



**RESEARCH ON INVENTORY MANAGEMENT OF B2C E-COMMERCE  
COMPANY - A CASE STUDY ON JINGDONG MALL**

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**AN INDEPENDENT STUDY SUBMITTED IN PARTIAL FULFILLMENT  
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COMPANY - A CASE STUDY ON JINGDONG MALL**

**Thematic Certificate**

**To**

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## Abstract

Title: Research on Inventory Management of B2C E-Commerce Company - A Case  
Study on Jingdong Mall

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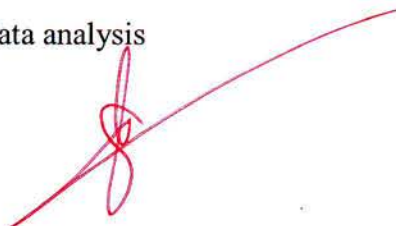
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..... *1 1 2 1 2021* .....

With rapid economic development at home and abroad, improvement of living standards of residents and rapid development of the Internet, many e-commerce platforms have emerged in China. Some examples of B2C e-commerce platforms are: JD.com, Tall, Amazon, Suning.com, and Ju E-commerce companies, such as Meiyou, Goma, Dangdang, No. 1 Store, Meituan, Nuomi, etc. are facing increased competition and challenges. Efficient operation of the e-commerce platform begins with detailed inventory management. Due to a large variety of inventory products, management of the e-commerce platform is demanding. Overall operations are difficult, so it is important to study the problem of inventory management in an e-commerce environment. This article compared inventory management methods of China Jingdong Mall as a background to analyze the problems of enterprise inventory management.

**Keywords:** B2C, Inventory management, Inventory control, Big data analysis



## 摘 要

题目： B2C电子商务公司的库存管理研究-以京东商城为例

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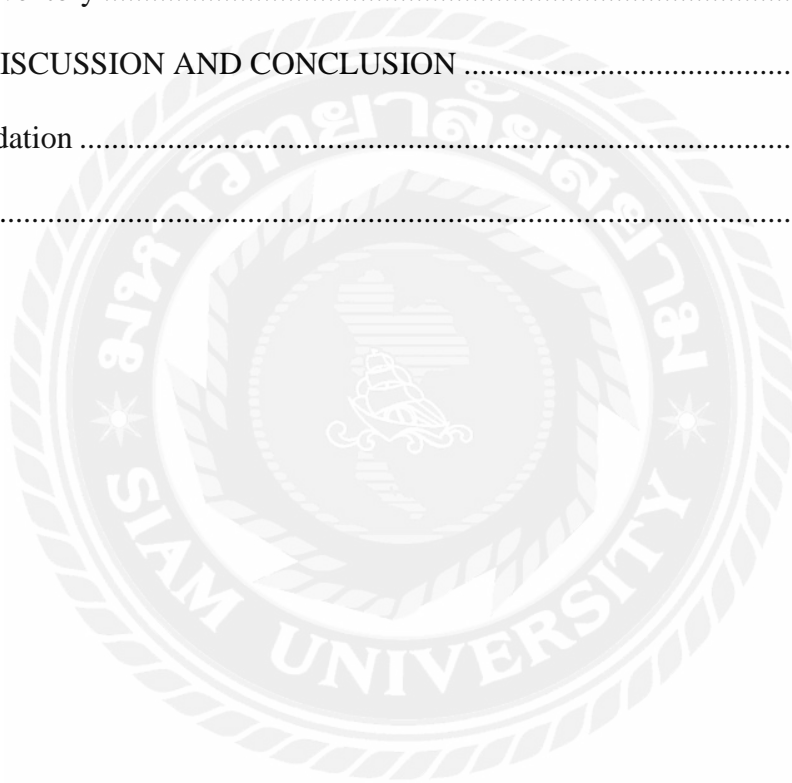
随着国内外经济的飞速发展，居民生活水平的提高以及互联网的迅猛发展，中国已经出现了许多电子商务平台。常见的B2C电子商务平台有：京东、天猫、亚马逊、苏宁易购、聚美优品、国美、当当网、1号店、美团、糯米等，电子商务公司都面临许多竞争和挑战。电子商务平台的有效运营始于详细的库存管理。由于库存产品种类繁多，因此电子商务平台的管理相对更加困难。操作困难，因此研究电子商务环境下的库存管理问题非常重要。本文就对比中国京东商城的库存管理方法为背景，分析企业库存管理的问题。

关键词： B2C； 库存管理； 库存控制； 大数据分析

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# CHAPTER 1 INTRODUCTION

## 1.1 Research Background

Background of the times: Since China's entry into the WTO, the country's macro reorganization and the timely adjustment of the industrial structure of enterprises have led to a stable state of China's domestic market. The "Belt and Road" strategy has been proposed for China's economic development. Brought new momentum. In this era, e-commerce has become a very eye-catching and rapidly developing emerging industry.

Market background: At present, China's Internet penetration rate is extremely high, and e-commerce companies provide customers with more and more goods and services. As of 2020, there are approximately 904 million Internet users in my country. At the same time, more than 64% of people will shop online, and the Internet has almost become an essential part of everyone's life. In the operation of e-commerce companies, there is a time lag in the entire process from customers placing orders on the website to purchasing goods on the e-commerce platform, and then sending the information back to the warehouse for order delivery, to ensure the continuous stability of the entire process It is necessary for companies to have a high-standard inventory management model, and now they need information technology as support.

Industry background: B2C e-commerce has become a revolution in my country's retail industry, and at the same time it has brought major changes in business and management methods, and has entered the era of big data. E-commerce has an extremely broad market share and development prospects. Many companies have begun to gradually establish their own e-commerce platforms. For current companies, integrating excellent informatization ideas and methods into all aspects of the company can greatly It improves the

company's operational efficiency, the efficiency of employees' work, and reduces the cost of manpower and other aspects, and can greatly promote the development of the entire industry and even the global technology.

