

Application of PDCA model in the improvement of inventory management in multinational corporations -- a case study of Walmart

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Abstract

On May 21, 2021, Walmart was placed under investigation because of tampering with the warranty date of its beer, which caused an unprecedented brand crisis. In addition, with the development of Chinese people's consumption level, people no longer only pursue low price for products, the diversification of products has become the major concern. This paper will focus on the global retail giant Walmart. Then, it will take the event of products sold by Walmart being tampered with their shelf life as the entry point to carefully analyze the possible problems existing in Walmart's current supply chain management and inventory management behind the event. Finally, this paper put forward some relevant suggestions.

Keywords

Inventory management, PDCA model, Walmart

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I. Introduction

With the continuous development of China's economy and the gradual deepening of reform and opening up, the people's growing needs for a better life are constantly being met. As a measure of consumer demand and people's consumption level, the development of retail industry in the past two years is not satisfactory. From 2005 to 2019, China's overall household consumption has been on the rise year after year. In 2019, retail sales of consumer goods totaled 4.12 billion yuan, up 8.0% year on year. However, due to the virus that emerged in 2020, the total retail sales of consumer goods fell instead of rising that year. On the whole, the development of the retail industry is more difficult in recent years.

When it comes to the retailing, Walmart is a resounding name. As one of the world's top retail chains with a long history, Walmart has been named the top of the World's 500 and the most valuable brand for many times. Walmart is committed to helping customers around the world obtain quality products at the lowest prices through its online and offline retail stores. According to the 2021 Annual Report of Walmart, more than 265 million customers and members visit Walmart's offline stores and e-commerce sites in twenty-seven countries every week. On the other hand, Walmart's global revenue reached \$524 billion, and its global workforce exceeded 2.2 million in 2020. It can be seen that Walmart is continuing to play a leading role in sustainability, corporate social responsibility, and job creation. However, such a retail leader has been frequently exposed scandals recently. In May 2021, the products sold by Walmart were investigated for tampering with the warranty date. In addition, Walmart's food safety and price fraud are also criticized, which means Walmart's reputation for low prices and high quality is no longer what it used to be. In this era of people not only pursue low prices, but also pay more attention on the creative of products. We have to wonder where the future of Walmart is. Therefore, this paper summarizes the existing problems of Walmart supply chain and puts forward corresponding suggestions by using PDCA model.

II. Research Methods

This paper will use PDCA cycle performance management theory to optimize Walmart supply chain process, so as to improve the control and management of product supply chain. The first step is planning. Based on the actual situation of the supplier, introduce the reminder system for temporary protection, then determine the existing problems and corresponding improve methods. The second step is to execute the plan on the basis of the test. For detailed, which may include coordinating the communication with related departments and superiors, organizing the field personnel to accomplish the production targets and performance indicators. The

work should be checked when turn to the third step, which are checking whether the established standards are completed on time, whether there are problems and effective improvement points, and determine the main problems that need to be improved. Finally, it is disposal and improvement. If the established goal is achieved, then need to maintain or set a higher standard. If the established goal is not achieved, problems and causes will be identified and analyzed, plans and strategies need to be revised, then return to the first stage.

III. Reason analysis and improvement methods of existing problems in Walmart supply chain

3.1 Analysis of the reasons for the current problems in Walmart's supply chain

First of all, there are three reasons for the current problems in the supply chain of Walmart in China. The most direct reason is that Walmart in China still uses the most primitive way of checking the expiration date manually. Due to each of Walmart's offline stores covers a wide area and large in scale, manual inspection is a great burden for employees. In this process, if the staff does not check carefully and neglects several temporary products, the promotion and purchasing plan of the enterprise will be greatly affected. At the same time, when putting the goods on the shelves, some employees of the supermarket may directly put the replenished goods on the outside of the goods when loading and push the original goods directly into the inside. As a result, the remaining shelf life is longer and sold on the outside, while the remaining shelf life is shorter and ignored on the inside.

Secondly, Walmart mainly adopts a low-price strategy and focuses on everyday price. However, nowadays, people pay more and more attention to the taste and novelty of products. Walmart's main audience is the elderly group with low spending power, which is not enough to attract the young group with strong spending power and other groups.

Thirdly, Walmart adopts a global unified centralized procurement model that ignores the consumption demand of different time and region. Take some Walmart stores in China as an example, top-selling products are often in short of supply. However, due to lack of market research based on consumption preferences in each country, part of the products have no takers, occupying a large amount of inventory space and funds. The existence of these goods leads to the delivery time problems and cash-flow problems. At the same time, from the perspective of the procurement process, the time cost of tripartite communication between global buyers, procurement team members and suppliers are relatively high. It takes about thirty-four weeks for a product to purchase a project from a product concept at the beginning to the actual product selected. Adding in 23 weeks of production and delivery from suppliers, it takes about 57 weeks for a concept product to finally hit the shelves. By the time a product hits the shelves, it may have missed the trend of the season, affecting expected sales. Compared with other supermarkets in the Internet era, Walmart's procurement cycle is longer.

