyzes the operation mode of Jingdong Logistics in detail through SWOT analysis, and points out the development advantages, shortcomings and improvement strategies that should be taken. Jingdong Logistics has continuously transformed itself on the basis of supply chain logistics service with mall as the core, and has improved the efficiency and stability of logistics service while enhancing its business volume. In addition, in the future, Jingdong Logistics needs to optimize its warehousing system while strengthening synergistic cooperation with third-party logistics, so as to ensure a higher competitive advantage and a solid market share.

**Keywords:** JD logistics, e-commerce logistics mode, SWOT analysis method, supply chain, logistics cost management

## **1. Introduction**

According to the National Bureau of Statistics, China's online retail sales grew from 5155.6 billion yuan in 2016 to 117,601.1 billion yuan in 2020, and the year-on-year growth rate has been maintained at more than 10% [1]. 2020 in the shadow of the epidemic, the online retail still maintains a year-on-year growth rate of 10.9%, which reflects the strong momentum of the development of China's e-commerce market. Therefore, in the context of the advent of the e-commerce era, Jingdong Logistics was established. Since its formal establishment in 2017, Jingdong Logistics has rapidly grown into a leading technology-driven supply chain solution and logistics service provider in China. As of March 31, 2023, Jingdong Logistics operated more than 1,500 warehouses, and including the management area of the cloud warehouse eco-platform, the total area of warehouses of Jingdong Logistics exceeded 31 million square meters, meanwhile, the number of cooperative cloud warehouses of the cloud warehouse eco-platform has exceeded 2,000 [2]. Jingdong Logistics has established a huge scale advantage and a leading position in the market. Therefore, this paper will use SWOT analysis to do a detailed analysis of the Jingdong logistics model, aiming to point out the shortcomings of Jingdong logistics, and put forward the improvement strategy that should be taken. In recent years, Jingdong Logistics as a representative of the development of self-managed logistics mode is good, the efficiency and quality of its logistics services are ahead of the industry average, for the need to

choose the logistics development mode of Chinese e-commerce enterprises is quite a reference, the analysis of which can help China's e-commerce logistics enterprises to build on their strengths and avoid their weaknesses, and to gain a competitive advantage.

## **2. JDL Status**

Based on the construction of the intelligent logistics network system, Jingdong Logistics has formed a business system with six networks as the core, including warehousing network, comprehensive transportation network, last-mile distribution network, bulky network, cold-chain logistics network and cross-border logistics network [3]. In addition, the business layout is mainly divided into three layers: self-managed mode, three-way logistics and intelligent supply chain.

### **2.1. Creating a Self-Managed Model**

In the traditional logistics process, goods from producers to consumers need to go through a number of warehousing and distribution links. According to statistics, a commodity from the producer to the consumer only 5% of the time for processing and manufacturing, the rest of the time is used for storage, loading and unloading and transportation. Thus, it can be seen that the traditional logistics process has the problems of low efficiency and high cost [4]. For e-commerce, the speed and efficiency of logistics is the core element that affects its user experience. Jingdong Logistics saw that logistics has become a key constraint on the development of B2C e-commerce, and as early as 2007 launched the integrated logistics model of warehousing, so that most of the goods can be realized on the same day or the next day, which brings consumers a high-efficiency, high-quality logistics experience, and helps Jingdong to build a high competitive barriers.

### **2.2. Starting a New Service**

With the development and growth of Jingdong Logistics, the high investment costs of research and development funds and warehouse construction have brought a huge financial burden to Jingdong, and relying on Jingdong Mall alone is no longer sufficient to meet the operational and development needs of Jingdong Logistics. Therefore, Jingdong began to open up and export its logistics capabilities to the outside world in 2016, and went online with its personal express delivery business in 2018 to amortize its huge investment in operating costs and try to cultivate new profit growth points. At present, Jingdong Logistics has fully opened its business and physical capabilities to the outside world, and its business scope also covers both the B-end and C-end. This strategic layout is also a way for Jingdong to open up the vertically integrated development from e-commerce to logistics, further realizing supply chain empowerment.

### **2.3. Intelligent Supply Chain**

The application of technology in logistics has been the direction of development of the logistics industry in recent years, and it is also the driving force for the development of the logistics industry. Since its establishment, Jingdong Logistics has been continuously strengthening its technological strength. In terms of development strategy, in 2019, Jingdong will take "retail-based technology and services" as its overall strategy.