"For retail, the pursuit of gross profit is meaningless." Liu Qiangdong confided in the "Entrepreneur" magazine and shared the "JD Password". His first sentence was clearly in line with the vast majority of B2C e-commerce industry. People sang a counterpoint. Almost all B2C e-commerce professionals believe that B2C must have a higher gross profit margin to be feasible. In Liu Qiangdong's view, the so-called B2C e-commerce of Jingdong is actually only retail, and the core of retail is nothing more than two: the improvement of supply chain efficiency and the reduction of costs.

Jingdong Mall is one of the most famous e-commerce companies in China, and it has encountered some problems in its development. Supply chain management and inventory management are one of the important links of an enterprise. It directly affects the cost and service quality of the entire enterprise. For current enterprises, integrating excellent informatization ideas and methods into all aspects of the enterprise can greatly improve the company's operational efficiency, the efficiency of employees' work, and reduce the cost of manpower and other aspects, and can greatly Promote the development of the entire industry and global technology. In this survey, I concentrated on the achievements and efforts made by JD.com on inventory information management in recent years. Through the analysis of JD.com's annual report and the outlook of the company's direction by relevant persons in charge, I conducted a comprehensive study on JD.com.

JD.com was formally established as an e-commerce platform in 2004 and listed on the Nasdaq Stock Exchange in 2014. In 2019, it ranked 139th on the Fortune Global 500 list, as shown in Table 1.



**Table 1-1 139th in Fortune 500 in 2019**

2019-Fortune 500-No. 139 (ranked 181 in the previous year)		
Country: <b>China</b>		
City address of company headquarters: <b>Beijing</b>		
Chief Executive Officer: <b>Richard Qiangdong Liu</b>		
Number of employees: <b>178927</b>		
Jingdong official website: <b><a href="http://www.jd.com">www.jd.com</a></b>		
	One million U.S. dollars	Annual increase or decrease%
Operating income	68947.6	29.4
Profit	-376.7	-
Assets	30465.2	--
Shareholders' equity	8705.7	--
Proportion of profit		
Net interest rate		-0.5
Return on Assets		-1.2

Data source: Fortune Global 500 companies

## 1.2 Scope of the study

Conduct research on the inventory management of B2C electrical companies. Inventory management is a module of logistics management under management. Zero inventory is the best inventory management model. At present, with the continuous development of social economy and the development of science and technology, the degree of global application of e-commerce is getting higher and higher. The proportion of sales in total sales exceeded 1%, and showed a strong upward trend. More and more companies began to enter the e-commerce industry. The B2C model in the e-commerce industry covers the most consumer groups. For e-commerce enterprise managers, it is particularly important to improve the efficiency of collaborative work, protect sensitive data, and dig deep business data. The inventory management of the e-commerce B2C model is the main research object of this paper.

### **1.3 Objective of the study**

For normal e-commerce companies, it is necessary to keep a certain amount of inventory. Inventory is not only an important item of current assets in assets and liabilities, but also a source of operating income and operating capital in the income statement. E-commerce companies must recognize the importance of inventory management. Inventory management has become an important part of modern enterprise management. The purpose of inventory management is to make every effort to balance various costs and inventory benefits to maximize the benefits of both.

### **1.4 Research Problems**

"For the retail industry, pursuing gross profit is meaningless." Richard Liu confided in the "Entrepreneur" magazine and shared the "JD Password". His first sentence is clearly consistent with most B2C e-commerce industries. People sing the opposite. Almost all B2C e-commerce professionals believe that B2C must have a high gross profit margin to be feasible. Liu Qiangdong believes that JD's so-called B2C e-commerce is actually only retail, and the core of retail is nothing more than two: improving supply chain efficiency and reducing costs.

JD.com is one of the most famous e-commerce companies in China, and its development has encountered some problems. Supply chain management and inventory management are an important part of an enterprise, which directly affects the cost and service quality of the entire enterprise. Taking Jingdong Mall as an example, this article puts forward four questions from the aspects of inventory control, inventory management, information technology and big data control to study how to reduce business operating costs, improve employee efficiency, and promote the development of the entire enterprise:

First, the impact of inventory control on business operations.

Second, how does the development of information technology affect inventory management?

Third, the impact of the development of the big data era on inventory management models.

Finally, study the inventory management methods and inventory control methods in the e-commerce environment.

### **1.5 Research Significance**

With the rapid development of information technology today, with fierce market competition, labor costs have increased significantly. Enterprises must keep pace with the times and use modern technology to effectively manage inventory. As one of the most successful e-commerce companies in the country and the world, JD.com has experienced 16 years of rapid growth. From the initial chaotic period to setting an example for the entire industry, from sustained losses to gradual profits, it is not difficult to see JD's In inventory management and dealing with the relationship between upstream and downstream companies, many aspects have made considerable progress before comparison, which is worthy of many e-commerce learning and research companies. By studying the problems found by JD.com during its operation and analyzing JD's solutions, it summarized JD's advanced ideas and technologies in inventory management, and provided help and reference for other B2C companies to control inventory.

## **CHAPTER 2 LLITERATURE REVIEW**

### **2.1 Inventory management**

Inventory management: Also known as inventory control, it is one of the three dimensions of B2C e-commerce companies. The other two dimensions include supplier management and procurement management. Inventory management can be divided into two aspects: warehouse management and inventory control. Warehouse management refers to the scientific storage of stocks in warehouses to reduce business losses; inventory control includes companies controlling reasonable inventory quantities and maintaining economic inventory levels with minimal investment and expenses. "Inventory turnover" and "spot rate" are the two core indicators of a company's supply chain. Inventory is a major aspect that takes up corporate funds. Many companies optimize their inventory management through various methods. Because inventory occupies a large amount of funds, even a small improvement will have a great benefit. Dynamic and reasonable, maintaining a balanced inventory turnover is a sign of excellent corporate inventory management.

In the book "Inventory Management", Zhao Xiaobo (2018) proposed that inventory management is an important part of logistics management, and elaborated in detail that good inventory management can enable enterprises to achieve economies of scale, balance supply and demand, and prevent and prevent supply and demand. Uncertainty can act as a buffer in the supply chain. Therefore, companies should pay attention to inventory management, especially e-commerce companies.