3.2 Walmart's current supply chain problems to improve the way

Faced with the existing problems, Walmart can develop and construct the expiration date reminder system for physical insurance to reduce labor costs. More importantly, this system can help to prevent brand crisis caused by artificial inspection negligence. Moreover, the function of this system can be divided into two aspects. One is merchandise inventory life management, the other is shelf life management of goods. With this system, supermarkets can not only decrease manpower wastage on controlling and supervising the expiration date of goods, but also managers can visually observe the residual shelf life of all commodities in each retail store. For unsalable goods, timely promotion strategy is adopted to avoid missing the best promotion time and cause greater losses to the supermarket. At the same time, the proportion of purchasing these products can be reduced in the next purchase. According to this system, supermarket managers can also arrange and supervise the purchase of goods, so as to reduce the reputation damage and economic loss caused by the negligence of personnel.

Hence, in the supply chain segment, we can adopt PDCA model for the improvement of the whole process. At present, Walmart adopts the mode of global procurement center, which makes inquiry and finds high-quality suppliers by comparing costs and makes full use of international market and resources. However, as mentioned above, the differences in local cultures of different countries make it difficult to adjust product requirements. Therefore, in the planning stage, Walmart can introduce more local buyers and add more products with local characteristics, such as characteristic eight treasures rice, snail noodle, Chinese soup and so on. At the same time, ABC inventory management principle is adopted to reduce the inventory ratio of products with short shelf life on the premise of ensuring long-term supply relationship with suppliers, while the inventory of CLASS C consumables can be increased. In the past, Walmart collected samples for screening two weeks after making product plans. However, in order to better ensure the timeliness of products, self-recommended products can be added when making purchase plans. Manufacturers of self-recommended products can send applications and samples to Walmart officials at the same time, which can improve the efficiency of product screening. In addition, can be put forward requirements after the product on the shelf to meet the standard rate of more than 99.8%, the whole procurement and sales process is shortened by more than 10%, to promote suppliers to

improve product quality. In the implementation stage, Walmart shall carry out procurement review in strict accordance with the procurement plan and inspect production workshops with high shelf life and production environment requirements to ensure that products will not have quality problems. In this way, suppliers can be screened in a second round. After completing the screening, each supplier will be asked to sign an order commitment with the supplier to double the compensation for product problems. In the inspection stage, the products to be put on the shelves will be checked one by one by using the independent research and development of Walmart's physical protection reminder system. At the same time, the samples and product packaging are checked. Because this section is introduced into the system, the period can be shortened here. In the final improvement stage, the supermarket sales staff, procurement staff and suppliers can be asked to put forward opinions and suggestions on the procurement and sales process, so as to better complete the next sales. In addition, Walmart headquarters can set up a special department to conduct investigation and training for suppliers that can cooperate for a long time, focusing on improving the quality and awareness of key suppliers, so as to meet the standards set by Walmart for suppliers and lay a foundation for future long-term cooperation.

IV. Conclusion

This paper puts forward suggestions for the improvement of the brand crisis encountered by Walmart in the event of tampering with the shelf life, including the introduction of the temporary protection reminder system, the improvement of the ratio of local buyers, the shortening of the procurement cycle, the improvement of the standard of the review mechanism and the supplier training system. This paper introduces PDCA model to elaborate the suggestions. But because the supply chain is a chain of implementation, extremely careful cross-checking is required to make sure everything is right. The paper lacks certain official data and has certain information barriers, so the opinions and suggestions put forward in this paper may have certain limitations. It is believed that Walmart's purchasing management and supply chain management can continue to maintain the leading position of the retail giant after adjusting with the trend of The Times.

References

- [1]. Chen M. L. 2012, 'Research on Walmart's Global Strategic Procurement [D]', Lanzhou University.
- [2]. Huang H. J. 2020, 'Walmart global sourcing center of purchasing management research [D]', Guangdong university of technology.
- [3]. Nie X. Y. 2014, 'Risk management of Supplier selection in China for Walmart global Procurement [D]', Donghua University.
- [4]. Wang S. M. 2019, 'Analysis of procurement cost management [J]', China Collective Economy, No.17, pp.132-134.
- [5]. Zhao Y. 2018, 'Analysis of Walmart (China) "New Retail" Model based on financial perspective [D]', Hebei University.

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