

# Challenges and Solutions of Fresh Retail Supply Chain

-- A Case Study of Wal-Mart

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**Abstract:** Under the background of the great development of service quality productivity, with the promotion of globalization and technological innovation, fresh retail supply chain has become the focus of retail industry. As a retail giant, Wal-Mart's strategy and practice in managing fresh retail supply chain is of great significance to other enterprises in the industry. Taking Wal-Mart as a case, this paper analyzes the main challenges faced by fresh retail supply chain, and discusses the effective strategies adopted by Wal-Mart in the process of dealing with these challenges, in order to provide reference and reference for enterprises in the same industry.

**Keywords:** Fresh retail; supply chain management; Wal-Mart; challenge; solution.

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## 1. Introduction

With the development of new productivity and the deepening of global economic integration, commodity exchanges are becoming more and more frequent, and the fresh retail industry is becoming more and more prosperous. However, fresh products pose a higher challenge to supply chain management because of their unique freshness and shelf life requirements. In particular, with the continuous improvement of consumers' requirements for fresh product quality and service, fresh retail supply chain management is no longer just enterprise logistics support, but has increasingly become the core means to enhance the competitiveness of enterprises. Especially for large fresh retailers around the world, how to effectively solve the problems in the supply chain is one of the keys to their sustained and healthy development. As one of the largest retail enterprises in the world, Wal-Mart's successful experience in the operation of fresh retail supply chain provides a wealth of practical cases for the research in this field. In particular, in the process of exploring and implementing the challenges of the fresh retail supply chain, Wal-Mart not only focuses on improving the operational efficiency of the supply chain, it is also committed to meeting the increasing demand of consumers for fresh products and services through innovative supply chain management. These successful strategies undoubtedly provide valuable reference and reference for enterprises and scholars in the same industry, so as to jointly promote the healthy development of fresh retail supply chain management.

## 2. Challenges Facing the Fresh Food Retail Supply Chain

The fresh food retail supply chain faces a series of challenges that require companies to adopt innovative and efficient methods to ensure product quality, meet customer needs, and maintain operational efficiency.

### 2.1. Freshness preservation and quality control

In the fresh food retail supply chain, freshness preservation and quality control are crucial. Since fresh products are

perishable and have a short shelf life, how to effectively extend the shelf life and maintain the freshness and quality of fresh products has become a big challenge.

### 2.2. Inventory management

In the fresh food retail supply chain, inventory management is a complex and delicate art of balancing. Excessive inventory will not only lead to increased product losses, but also increase warehousing costs. Insufficient inventory can lead to out-of-stock items, affecting customer satisfaction and sales.

### 2.3. Supplier management

Establishing long-term relationships with stable and reliable suppliers is essential to ensure the quality and supply continuity of fresh products. This involves supplier selection, evaluation and ongoing relationship management. Supply chain managers are required to not only evaluate the supplier's production capacity and quality control standards, but also take into account the supplier's geographical location, transportation capabilities and ability to respond to emergencies.

### 2.4. Logistics efficiency

The logistics efficiency of fresh products directly affects the quality maintenance and cost control of fresh products. The use of cold chain logistics is the key to maintaining the quality of fresh products during transportation. Cold chain logistics not only needs to maintain a low-temperature environment, but also needs to implement effective logistics planning to reduce transportation time and the number of transfers, thereby ensuring that fresh products can be delivered to their destinations in the shortest time and with the lowest loss.

### 2.5. Application of information technology

In modern fresh food retail supply chain management, information technology plays an increasingly important role. In every aspect from production, storage, logistics to sales, information technology can provide real-time monitoring, data analysis and prediction, and automated management. Enable all parties involved to access information on product

flows, inventory levels and demand changes in real time. Especially for inventory management and demand forecasting, information systems can provide a large amount of data support to help companies make more accurate decisions.

### **3. Walmart's Strategies to Cope with Challenges**

As a global retail giant, Walmart has adopted a series of forward-looking and innovative strategies when facing challenges in the fresh food retail supply chain.

#### **3.1. Use advanced preservation technology**

Walmart has always attached great importance to the freshness and quality of food. In order to ensure that consumers can buy fresh, high-quality food, Walmart uses advanced preservation technology.

First, Walmart introduced advanced freezing technology. Freezing technology is a method of delaying food spoilage and deterioration by lowering the temperature. Walmart uses refrigeration technology extensively in its cold chain logistics system to keep food transported and stored at low temperatures to extend its shelf life.

Secondly, Walmart has also established a complete cold chain logistics system. Walmart has invested a lot of money and resources to establish and maintain an efficient cold chain logistics system. This system not only includes hardware facilities such as refrigerated vehicles and cold storage equipment, but also strict operating procedures and standards. Through the effective operation of the cold chain logistics system, Walmart is able to deliver fresh food to consumers in the shortest possible time.