### **2.2 The importance of inventory management for business operations**

For e-commerce companies in normal operation, it is necessary to hold a certain amount of inventory. Inventory is not only an important item of current assets in assets and

liabilities, but also the origin of operating income and working capital in the income statement. E-commerce companies must clearly recognize the importance of inventory management. Inventory management has become an important part of modern enterprise management. The purpose of inventory management is to make every effort to weigh various costs and inventory benefits to maximize the benefits of both.

#### 2.2.1 Forecast the impact of inventory requirements on business costs

In the article "Optimization of Inventory Planning Forecasting Models", Nikolaos Kourentzes (2020) explained that inaccurate forecasting of inventory planning may lead to high operating costs for the company. The article directly considers appropriate inventory indicators and current inventory strategies to parameterize the forecasting model. A method is proposed to combine multiple inventory goals of competition, that is, to meet demand while eliminating excess inventory, and use the resulting cost function to determine the best parameters of the inventory forecasting model. The best forecasting model is to use big data technology to realise.

#### 2.2.2 The relevance of information technology and corporate inventory management

In the article "A Brief Talk on Inventory Management Methods and Technology", Chen Sufang (2020) mainly explained the close connection between inventory management and the company's procurement, production, and finance, which is one of the basic and important management links of the company's various management tasks. The use of information technology in inventory management can reduce enterprise management costs and avoid waste of resources. In the future, inventory management should be incorporated into supply chain management, starting from the overall situation of the enterprise, combining cargo location identification, cloud computing, and Internet of Things information technology to achieve dynamic inventory management.

In the article "Assessment and Variance of Lead Time in Bulk Ordering Inventory Strategies", Li Xiaoming (2020) proposed that the inventory holding cost ratio has a linear relationship with cost savings. In this total cost equation, the focus is on shortening the lead time, so time is the influence. The key to inventory costs and the total cost of business operations, how to reduce time? Perhaps it can only be achieved by introducing information management.

### 2.2.3 The influence of big data environment on enterprise inventory management model

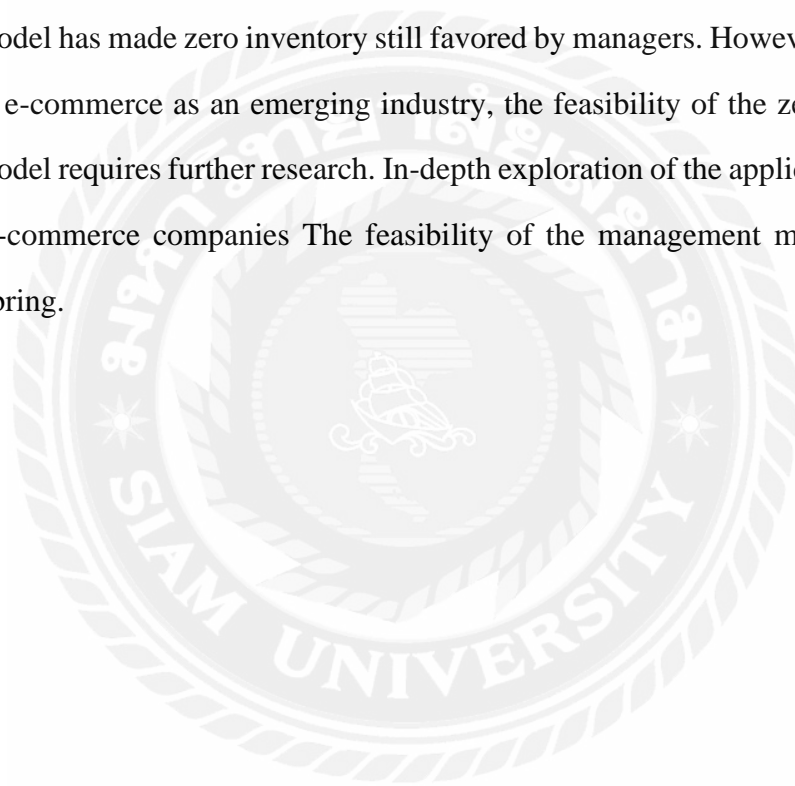
In the article "Research on Logistics Enterprise Management Innovation Based on Big Data Environment", Yan Youliang (2016) expressed that through big data, logistics enterprises can gain insight into the real needs of target customers. First of all, we know that customer needs are always concealed, complex and dynamic, and we can't really identify the real needs of consumers by using historical static structured data. Therefore, big data provides us with a large amount of dynamics. Unstructured data helps us identify the true needs of target customers, so that we can reasonably formulate corporate strategies and strategies to meet the needs of e-commerce development.

At present, under the influence of big data technology, artificial intelligence, Internet of Things and other information technologies, inventory management has gradually changed from a traditional model to an emerging model. Especially in the e-commerce industry, B2C e-commerce companies use the Internet and users use mobile phones or computers to conduct transactions across regions in a virtual manner. Therefore, the expansion of B2C e-commerce is almost entirely dependent on the development of information technology. The era of big data has intensified market competition, and companies need to improve themselves in all aspects. Many start-up companies in my country have a low level of informatization in inventory management, information communication is lagging, warehouse efficiency is low, a large number of products are overstocked, and some products are indeed damaged. These problems will become

increasingly severe as the company grows.

### **2.3 Inventory management model**

In the article "Research on the Application of "Zero Inventory" Management Model for E-commerce Enterprises", Liu Lingling (2020) explained that with the growth of e-commerce companies, the impact of inventory management on e-commerce companies has become increasingly prominent. Therefore, managers have paid more and more attention to inventory management, such as Toyota. The success of the auto inventory management model has made zero inventory still favored by managers. However, due to the particularity of e-commerce as an emerging industry, the feasibility of the zero inventory management model requires further research. In-depth exploration of the application of zero inventory by e-commerce companies. The feasibility of the management model and the benefits it can bring.