In 2020, Jingdong will clarify its core development strategy of experience-based, technology-driven, and efficiency-winning. According to Jingdong's financial report, Jingdong has been increasing its investment in technology since 2017, and by the end of 2020, it will have invested nearly 60 billion yuan in technology research and development. In addition, in terms of technical talent, Jingdong Logistics has a strong technical talent system, with nearly 18,000 technically talented

employees, providing a talent reserve for technology development [5]. In the construction of facilities, Jingdong Logistics has 30 "Asia No. 1" intelligent logistics parks and have been put into use, its independent research and development of unmanned vehicles, unmanned warehouses, unmanned aircraft and other intelligent equipment has also been scaled to the ground. Jingdong has vigorously increased the ratio of unmanned vehicles and their use in warehousing, transportation, distribution, etc., realizing intelligent supply chain services based on AI-driven and intelligent planning, and providing "omni-channel + omni-supply chain" intelligent experience and services for its partners and business development.

### **3. SWOT Analysis of Jingdong Logistics**

#### **3.1. Strengths**

##### **3.1.1. Logistics Service Experience**

Jingdong Logistics' integrated warehouse and distribution model greatly shortens the time consumption of goods in the logistics stage, enabling the vast majority of goods to be delivered on the same day or the next day. This highly efficient delivery speed provides consumers with a high-quality logistics experience. Services with extra added value also further increase consumer satisfaction and trust in Jingdong Logistics, which is reflected in the steady increase in customer retention.

##### **3.1.2. Intelligent Supply Chain**

Jingdong Logistics empowers the supply chain with its independently developed intelligent logistics technology. The large-scale use of unmanned intelligent equipment such as unmanned warehouses and drones not only improves the efficiency and quality of logistics services, but also ensures the safety of the employee's operating environment, providing better welfare protection for employees without affecting work efficiency. In addition, the high-volume use of unmanned equipment reduces the overall number of employees, thus reducing labor costs in operation. Jingdong Logistics warehouse and distribution integration model in the holidays and other "shopping spree" period is more prominent and obvious. In special periods, the face of rapid growth in business volume, Jingdong Logistics can also be based on the intelligent supply chain network to ensure stable and rapid logistics time and low transportation costs, so as to ensure the stability of the business in special periods.

#### **3.2. Weaknesses**

##### **3.2.1. Purchasing Costs**

The main business of Jingdong Mall is online retailing. Unlike the traditional manufacturing industry, Jingdong Mall is not involved in the manufacturing process and mainly purchases goods from upstream suppliers and then sells them directly to customers.

However, the retail scope of the full range of goods makes the number of types of products purchased by Jingdong Mall huge. In order to reduce procurement costs, Jingdong Mall has the behavior of defaulting on payments to suppliers. In recent years, Jingdong Mall's payables to suppliers have increased year by year, and in 2022, Jingdong Mall's payables to suppliers amounted to as much as RMB126,821 million, an increase of 12.91% compared with 2021. The measures taken by Jingdong Mall to reduce its own purchasing costs mainly to safeguard its own interests have jeopardized the interests of many suppliers. It has also resulted in the loss of some suppliers, which in turn affects the stability of the overall supply chain [6].

### 3.2.2. Large Investment in Warehouse Construction

In recent years, Jingdong Mall is vigorously expanding its warehouse network, investing a large amount of capital to build storage facilities. Although this initiative has reduced Jingdong Mall's inventory turnover days in the long run, it has incurred huge costs in the construction of warehouses, the management and sorting of inventory, and the leasing and routine maintenance of warehouses. This further increases the difficulty of cost management in the warehousing process. As shown in Figure 1, the number of self-owned warehouses of Jingdong Mall and the cost of warehousing equipment show a year-on-year increasing trend.

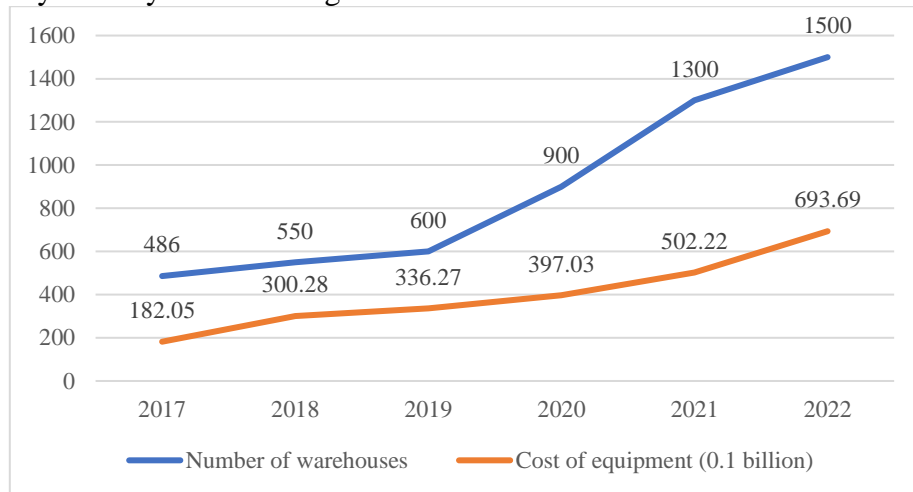


Figure 1: 2017—2022 the number of Jingdong Mall's self-owned warehouses and the cost of warehousing equipment.

