

# The Influence of Inventory Costs on Product Sales: An Analysis in the Global Sneaker Market

Xiaofei Feng

Hangzhou Wickham International School, Hangzhou, 310000, China

631501010225@mails.cqjtu.edu.cn

**Abstract.** The pandemic has greatly impacted the global athletic shoe market, leading to supply chain instability and inventory management challenges. Taking the global athletic shoe market as an example, this study delves into inventory management issues from three aspects: store operations, price changes, and supply chain modules, and analyzes Nike's data in China and Vietnam in detail. The epidemic led to challenges, such as declining market demand, production disruptions, and supply chain problems, which affected the company's profitability. By analyzing inventory management strategies, this study proposes two key recommendations to help firms cope with uncertainty and improve inventory management efficiency. First, firms are advised to maintain moderate inventories to respond to changes in market demand flexibly. Second, inventory levels should be increased moderately through marketing programs and promotional activities to improve product competitiveness. These recommendations are intended to help athletic footwear and apparel companies meet the challenges of reducing inventory costs, increasing product sales, and ultimately achieving inventory management success during the epidemic.

**Keywords:** Inventory Costs, inventory management, Product Sales, store operations, price changes, supply chain modules.

## 1. Introduction

The epidemic has hit the global economy, and most factories and foundries have closed [1, 2]. Market demand, inventory, average daily sales, employee, operation and foundry condition indices declined sequentially. The epidemic led to the upstream footwear and apparel industry chain stagnation. At the same time, the downstream end-user was affected by the closure of dealers or emergencies, and the overall market demand was weak. Distributors face declining profitability, capital constraints, layoffs and employee turnover. At present, the stability of the global supply chain is facing challenges. Product sell-through and inventory backlogs have increased inventory management costs. Merchants are increasing product sales and optimizing inventory management [3-5]. Currently, research on inventory management mainly analyzes the transaction cost, material system, capital flow and information technology [6-10]. Still, it needs to pay more attention to the problem of slow-moving products during the epidemic. This paper takes the global sneaker market as an object and studies it from three aspects: store operation, price change and supply chain module. It also examines the impact of inventory cost management on product sales and puts forward improvement strategies and suggestions. Based on the research in this paper, merchants can control inventory costs and increase product sales.

## 2. Overview of the Current Situation

After the epidemic's end, the global sports shoes and apparel head brand inventory is still de-stocking; North American demand is under pressure, while Europe, the Middle East and Africa are stable overall. At the same time, sports shoes and apparel brands continue to improve the concentration and efficiency of the supply chain transfer orders to Southeast Asia (Bangladesh, Cambodia, Indonesia, India, etc.) in low labor cost areas. For example, from the first quarter of 2019 to the first quarter of 2020, U.S. apparel imports from China fell from 30% to 19%. Vietnam's share of imports rose from 15% to 17%, Bangladesh from 6.8% to 10.6%, and Cambodia above 3%.

However, inventory and supply problems arose in areas with low-cost labor and a need for more epidemic preparedness after the outbreak.

### 3. Problem Analysis

Take the data of Nike, a world-renowned sports shoes and apparel brand in China and Vietnam, as an example to analyze the epidemic's impact on the shoes and apparel market.

China is the world's largest producer of sports shoes and a large country in population and consumption. Since the 1980s, China has been the OEM for famous international brands, and now it has become the sneaker factory in China, OEM for various domestic and international brands. Due to the pandemic, the factory is suspended due to the need to centralize its workforce. The report "Panoramic Perspective on the Impact of the Epidemic on China's Economy" predicts that the manufacturing and construction industries will suffer greater losses in February due to work stoppages. Still, regarding the resumption of work, the resumption of work and gradual recovery of production capacity is expected to begin in March. Currently, Nike has 11 contract factories in China, employing about 153,000 people, accounting for 23% and 27% of its footwear and apparel products." Several factors, such as extended rework times and logistical problems, may affect sales of certain brands. Another issue for brands is whether to make price adjustments to cover losses. Inventory buildup is another issue for brands. According to the normal sales rhythm, new products are put on the shelves and put on sale, prices are adjusted, inventory is cleared, and the next wave of new products is prepared. However, due to the pandemic's impact, many of the shoes in the sales range could not be sold, breaking the brand's financial chain. According to the South African News24 website on the 26th, Nike's inventory is in short supply due to the outbreak of the epidemic in 2021, and the global apparel and footwear industry has also been affected. Nike CFO Matthew Flanders said on a conference call at the time that the company had lost 10 weeks of production time in Vietnam due to a surge in new crown cases and a nationwide lockdown in the country, coupled with longer ocean shipping times, the company would face a shortage of inventory over the next few quarters, but demand remained strong for the time being. All of these factors would affect sales for the upcoming holiday shopping season. Nike in southern Vietnam, 80% of the footwear and half of the apparel factory is still closed, although more than half of Nike's footwear and one-third of the apparel production in Vietnam. The local government recently announced plans to lift the blockade in recent days, but it is still being determined when the factory will be in full production.