Third, Walmart also cooperates with suppliers to jointly research and develop new preservation technologies. Walmart actively seeks to cooperate with other industry experts and companies to jointly explore new preservation methods and technologies. These partnerships not only help Walmart stay ahead of the curve, they also bring opportunities for innovation and growth throughout the supply chain.

Fourth, Walmart also pays great attention to the source and quality control of food. They strictly screen suppliers and conduct regular audits and inspections on suppliers to ensure that the food they provide meets the company's requirements and consumer expectations. In addition, Walmart also actively participates in and supports activities and initiatives related to food safety and quality, and is committed to improving the food safety level of the entire industry.

#### **3.2. Implement refined inventory management**

Walmart implements a refined inventory management strategy. An effective inventory management system can help them better understand and manage the demand and supply of products, thereby avoiding the waste of slow-moving goods and expired products.

Wal-Mart uses advanced information technology to achieve real-time monitoring and prediction of inventory conditions. By installing sensors and tags on warehouses, shelves and merchandise, they can monitor information such as the storage location, quantity and status of merchandise in real time. This data is transferred to a central database and processed through big data analytics algorithms to generate inventory reports and forecasting models. In this way, Walmart can accurately understand the inventory needs of

each store and restock or adjust order quantities in a timely manner. This real-time monitoring and forecasting capability allows Walmart to more accurately grasp market demand and reduce inventory overstocks and out-of-stock situations.

In addition to real-time monitoring and forecasting, Walmart has also established close cooperative relationships with suppliers to achieve a balance between supply and demand and respond quickly to market changes. They share sales data and market trend analysis with suppliers so that suppliers can adjust production plans based on actual demand and provide timely supply. In addition, Walmart also communicates and coordinates with suppliers through the supply chain management system to ensure the smooth operation of the supply chain. This closely coordinated supply chain model allows Walmart to better respond to market changes and reduce the risk of imbalances in supply and demand.

#### **3.3. Establish long-term supplier relationships**

Walmart establishes long-term supplier relationships to ensure product quality and stable supply. They realize that close collaboration with suppliers is critical to achieving efficient supply chain operations and customer satisfaction.

First, Walmart works with suppliers to develop supply chain planning and strategies. They work closely with suppliers to understand key information such as their production capabilities, resource status and market positioning. Based on this information, Walmart works with suppliers to develop supply chain planning and strategic goals to ensure that the supply chain can meet market demand and maintain efficient operations. This collaborative approach helps improve the flexibility and responsiveness of the supply chain, allowing Walmart to better adapt to market changes.

Second, Walmart shares sales data and market trend analysis with suppliers. By sharing sales data and market trend analysis with suppliers, Walmart can help suppliers better predict market demand and adjust production plans in a timely manner. This helps suppliers prepare in advance to avoid overstocking or insufficient supply. At the same time, suppliers can also conduct product optimization and research and development based on the data provided by Walmart to meet consumer needs.

Third, Walmart also conducts research and development activities with suppliers to promote innovation and improve product quality. By working closely with suppliers, Walmart is able to launch new products faster and continuously improve the quality and performance of existing products. This not only helps improve customer satisfaction, but also enhances Wal-Mart's competitiveness in the market.

Fourth, in order to establish long-term cooperative relationships, Wal-Mart focuses on trust and mutual benefit with suppliers. They are committed to building fair and transparent partnerships, actively listening to suppliers' opinions and suggestions, and evaluating and rewarding suppliers based on their contributions and performance. This two-way cooperation model helps establish a stable supplier network and provide Wal-Mart with reliable products and services.

#### **3.4. Optimize logistics network**

Logistics network is a vital link in Wal-Mart's supply chain. In order to further improve logistics efficiency and reduce operating costs, Walmart continues to optimize its logistics network. They have invested in the construction of large-scale

logistics distribution centers and warehouses distributed around the world to better meet consumer needs and provide faster and more efficient distribution services.

First, Wal-Mart improves logistics processing speed by building large logistics distribution centers. These logistics distribution centers are equipped with advanced facilities and technical equipment and are capable of handling large quantities of goods simultaneously. By centrally managing and optimizing the cargo handling process, Walmart is able to achieve rapid sorting, packaging and distribution of goods. In addition, the logistics distribution center has established close cooperative relationships with suppliers to speed up the supply and delivery of goods. The operation of this efficient logistics distribution center allows Walmart to meet consumer demand faster and improve the overall efficiency of the supply chain.