## CHAPTER 3 RESEARCH METHODOLOGY

### 3.1 Research content

There are many subjective and objective reasons for the warehousing management of China's e-commerce enterprises that have slowed its development. The important reasons are: fierce competition among e-commerce enterprises; China's logistics technology is only in its infancy, and the degree of informatization is relatively low; the use of automated procedures The rate is not high; there are many warehouses, but the layout is unscientific; there is a shortage of logistics management talents. The purpose of the research is that JD.com is in a leading position in the field of e-commerce in China. They have advanced technology and scientific management measures. Researching them can help small and medium-sized enterprises improve warehouse management and find strategies suitable for their business development.

Therefore, the first chapter of this article starts from the meaning of why this topic was chosen, the research on the storage problems of small and medium-sized e-commerce enterprises in my country, etc., and leads to the study of the advantages of JD storage to explore advanced methods. In the second chapter, we will summarize the significance and importance of inventory management, and inventory management mode. First, we will understand the importance and significance of inventory management, a series of basic content of inventory management methods, and the current enterprise inventory management. A feature, as a basis for research on inventory management. In the third part of this article, the research method is described. The fourth part is mainly the framework of inventory management mode and the analysis and discussion of research issues. The fifth part is mainly a summary of the article and the countermeasures to improve the level of inventory management methods of Chinese enterprises. To help Chinese e-commerce companies learn the advantages of JD's management to improve their management level.



## **3.2 Research Methodology**

This article mainly uses qualitative research methods to understand the contents of Jingdong Mall inventory management through literature reading and case analysis. And accommodate them in a unified understanding system and theoretical structure, forming a discussion about understanding the advantages of JD in order to better enhance storage management methods for Chinese SMEs.

### Literature reading

During the writing of the thesis, I read a large number of periodicals and books related to supply chain management, inventory management, logistics management, internal control of enterprises, etc. in the library and the Internet, forming a knowledge framework for the concept and basic content of inventory management information.

### Case analysis

Through the case study of China's fastest-growing B2C e-commerce platform Jingdong Mall, through research, and downloading the company's annual reports in recent years on its official website to conduct auxiliary research, find out the advantages of Jingdong in inventory management in the supply chain , And put forward measures to improve other enterprises.

## **3.3 Problem analysis and proposition**

### 3.3.1 problem analysis

This article mainly studies the inventory management of e-commerce companies from the four aspects of inventory control, the development of information technology, inventory management modeling and inventory management methods in the era of big data. In the process of reading the literature, it involves supply chain management, The literature on inventory management and e-commerce inventory management model optimization has

repeatedly mentioned the importance of inventory control, information technology management, and big data technology inventory management models for business operations. E-commerce companies can optimize inventory management through digitalization of inventory management, dynamic inventory management, and intelligent supply chain management to improve the competitiveness of e-commerce companies and the ability to prevent major risks and achieve sustainable development.

### 3.3.2 Proposition

Through the literature reading of e-commerce enterprise inventory management and the study of the Jingdong Mall inventory management method model of the case of this article, it is analyzed from the four aspects of inventory control, information technology development, inventory management modeling and inventory management methods in the era of big data. The current e-commerce enterprise inventory management development puts forward the following propositions.

Proposition1. The level of inventory control affects the efficiency of business operations.

Proposition2. The use of information technology improves the efficiency of inventory management.

Proposition3. The development of the era of big data affects the model of inventory management.

Proposition4. In the e-commerce environment, inventory management methods need to be continuously optimized.

## 3.4 Data collection and analysis

### 3.4.1 Data collection

First, according to the inventory management direction of e-commerce companies, the

reading literature is divided into three categories: first, the basic concept literature on inventory management, explaining the close relationship between inventory management and the company's procurement, production, and finance and its importance; second, The current literature on the use of informatization and intelligent technology in inventory management shows that the development of informatization technology is positively related to the development of e-commerce enterprise inventory management. Informatization and intelligent inventory management are important for companies to reduce costs and operate efficiently. Significance; third, references such as big data technology and prediction technology that are closely related to the development of e-commerce enterprises. Summarize the main factors affecting inventory management, mentioning the different management models used by e-commerce companies in China and Europe and the United States, comparing their advantages and disadvantages, and analyzing the current status of inventory management of domestic and foreign e-commerce companies.

#### 3.4.2 Case data analysis

This article mainly exemplifies the Chinese e-commerce company JD.com, and conducts research and analysis on various aspects of inventory management of JD.com. The first is the inventory scale of JD.com. In order to achieve efficient logistics and services, it is distributed in large warehouses in various provinces and cities. The second is the analysis of JD.com's inventory management model. The growth rate of R&D investment in integrated inventory management technology reflects the importance of Jingdong Mall's importance to the construction of informatized inventory management, and illustrates the importance of the inventory management link to corporate operations; third, predictive technology and big data technology are important for controlling inventory Feedback, the accuracy of big data mining data affects inventory control, and the level of inventory control directly determines the cost of the enterprise; finally, through the analysis and discussion of the status quo of inventory management of Jingdong Mall, as a reference, in order to better enhance Chinese e-commerce companies Warehouse management methods.

## CHAPTER 4 FINDING AND CONCLUSION

### 4.1 Analysis of inventory management status

Analysis of the status quo of domestic inventory management: At this stage, some domestic companies have adjusted their inventory management, and there are many cases that benefit from this. However, the inventory cycle of most Chinese companies is as long as 51 days. Transportation costs alone account for 20%-30% of sales. In terms of the composition of logistics costs, China's logistics management costs account for 14% of the total costs. In the United States, some companies have only 8 days of inventory cycle, which means that the United States only has 3.8%. Inventory management for logistics companies is actually to reduce their costs. As a part of the supply chain, logistics enterprises must implement it from the perspective of the supply chain, whether it is to manage inventory or reduce costs. Since the development of my country's logistics industry is still in its infancy to maturity, the overall logistics planning capabilities are not yet experienced, and the degree of logistics information is not high. Many logistics management is still managed manually, which directly leads to high storage and inventory costs.