Vietnam is Nike's main production location; the 2021 epidemic outbreak led to a Nike inventory emergency, Nike's supply was affected by the shutdown of factories in Vietnam, the brand closed more than 90% of its stores in South Korea and China, which led to a decrease in sales and the spread of the epidemic. This has led to a near drop-in product shipments to wholesale customers. Consumers were discouraged from buying due to the pandemic. Sales of global sports brands fell across the board as retail stores were forced to close due to widespread stay-at-home orders worldwide, sports events were suspended, and the outbreak dampened consumer interest. Although online sales are up more than ever, more is needed to undo the decline in brick-and-mortar stores.

Study the sneaker category. According to market researcher NPD Group, several U.S. athletic brands saw significant sales declines in March leading up to the Easter holiday compared to the same period in 2019.

Nike, Adidas, Vans, and New Balance fell about 75%, Adidas, Vans, New Balance fell more than 80%, Jordan Brand, Under Armour, Converse and Skechers professional-grade sneakers had almost no sales. In addition, due to the closure of ballparks and the suspension of NBA games, some professional athletic shoes, such as baseball, soccer and American soccer shoes, have yet to sell. In terms of functionality, it is as follows: running shoes fell 70%, basketball shoes fell 80%, baseball shoes, soccer shoes, and American soccer shoes (spikes) fell 100%. Finally, Nike's unexpected events and the revenue data after being affected. 21 February, Nike's home market in North America again encountered protests; mobs swept away some stores, and the company had to close stores again.

Frequent store closures disrupted the company's sales rhythm. Inventory of up to \$7.4 billion in merchandise was backlogged in warehouses, Nike was also forced to cancel many orders, paid a high amount of liquidated damages, and Nike's gross profit margin fell nearly 10 percent. Nike lowered its revenue forecast for fiscal 2022 because of supply chain and worker shortages. Nike's earnings report released on August 23rd showed revenue of \$12.25 billion for the fiscal quarter ended August 31st, below analysts' expectations of \$12.47 billion. Nike's shares are now down about 9 percent from their early August high.

From the above example of Nike, a giant in the sneaker market, the impact of the epidemic on the supply chain was significant. The impact of the epidemic can be mainly categorized into these aspects: 1. People responded to the policy of home quarantine to reduce outdoor sports and recreational activities, which led to a significant reduction in the demand for shoes and apparel. 2. Lack of personnel led to the shutdown of some of the OEM factories, coupled with the paralysis of some of the transportation system greatly increased the cost of transportation, which led to a lack of supply of shoes and apparel market. 3. A large number of stores forced to close down by a directive from the state led to an abortive shipment, and the massive accumulation of inventory coupled with a significant reduction in store revenues may also result in several emergencies, such as people rioting and attacking stores, inventory stagnation makes stores unable to ship some of the goods on time resulting in a huge amount of liquidated damages.

#### 4. Suggestions

In the controlled epidemic, Nike, as an example of a sports shoes and apparel company, has been prepared for uncertainty and quickly adjusted its inventory management. People's income source during the epidemic is also unstable, so sports shoes and apparel companies can improve inventory management efficiency, reduce inventory costs, and control product costs. According to the conclusions of this paper, the following two suggestions are made for companies to do inventory management: First, keep a moderate amount of inventory to respond to new consumer demand flexibly. Second, with the marketing program and preferential activities, appropriately increase the amount of inventory. Specific recommendations are described below.

**Production Method: Flexible Manufacturing.** The concept of flexible manufacturing was put forward by Molins of Britain in 1965. Flexible manufacturing is a market-oriented advanced method of on-demand production to adapt to changes in market demand and fierce competition. It can enhance the flexibility and adaptability of manufacturing enterprises, shorten the product production cycle, improve equipment utilization and employee productivity, and improve product quality. Therefore, flexible production is a mode with strong demand and vitality. Shoes and apparel companies are now increasingly using flexible production technology. This technology allows consumers to make demands online, and companies can customize their production to meet those demands quickly, thus eliminating the need for inventory. These inventories are more for emergency needs. Many customers with personalized needs can have customized production after submitting their orders.

**Sales Channels:** Internet sales and physical operations, mainly on Jingdong, Tmall, Taobao and other major e-commerce platforms, and through micro-merchants and offline agent mode to attract mainstream consumers, such as promoting the marketing of university campuses.

**Marketing strategy:** personalized posters, brochures and regular deliveries. Simplify product names to improve search engine rankings and click-through rates. Provide the latest product news and promotional strategies on the homepage of the Internet sales platform.

**Events and Offers:** Discounts in stores on double holidays to attract traffic. In the major e-commerce platforms, to carry out activities such as the original price of the popular shoes, 0 yuan free delivery. -Various sportswear brands select certain sports team organizations with traffic to cooperate, such as China's King of the Road, Wild Ball Emperor and even NBA superstars and other influential teams. -Carry out athletic competitions in various places. For example, Nike can carry out various cups on the basketball field, Adidas can carry out soccer matches, and outdoor brands such

as Beginner's Bird can carry out outdoor activities. Only the advantages of the brand developed in the activities to show so that attention to notice can increase brand awareness sales and thus enhance word of mouth to cushion the impact of the epidemic on the company. When companies want to do this, related marketing programs and promotional activities will certainly bring a wave of consumer trends, so the inventory should be appropriate to increase some stock to match these activities.