## 3.3. Opportunities

### 3.3.1. New Growth Points

Based on the vigorous development of infrastructure retrieval and the shortening of logistics hours, the sales scale of China's emerging online fresh food market is growing rapidly. Unlike traditional logistics, the fresh food distribution chain has high requirements on time, speed and temperature. In the current logistics market, the efficient distribution of Jingdong Logistics can meet the logistics needs of such commodities, thus Jingdong Logistics has a strong competitive advantage.

### 3.3.2. Government Support

Due to the negative impact of the Covid-19 epidemic on economic development, the government has enacted a series of reform policies in order to energize the market and restore the economic form, which include lowering the cost of highway travel and railroad air freight charges. These measures provided opportunities for BOCOG to further expand its own market, thus energizing BOCOG's development.

## 3.4. Threats

### 3.4.1. Unreasonable Labor Cost Structure

In recent years, Jingdong Mall has been hiring new employees to support its rapidly growing business operations. Because Jingdong Mall's logistics infrastructure is a labor-intensive industry, it requires a large number of blue-collar workers. However, the turnover rate of this position is usually higher

than average, which in turn increases the management difficulty and labor cost of Jingdong Logistics [7].

### **3.4.2. Intense Competition. Cainiao**

Which occupies the mainstream logistics market, has constructed a data-driven social collaboration platform based on big data, and this model through enterprise cooperation and technological innovation has also improved logistics efficiency and consumer experience. In addition, this new model reduces the investment in logistics costs, allowing companies to invest more money in the main operational part of B2C e-commerce, thus increasing the competitive advantage in the market. This different operation mode from Jingdong Logistics is growing and is a strong competitor of Jingdong Logistics.

## **4. Suggestions**

### **4.1. Optimize the Warehousing System**

Jingdong Mall has already invested a large amount of money and resources in the construction of the warehousing system for the development and construction of the system, and the follow-up should focus on improving the management level of the warehousing system, including the rational allocation of warehousing capacity, improving the management efficiency, and reducing the cost of warehousing for the enterprise [8]. In addition, in the development of fully intelligent technology, Jingdong Mall should fully invest in the construction and utilization of electronic sorting system, combined with the supply chain demand to achieve dynamic storage. This can reduce the backlog of goods, reduce inventory costs, and accelerate the capital flow of the enterprise. And the dynamic storage can realize the accurate matching between the customer's order address and the nearest warehouse that owns the inventory, in order to improve the space utilization rate and storage capacity of the logistics center, and further reduce the cost.

### **4.2. Adjustment of Manpower Structure**

As Jingdong Mall's belongs to the self-owned logistics system, its powerful sales network also requires a large number of front-line distribution staff to maintain normal operation. This makes the cost of Jingdong Mall far more than other e-commerce enterprises in the same industry. In the face of this situation, Jingdong Mall can outsource part of its business by cooperating with third-party enterprises according to the needs of the enterprise's end outlets. For example, in certain remote areas, Jingdong Mall can outsource the product distribution business in the area to the local logistics company, which can reduce a part of the salary and welfare payment expenditure and achieve the effect of reducing labor costs [9].

### **4.3. Synergistic Cooperation**

Jingdong Group has its own self-owned logistics, and the reason why Jingdong Logistics cooperates with third-party logistics companies is that his self-owned logistics and distribution coverage is very low, less than 20% nationwide [10]. And cooperation with the third party can be a good solution to this problem. The basis of cooperation with third-party logistics is the need to emphasize the development of third-party logistics in line with the pace. Market positioning and distribution through the form of contract, in order to avoid bad competition between the partners, need to formulate the rules in advance.

## 5. Conclusion

Jingdong Logistics adheres to a clear market positioning, transforming from a corporate logistics to a logistics enterprise. On the basis of the supply chain logistics service centered on the mall, it keeps transforming, and gradually increases express service, value-added service, B2B service and logistics solution provision service. However, at the same time, Jingdong Logistics also suffers from high procurement costs, unreasonable space operation, and fierce competition. In the future, Jingdong Logistics needs to optimize its warehousing system, adjust its manpower structure and strengthen its cooperation with third-party logistics to ensure its advantages. While taking into account the corporate benefits, it also takes into account the social benefits and brings a better experience for consumers.

This paper seeks to clarify the connotation and characteristics of the Jingdong logistics business model, but there are still many deficiencies. First of all, there are a large number of theories related to logistics operations, and the theoretical foundation selected in this paper is bound to be incomplete and in-depth. Secondly, logistics operation research needs to consider the business flow, logistics, capital flow, information flow, enterprise resource elements, information construction, warehousing and logistics network and enterprise organization and management, the degree of complexity is high. Due to the limited time for the research, a large number of empirical studies could not be conducted to ensure the completeness and comprehensiveness of the thesis.

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