Analysis of the status quo of foreign inventory management: Zero inventory management, as an advanced management method that originated in Japan, is widely used in Japanese companies. American companies have gradually understood and understood the theory of zero inventory management since the 1980s. In developed countries abroad, the inventory management of logistics enterprises also needs to be informatized, networked, and highly integrated. With the rapid development of information technology and large foreign logistics companies have poured into China.

Analysis of the current situation of the research objects: Jingdong Mall is headquartered in Beijing, China. In order to ensure the quality and speed of national customer service, the management center and procurement center are located in Beijing; the first-level logistics center and the second-level logistics center involve more than 20 cities in China. JD.com uses

an information procurement platform. JD.com shares information with more than 10,000 suppliers in real-time collaborative supply chain inventory management (CPFR). JD.com has increased scientific research and innovation to build automated warehouses. JD.com's investment in technical content has increased year by year, as shown in Table 2.

**Table 4-1 2019 Jingdong Annual Report**

<b>JD.com, Inc.</b>				
<b>Consolidated Statements of Operations and Comprehensive Income/(Loss)</b>				
<b>(All amounts in thousands, except for share and per share data)</b>				
For the year ended December 31				
	<b>2017</b>	<b>2018</b>		<b>2019</b>
	<b>RMB</b>	<b>RMB</b>	<b>RMB</b>	<b>US\$ Note 2(e)</b>
<b>Net revenues</b>				
Net product revenues (formerly known as onlinedirect sales)	167,936,020	237,943,632	331,824,410	51,000,478
Net service revenues (formerly known as services and others)	13,106,280	20,346,315	30,507,344	4,688,893
<b>Total net revenues</b>	<b>181,042,300</b>	<b>258,289,947</b>	<b>362,331,754</b>	<b>55,689,371</b>
<b>Operating expenses</b>				
Cost of revenues	(158,960,400)	-222,934,637	-311,516,831	(47,879,260)
Fulfillment	-12,367,030	(18,559,691)	(25,865,128)	-3,975,397
Marketing	-7,232,717	(10,158,686)	(14,918,070)	(2,292,871)
Technology and content	-2,902,033	(4,452,708)	-6,652,374	(1,022,451)
General and administrative	-2,187,890	(3,435,878)	(4,214,790)	-647,801
Impairment of goodwill and intangible assets	<u>(2,750,129)</u>	—	—	—
<b>Total operating expenses</b>	<b>(186,400,199)</b>	<b>(259,541,600)</b>	<b>-363,167,230</b>	<b>(55,817,780)</b>

With the advent of the era of unbounded retail, JD Logistics, as a leader and practitioner of unbounded logistics, is committed to becoming a global supply chain infrastructure service provider with the mission of reducing social logistics costs. Based on short-chain supply, we will create efficient, accurate and agile logistics services; through technological innovation, we will realize a comprehensive and intelligent logistics system; JD.com has developed an intelligent inventory information management system, and uses GPS on the basis of an intelligent informationized supply chain (Global Positioning System), advanced image reading technology, such as QR Code (two-dimensional bar code), the popularization of bar codes, as well as EDI (electronic data interchange), RFID (radio frequency identification technology), through automatic control systems, through robots , Conveying system, a large number of automated equipment is used in all links of the warehouse, which realizes 90% automation of warehouse three-dimensional storage, picking, packing, conveying, sorting, and outgoing. Information-based inventory management will gradually realize the coverage of major regions across the country. In the future, JD Logistics will gradually open up to other corporate customers in the society to help Chinese companies improve their inventory technology information management control.

## **4.2 Jingdong Mall inventory management method**

### **4.2.1 Use modern technology to establish a suitable enterprise inventory management system**

JD.com is a large-scale e-commerce platform in China. It has been involved in the e-commerce field since the beginning of 2004, focusing on the rapid development of this field. With its deep accumulation in the 3C field, it has successively established wholly-owned subsidiaries in Shanghai and Guangzhou, combining North China, East China and The three points in South China are connected into one line, so that most areas of the country are covered by the logistics distribution network of Jingdong Mall; at the same time, the company's management capabilities are enhanced, and various measures and capabilities such as logistics distribution, after-sales and marketing are improved and handled. .

JD.com has established six logistics platforms centered on Beijing, Shanghai, Guangzhou, Chengdu, Shenyang, and Xi'an, with a view to providing faster delivery services to users across the country, and further deepening and expanding the company's business space.

In the future, JD.com will still follow the development plan centered on "commodity, value, and efficient management". In the future, it plans to strengthen the competitiveness of the three major centers of information management and logistics organization and management. From the beginning to the end, customers, innovation, and the value growth of manufacturers have been the goal of the enterprise.

#### 4.2.2 Pay full attention to the risks and prevention of inventory management

Too much inventory will have a lot of risks in it. The quality of warehouse management is one of the important factors affecting the profitability and development of an enterprise.

Inventory risk refers to the possibility of inventory loss due to various uncertain changes. For example, the decline in sales of various sellers will reduce purchasing power, and the impact of national policies on economic downturns will determine the change in inventory. The above situation will affect the enterprise and may also bring risks to the enterprise.

Excess inventory, huge cash occupation, shortage of inventory, impact on production, etc. When facing market risks, companies should make scientific judgments, and they should also swiftly deal with the financial pressure caused by their losses to reduce losses, or continue to wait and see economic fluctuations in the market for recovery. At this time, it is particularly important to determine the economic situation of the market. The company has a keen ability to determine the economic situation and strong sales experience. At this moment, the inventory should be forecasted for the future product prices, and the potential risks should be paid attention to. Whether to quickly dispose of the raw materials or continue to produce, all of which must be quickly decided. Poor handling may cause serious losses to the enterprise.