Exchange. With large basketball game software (such as NBA 2K ON LINE and Street Basketball) as a platform, the organization of new and old customers for the network league. Universities and enterprises can organize internal competitions and inter-college exchange matches offline. Set up official microblogging, Hubo, QQ exchange groups and WeChat public platforms. Title university campus cultural performances and various commercial performances to make the company more popular. Organize large-scale sneaker salons and fan parties to encourage new and old customers to communicate with sellers, increase customer loyalty and improve sales.

## 5. Conclusion

This study examines the inventory management problem in the global sneaker market in the context of the new crown pandemic. It provides insights into three aspects of the problem: store operations, price changes and supply chain modules. The pandemic has led to instability in the global supply chain, with inventory backlogs and increased costs affecting the profitability of companies. By analyzing Nike's data from China and Vietnam, this study understand the impact of the epidemic on the athletic footwear and apparel markets and how companies are responding to these challenges.

The study found that the epidemic significantly impacted the athletic shoe market in several ways. First, the epidemic led to a sharp decline in consumer demand for outdoor sports and recreational activities, which led to a decrease in the demand for athletic shoes and apparel. Second, the shutdown of certain OEM factories, coupled with the paralysis of some transportation systems, led to a significant increase in transportation costs and a need for more supply in the athletic footwear and apparel market. Thirdly, due to the directives of some state governments, many stores have been forced to close down, which has led to the disruption of shipments of sneakers and apparel and the accumulation of large inventories, which may also lead to emergencies such as looting and attacks on stores.

Based on the study results, this study have developed the following two recommendations to help companies improve their inventory management. First, maintain a moderate inventory to respond to new consumer demands flexibly. Second, increase inventory levels moderately through marketing programs and incentives. In addition, adopt flexible manufacturing techniques that enable firms to customize production to meet changing market demands. In addition, using a combination of internet sales and offline sales as sales channels, brand exposure is increased through personalized posters, brochures and regular placements. Sales and brand awareness can be increased by organizing various engaging events and promotions, such as in-store discounts during dual festivals, original-priced bestsellers and \$0 free shipping on online shopping platforms, and partnerships with traffic-generating sports teams.

In the face of this global challenge, athletic footwear and apparel companies can take these steps to cope with uncertainty, reduce inventory costs, and improve the competitiveness of their products. Through flexible manufacturing and nimble inventory management, companies can better adapt to changes in the marketplace and stand out in a competitive industry. These recommendations can help companies maintain their business and enhance their competitiveness during an epidemic, ultimately resulting in controlled inventory costs and increased product sales.

## References

- [1] Shih W C. Global supply chains in a post-pandemic world. *Harvard Business Review*, 2020, 98 (5): 82-89.

- [2] Ochonogor K N, Osho G S, Anoka C O, et al. The COVID-19 Pandemic and Supply Chain Disruption: An Analysis of the Semiconductor Industry's Resilience. *International Journal of Technical & Scientific Research Engineering*, 2023, 6 (1): 7-18.
- [3] Arunmozhi M, Kiran Kumar R, Srinivasa B A. Impact of COVID-19 on global supply chain management. *Managing supply chain risk and disruptions: Post COVID-19*. Cham: Springer International Publishing, 2021: 1-18.
- [4] Aday S, Aday M S. Impact of COVID-19 on the food supply chain. *Food Quality and Safety*, 2020, 4 (4): 167-180.
- [5] Shahin A, Balouei Jamkhaneh H, Shahin R. Supply chain risk management under COVID-19: A Review and Research Agenda. *Developments in Information & Knowledge Management for Business Applications: Volume 4*, 2022: 561-580.
- [6] Rubel B K. Increasing the Efficiency and Effectiveness of Inventory Management by Optimizing Supply Chain through Enterprise Resource Planning Technology. *EFFLATOUNIA-Multidisciplinary Journal*, 2021, 5 (2): 1739-1756-1739-1756.
- [7] Vrat P, Vrat P. Basic concepts in inventory management. *Materials Management: An Integrated Systems Approach*, 2014: 21-36.
- [8] Katehakis M N, Melamed B, Shi J. Cash-flow based dynamic inventory management. *Production and Operations Management*, 2016, 25 (9): 1558-1575.
- [9] Dhodi M H. The effect of information technology on inventory management for the manufacturing companies in Mogadishu. *European Journal of Logistics, Purchasing and Supply Chain Management*, 2018, 6 (3): 20-29.
- [10] Zhao B, Tu C. Research and development of inventory management and human resource management in ERP. *Wireless Communications and Mobile Computing*, 2021, 2021: 1-12.