Second, Wal-Mart uses information technology to monitor and manage the logistics process in real time. By using smart logistics systems, Walmart is able to achieve precise tracking and route optimization of goods. The smart logistics system can monitor the location and status of goods in real time and provide accurate information to Walmart's logistics team. This allows Walmart to better understand the logistics situation and adjust logistics plans and resource allocation in a timely manner, thereby improving delivery speed and accuracy. In addition, smart logistics systems can also help Walmart predict potential supply chain issues and take appropriate measures to avoid delays and losses.

### **3.5. Use information technology to improve supply chain efficiency**

Information technology plays an important role in Wal-Mart's supply chain management, helping Wal-Mart improve the efficiency and transparency of its supply chain. Wal-Mart has used information technology to establish a comprehensive supply chain management system, including order management, warehousing management, transportation management and customer relationship management modules. Through this system, Wal-Mart can monitor the situation of each link in the supply chain in real time and make timely decisions and adjustments.

First, Walmart uses the order management system to achieve rapid response and accurate processing of the supply chain. Consumers can place orders with Walmart through multiple channels, such as physical stores, e-commerce platforms, etc. Order management systems can automatically receive and process these orders and pass the information to relevant suppliers and logistics partners. This enables Walmart to complete order processing in the shortest time and arrange the delivery of goods in a timely manner. Through the order management system, Walmart is also able to predict and analyze sales trends to optimize inventory management and purchasing plans.

Second, Wal-Mart's warehouse management system makes the supply chain more efficient and accurate. Walmart has established a large-scale warehousing network around the world to meet the needs of different regions and consumers. The warehouse management system can realize real-time tracking and management of goods in the warehouse, including information on the incoming, outgoing, and inventory levels of goods. Through the warehouse management system, Wal-Mart can accurately grasp the status of goods in each warehouse and reasonably arrange the allocation and distribution of goods. This can reduce the

detention time of goods and improve the speed and accuracy of logistics.

Third, Walmart uses its transportation management system to optimize the efficiency and cost of logistics and transportation. They have established close cooperative relationships with logistics partners and achieved real-time monitoring and management of the transportation process through the transportation management system. The transportation management system can provide accurate transportation routes and estimated arrival times, helping Walmart choose the optimal transportation plan and adjust distribution plans in a timely manner. In addition, the transportation management system can also provide real-time cargo tracking and signature confirmation functions to ensure the safety and on-time delivery of goods. By optimizing its transportation management system, Walmart is able to reduce shipping time and costs and increase delivery speed and accuracy.

Fourth, Wal-Mart establishes close contact with customers through the customer relationship management module. They interact directly with consumers through e-commerce channels and collect consumer feedback and demand information. The customer relationship management module can help Wal-Mart better understand consumer needs and preferences, and carry out product customization and marketing based on this information. By working closely with customers, Walmart can better adapt to market changes and provide products and services that are more relevant to consumer needs.

## **4. Conclusion**

By adopting a series of effective strategies, Walmart has successfully dealt with the challenges in fresh food retail supply chain management, providing valuable experience and inspiration for companies in the same industry.

4.1 Walmart uses advanced preservation technology to meet consumers' demand for high-quality food. By introducing advanced freezing technology and establishing a complete cold chain logistics system, Walmart can maintain the freshness and quality of food and reduce food loss and waste. At the same time, working with suppliers to research and develop new fresh-keeping technologies also reflects Walmart's innovative spirit and commitment to consumers.

4.2 Walmart has achieved real-time monitoring and prediction of inventory conditions through refined inventory management strategies. This sophisticated inventory management strategy not only helps reduce the loss of slow-moving goods and expired products, but also improves customer satisfaction, improves operational efficiency, and reduces costs. Walmart will continue to optimize their inventory management system to meet changing market demands and maintain a competitive advantage.

4.3 Walmart has achieved a high degree of collaboration and efficient operation of the supply chain by establishing long-term cooperative relationships with suppliers. They work with suppliers to develop supply chain planning and strategies, share sales data and market trend analysis, and jointly conduct research and development activities. This collaborative model helps improve product quality, supply chain stability and flexibility, and drive innovation and development.

4.4 Walmart improves logistics efficiency and reduces operating costs by optimizing its logistics network. They invested in the construction of large-scale logistics

distribution centers and warehouses, used information technology to monitor and manage the logistics process in real time, and optimized transportation routes and distribution strategies. Through these efforts, Walmart is able to better meet consumer needs and provide faster and more efficient delivery services.

4.5 Walmart uses information technology to improve the efficiency and transparency of its supply chain. By establishing a comprehensive supply chain management system, including modules such as order management, warehousing management, transportation management, and customer relationship management, Walmart is able to monitor the situation of each link in the supply chain in real time and make timely decisions and adjustments.

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