Jingdong pays special attention to risk and prevention in inventory, realizes effective control of inventory level, reduces capital occupancy rate as much as possible, optimizes inventory cost control to the greatest extent, carries out effective prior control of inventory benefits, and conducts scientific inventory management Planning. Scientific and effective inventory planning can greatly reduce non-performing inventory, greatly improve production efficiency, minimize various risks, and achieve effective avoidance of various risks.

#### 4.2.3 Develop a reasonable purchase plan to control inventory

Scientific drafting of procurement targets is necessary for many companies. This is to ensure the continuous production of raw materials by the company, and there should be a guaranteed production reserve; for the regularization of commodity sales and the demand for mass production, there must be sufficient reserves of semi-finished products and finished products; secondly, for the company To smooth production and reduce costs, there should be a reserve that meets the production needs; finally, the risks and accidents that may appear in the operation should be avoided or reduced, and the profit reduction caused by accidents should also be available to meet the needs. Therefore, as a business manager, you must play an important role in the scientific procurement of inventory and the control of the inventory level.

In the key link of inventory procurement, the company does not have a clear plan. Instead, it feels that the reserves are insufficient and go out to purchase. There is no special limit on how many purchases can be made at a time. Just imagine that it is almost enough. Some reserves only realize that they are used up when they are needed, and then go out to purchase. Some reserves are due to the large amount of warehouses, which causes serious cash occupation, and at the same time increases the occupation of stacks, resulting in waste of

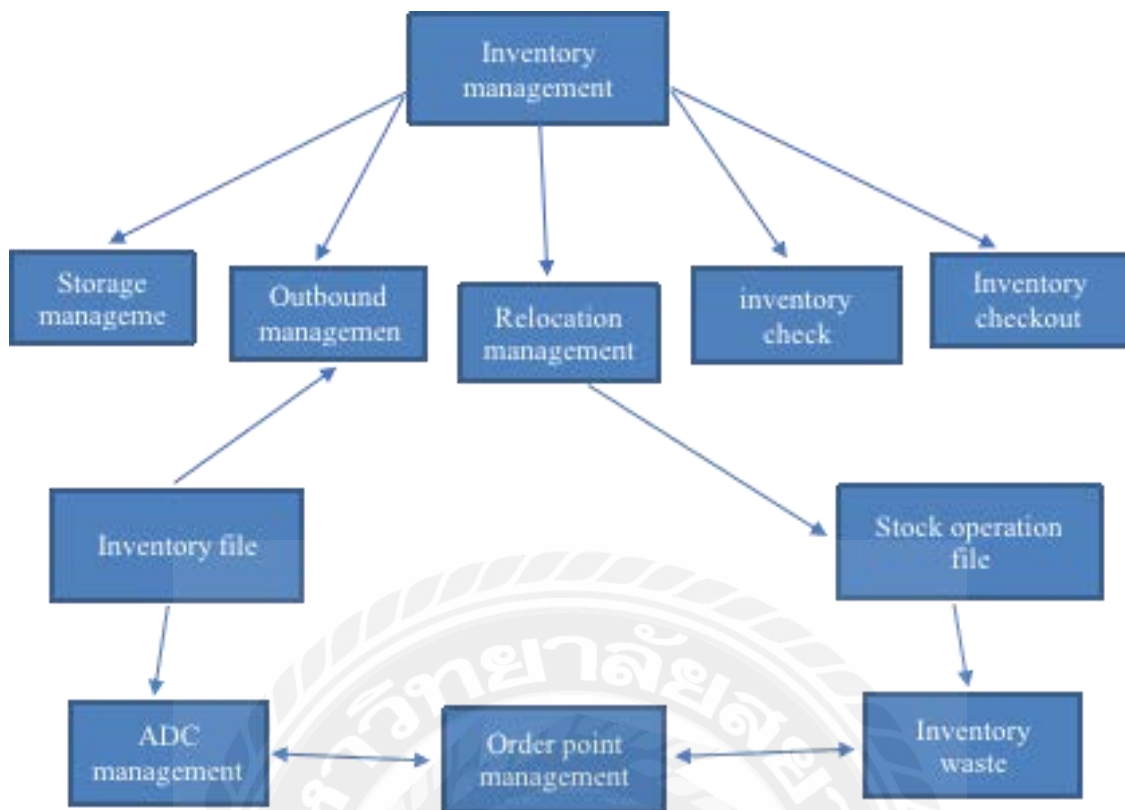


raw materials.

### **4.3 Theoretical framework**

#### 4.3.1 Inventory management model

Business activities need to carry out a series of inventory management for inventory management, which mainly includes inventory information query management and future decision-making analysis, and conduct efficient control to achieve the ultimate goal of inventory management, which is to increase profits. After research, it is determined that inventory management is a comprehensive process that standardizes the manufacturer's inventory policy and the inventory policy of the value chain. The first is the customer-reflective inventory method, which improves the distribution of products through distribution channels according to customer needs; The second management concept is the planning method, which actively schedules the transportation and distribution of products in channels according to demand and product availability; the third can be called a hybrid method, which uses logical reasoning to combine the first two methods Reasonable distribution, forming a management concept that responds to the market environment and products. Inventory management is a way to specify various policies in detail and determine how to efficiently arrange inventory, as shown in Figure 1. This mode reflects the storage and flow of various materials in a timely manner through the management of warehouse, cargo location and other accounting, in/out types, in/out documents, and provides a basis for production management and cost accounting. Through inventory analysis, management and decision planning personnel have a different statistical analysis data for reference to inventory capital occupation, material accumulation, deficiency/excess storage, ABC classification situation, etc., through the tracking of batch numbers, to achieve special batches Tube to ensure quality. Inventory management methods mainly include zero inventory method, ABC classification management method, regular order method, economic order quantity (EOQ), and Just in Time (JIT), etc.



**Figure 4-3 Inventory management model**

#### 4.3.2 Risks of inventory management

Excessive inventory comes with many risks. The quality of warehouse management is one of the important factors affecting corporate profitability and development. Inventory risk refers to the possibility of inventory loss due to various uncertain changes. For example, the decline in sales of various sellers will reduce purchasing power, and the impact of national policies on economic downturn will determine the change in inventory. The above situation will affect the enterprise and may also bring risks to the enterprise. Excess inventory, huge cash occupation, shortage of inventory, impact on production, etc.

Forecasting inventory requirements is one of the important factors affecting business costs. JD.com will be out of stock or local out-of-stocks during the commodity promotion festival. JD.com will increase the inventory of some products accordingly during the "6.18" or "Double 11" period, but some products will often appear in this move. Out of stock, or regional out of stock in a certain area, reduces consumers' trust in JD.com. At the same time,

some commodities with a shorter shelf life, such as vegetables, or products that are updated as fast as electronic commodities, will also cause inventory backlogs. The reason is nothing more than: inaccurate sales forecasts, failure to accurately estimate the future sales of goods, and unable to sell more goods purchased, and fail to achieve the "sales-based" procurement model. China's most famous Internet company BAT has very powerful data mining capabilities. For example, Alibaba holds a large share of Sina Weibo, one of the largest social networking platforms in China, and has opened up accounts with each other. The significance is extraordinary, not only can be collected Customers have more personal and personalized data, while also opening up the sales market, increasing the number of orders, and increasing advertising revenue; Jingdong is still very lacking in the ability of big data analysis, which may increase operating costs.

#### 4.3.3 Classification management

Classified management is an important means to achieve scientific management and avoid deficiencies. One of the main policies of inventory is to supply important items in maximum quantity when necessary. If the urgently needed items produced by the enterprise cannot be supplied in time, the management will be disordered; the classified management is beneficial to increase the use of cash and reduce the order lead time. When the manufacturer maintains a certain amount of product inventory, customers can easily purchase the goods they need, thus shortening the customer's order lead time, so that the company's marketing activities will be more flexible, which is conducive to efficient inventory management jobs. Through the inventory, the originally scattered commodities can be organized in order, the waste commodities are stacked neatly, and the workshop vacancies are neat and orderly, realizing efficient production.

#### 4.3.4 Control inventory

It is necessary for many companies to formulate scientific procurement goals. This is

to ensure the continuous production of raw materials by the company, and there should be a guaranteed production reserve; for the regularization of commodity sales and the demand for mass production, there must be sufficient reserve of semi-finished products and finished products; secondly, for the company To smooth production and reduce costs, there should be a reserve that meets the production needs; finally, the risks and accidents that may appear in the business should be avoided or reduced, and the profit reduction caused by the accident should also have the reserve to meet the needs. Therefore, as a business manager, it is necessary to play an important role in the scientific procurement of inventory and the level of inventory control. In the key link of inventory procurement, the company does not have a clear plan. Instead, it feels that the reserve is not enough and goes out to purchase. There is no special limit on how much it can purchase at a time. It is almost enough just by imagination. Some reserves only realize that they are used up when they are about to be used, and then go out to purchase. And some reserves are too large in the warehouse, causing serious cash occupation, at the same time increasing the occupation of the stack, resulting in waste of raw materials. Faced with these problems, companies can use:

1) Economic purchase batch mode

The economic purchase lot is the purchase lot when the sum of the order cost and the cost of the goods is the smallest. Normally, the demand for goods by enterprises is certain. If the purchase is large in quantity, more cash will be squeezed, which will make the enterprise lose the opportunity of foreign investment and increase the opportunity cost of cash. Fake will increase the number of purchases and increase the cost of ordering. At this time, it is necessary to establish economic purchase batches.

2) Economic storage cost

Storage cost refers to the cost incurred to keep the inventory, including the funds occupied by the inventory, the interest payable, the loss of the inventory in the storage, the insurance premium of the inventory, and the depreciation, repair, and ventilation of the warehouse buildings and warehouse machinery and equipment. , Lighting expenses, salary and welfare expenses of warehouse staff, office expenses of management departments, etc.

There are two storage costs: fixed costs and variable costs. Fixed costs do not increase with the increase in the number of savings commodities, or have nothing to do with the number of savings commodities, such as depreciation of goods. Variable costs increase according to the increase in the number of savings commodities, which are related to the number of savings commodities, such as the accrued profit of inventory funds, and the insurance premiums for inventory destruction. The key to determining the optimal degree of savings products lies in how to achieve both the sales needs and the needs of warehouse control at the same time. The sum of storage costs and purchase costs is minimized to minimize consumption and reduce inventory. Make warehouse management a better state. Corresponding to the low inventory level, the occupancy rate of inventory funds will also be relatively low, reducing the interest level of inventory funds, and allowing companies to use more funds for other investment channels, reducing the opportunity cost of funds being occupied. The latter case is a hidden cost, which is easily neglected by the enterprise, which constitutes waste. The combination of lower cash occupancy rate of savings products, the degree of mortgage interest on low-capital savings products, and low cash opportunity cost of savings products can greatly reduce the cost of savings products.

## CHAPTER 5 DISCUSSION AND CONCLUSION

At present, the expansion of B2C e-commerce is almost entirely dependent on the development of information technology. The era of big data has intensified market competition, and companies need to improve themselves in all aspects. Many start-up companies in China have a low level of informatization in inventory management, lagging information communication, low warehouse efficiency, a large number of goods backlogs and damage to some goods. These problems will become increasingly severe as the company grows. Therefore, traditional inventory The management model can no longer meet the current needs and is not suitable for the development and progress of the times.

Under the influence of big data technology, artificial intelligence, Internet of Things and other information technologies, inventory management has gradually changed from a traditional model to an emerging model, especially in the e-commerce industry. This time, starting from the basic concept of enterprise inventory management, Analyze inventory management methods, study inventory management methods in the e-commerce information environment, the development status of e-commerce enterprise inventory management, existing problems and solutions. The purpose is to study the impact of e-commerce on inventory management, to study future development directions and trends, to help companies find a suitable inventory management model, adapt to the development trend of e-commerce, and cater to the global market economy.

### 5.1 Recommendation

This article researches and analyzes the inventory management of B2C e-commerce companies. After sorting and summarizing, it puts forward suggestions from five aspects: enterprise inventory management awareness, inventory management supervision system, inventory management control classification, inventory management methods and information management:

### 1)Strengthen the awareness of inventory management.

First, the business strategy must evaluate inventory management. To overcome the verbal and formal improvements, the inventory management should be referred to the completion of the economic assessment indicators of the enterprise, the smooth development of the work, and the high degree of economy should be understood. From the unit supervisor to the actual department, the managers should improve the concept of strengthening inventory management , Divide the inventory management into the business agenda of the business, realize the control, analysis and management of inventory. Secondly, all employees participate in inventory management, and instill the concept of inventory management into every employee, so that all employees can establish a "physical and value management" of inventory, "unify the form and effect", and "ensure that the focus is on the general". The concept is to allow the company's procurement, warehouse, finance, production and sales departments to participate in inventory management, share inventory management related information, and improve inventory efficiency through the integration of internal resources.

2)Improve and standardize the internal management system of the enterprise to establish a supervision system.

The enterprise has a sense of supervision and interconnection in management, and has no sense of progress in management. At the same time, it has formulated a related inventory management system. It can be implemented very well at the beginning, but it gradually slackened over time and only stayed in the form. We have to gradually improve the inventory management system with the development of the enterprise, and secondly, we must establish a management system that is interconnected and supervised.

### 3)Centralize inventory management to the company's financial control system.

Reducing inventory management costs is a very important part of reducing costs for enterprises. Consider inventory management. Separate inventory management from purchasing, production, and sales departments. As an independent management department, it will be centralized to the finance department and strictly accept the cost control management of the enterprise. , Check inventory management related issues at any time.

#### 4)Optimize the method of inventory management.

Inventory management is an important transformation of the company's production and operation activities, from the production of auxiliary materials to the sales of finished products. In the entire management process of the company, there are a lot of connections between inventory management and planning, procurement, production, sales and financial systems. , The core and ultimate goal of inventory management is to enable companies to save capital costs.

#### 5S management

5S management includes: Seir, Set, Seiso, SeiKetsu, and Shitsuke. It is proposed that 5S management is mainly to improve the quality of employees and develop serious and responsible work habits.

#### Visual management

Visual management is a management method that aligns slogans in more conspicuous places, uses intuitive and specific methods and color matching to impact visual perception, thereby improving labor indicators. Visual management allows employees to clearly understand the company's regulations , Show the company's rules and regulations in front of employees, let them be familiar with the system, and earnestly complete their jobs, thereby promoting and alerting.

5)Use cloud computing, Internet of Things information technology for inventory management.

At present, it is an indisputable fact for enterprises to take the road of informationization, and it is also an inevitable trend of social development. If the use of information technology is only to digitize and automate existing operations, the significance it can bring is only the reduction of operating costs. Inventory management can collect data with automatic date identification technology (RFID), use cloud computing big data technology to analyze inventory management related issues, and date information technology can achieve dynamic inventory management, thereby improving the economic benefits of enterprises.



## REFERENCE

- Chen, S. (2020). Discussion of inventory management methods and techniques. *Modern Enterprise*, 414(3), 31-32.
- Chen, T. (2018). *B2C e-commerce enterprise multi-warehouse replenishment optimization study*. Jinan: University of Jinan.
- Chen, Y. (2020). Research on current problems and countermeasures of inventory management in manufacturing enterprises. *Contemporary Accounting* (9), 110-111.
- Kourentzes, N., Trapero, J. R., & Barrow, D. K. (2020). Optimising forecasting models for inventory planning. *International Journal of Production Economics*, 225, 107597. doi: <https://doi.org/10.1016/j.ijpe.2019.107597>
- Li, X. (2019). *Study on the improvement of overseas inventory management of B2C cross-border e-commerce company Z*. Xiamen: Xiamen University.
- Li, X. (2020). Valuing lead-time and its variance in batch-ordering inventory policies. *International Journal of Production Economics*, 228, 107731. doi: <https://doi.org/10.1016/j.ijpe.2020.107731>
- Li, Z. (2020). Research on logistics management innovation in a big data environment. *Co-Operative Economy & Science*, 634(11), 90-92.
- Liu, L. (2020). Research on the Application of "Zero Inventory" Management Mode in E-Commerce Enterprises: Taking Vipshop as an Example. *Modern Business Trade Industry*, 41(17), 55-57.
- Malladi, S. S., Erera, A. L., & White, C. C. (2020). A dynamic mobile production capacity and inventory control problem. *IIE Transactions*, 52(8), 926-943. doi: 10.1080/24725854.2019.1693709
- Wan, W. (2020). E-commerce enterprise WMS inventory management strategy. *Office Informatization*, 25(18), 44-46.
- Wen, Z. (2017). *Study on the Optimization of Explosive Inventory for Cross-Border E-Commerce Enterprises F under OAO Model*. Xiamen: Xiamen University.
- Xie, J. (2019). Exploring inventory management models for cross-border e-commerce in the supply chain environment. *Marketing Circles*, (29), 233-235.

- Xiong, L. (2020). A Study of Vendor Managed Inventory for Third Party Logistics. *Internal Combustion Engine & Parts*, (6), 202-203.
- Yan, Y. (2016). Research on logistics enterprise management innovation based on big data environment. *Logistics Engineering and Management*, 38(12), 46-46.
- Yang, S. (2018). Research on intelligent logistics models in the era of big data. *Enterprise Science And Technology & Development*, 439(5), 120-121.
- Zhang, J. (2020). Research on the Optimization Path of Inventory Management of Yiwu Cross-border E-Commerce Enterprises in the Post-Epidemic Period. *Market Modernization*, 918(09), 44-45.
- Zhang, X. (2020). Research on the current problems and countermeasures of inventory management in China's enterprises. *Guide to Public Investment*, (09), 51-53.
- Zhao, X., & Huang, S. (2018). *Inventory management* (2nd ed.). Tsinghua: Tsinghua University Press.

