

Operations and Supply Chain Analysis of the Smartphone Industry: Comparing Apple and Huawei

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ABSTRACT

The smartphone market is characterized by intense competition and is also one of the fastest-growing businesses, with many international players jostling for a share of the pie. However, establishing supply chains with efficient, end-to-end processes that ensure resource availability, production efficiency, and product delivery is getting more challenging. This paper explores the operations and supply chain strategy of smartphone companies with a specific focus on Apple and Huawei, both formidable telecommunication companies and market leaders in the smartphone industry. Both are forward-thinking enterprises that have leveraged integrated supply chain solutions and automation by implementing innovative technologies that have effectively disrupted the conventional logistics operations. In this paper, the strategies that these companies have adopted to maintain competitiveness will be examined. The findings are relevant to smartphone companies keen on disrupting the existing logistics effectively by using integrated supply chain technologies.

Keywords: *Operations, Supply Chain Management, Smartphone Industry, Apple, Huawei, Competitive Advantage*

1. INTRODUCTION

Developing and managing a company's supply chain in the smartphone industry is problematic. Relatively short lifecycles, constantly changing technologies, internationally connected distribution networks, rising product diversity, and high levels of demand and supply uncertainty all pose challenges for those responsible for supply chain operations and management. As competition in this industry intensifies and profit margins fall, effective supply chain management approaches become even more critical for businesses competing in this space. Companies must design their supply chain in such a way that it effectively supports their corporate strategy in order to prosper. This paper examines the operations and supply chain analysis of the smartphone industry with Apple and Huawei as case studies. The paper argues that Apple and Huawei are both industry leaders in the manufacture and sale of high-end smartphones and have become direct competitors in recent years. From a business model perspective, the two businesses are continuously integrating and updating

their business models, yet major distinctions remain, particularly in supply chain strategies. While Apple and Huawei manage their supply chains differently, both leverage on their unique supply chain operations to gain a competitive edge in the market and ensure continuity.

2. APPLE

Apple is an American telecommunication company founded on April 1, 1976, by Steve Jobs, Steve Wozniak, and Ronald Wayne. Apple is a prominent smartphone manufacturer worldwide, with the firm shipping nearly one hundred million iPhones in the fourth quarter of 2020 [1]. Apple has long been recognized around the world for its stylish, modern aesthetics and innovative products, and the company has maintained its position at the frontline of its industry. While many people mostly know the products and branding of the technology powerhouse, the intricacies of the company's supply chain are less known.

2.1 Supply Chain General

Apple has been an innovative leader in the supply chain sector, serving as a source of inspiration for other companies and compelling the competition to stay up or risk falling behind. It is renowned for having one of the world's greatest supply chain processes. Apple's supply chain is notable for its dependence on several sources for the same component. Apple's unique supply chain management gives it a significant competitive advantage by enabling it to offset supply chain interruptions and delays, consequently maintaining gross margins. Apple also adjusts ordering ratios with vendors, thereby minimizing the risk of third-party issues associated with capacity reliance. As a result, Apple could rapidly increase production capacity in response to changes in consumer demand and encourage lower supply costs as multiple suppliers compete for its business. Tim Cook, Apple's Chief Executive Officer is the brains behind the streamlining inefficient sections of Apple's supply chain and using inventory control mechanisms to dramatically reduce the firm's supply chain and storage facilities.

The tech powerhouse also demands high-quality products and imposes strict terms on its suppliers because of its size and global influence. Apple can respond to spikes in demand by focusing on keeping excellent connections with its supply chain partners. This allows the company to be extremely flexible. This, combined with Apple's vast manufacturing capacity, enables the company to deliver products when and where customers want them to be delivered. Apple's various suppliers, all of whom are mentioned on the company's annual Supplier List, are subjected to extremely high standards maintained by Apple. The company's supply chain differentiator is the focus on sustainability. Throughout the years, Apple has launched several initiatives aimed at improving supply chain sustainability. In 2017, for instance, Apple expressed its desire to start a closed-loop distribution network, implying that ultimately all products would be primarily based of recyclable or renewable materials [2].

One of the firm's supply chain tricks is that its iPhones are regarded as perishable products with an expiry date. Just like perishable goods' stocks must be restocked as quickly as possible, the same is true for Apple products [3]". Using the inventory turnover formula, Apple's data have demonstrated a dominant position in product sales than its competitors such as Dell, HP, and Motorola.

2.2. Strong Supplier Relationship

Apple has consolidated its relationship with all the suppliers. Therefore, in this situation, Apple has a greater degree of stability. When the demand of the market shifts or decreases, Apple can quickly adjust and coordinate with related suppliers to match the market demand. In

addition, Apple maintains strict standards in selecting their partnership suppliers, and they offer training opportunities to improve the overall ability for their employed suppliers: "More than 3.6 million supplier employees have participated in educational and upskilling events provided by Apple since 2008" [4].

3.HUAWEI

Huawei was founded in Shenzhen, China in 1987. From 1996 to 1998, due to the rapid growth of urban population, Huawei began to turn its goal to China's large urban areas. In 1996, Huawei began to expand the international market [5]. Huawei is the world's leading manufacturer of smartphones and telecommunications equipment, including the infrastructure for 5G networks. Huawei, headquartered in Shenzhen, China, sells its products both domestically and globally. It sells few phones in the United States but contributes to connection in some remote areas. Huawei simplifies the supply chain experience by combining manufacturing, sales, and research and development, introducing supply value chain collaboration, and automating and simplifying supply chain models with self-restoring, self-optimizing, and self-adapting capabilities.

3.1 Supply Chain General

Huawei mainly uses an integrated supply chain strategy, which is customized for Huawei and can effectively improve the efficiency of Huawei's internal supply chain. Every systematized management node in Huawei's global supply chain network is equipped with eCommerce computerized logistical models, which are intended to help the company develop digital, proactive supply chains that are continuous, efficient, and secure. Collaboration with partners is aimed at improving the digital capabilities of the supply value chain and facilitating information sharing across the whole enterprise supply ecosystem, hence optimizing collaboration with partners and assisting in the establishment of a fully digitized company. Huawei has also developed various supply centers and designed global supply networks that connect regional warehouses (also known as hubs) and logistical routings, in order to maintain continuity of supply for customers [6]. Supply chain management designs are based on Huawei's principles. It could design; plan, and control the supply chain management trend, and cash flow trend to ensure improve customers' satisfaction and decrease the expenses of the entire supply chain management.

The company also has also established good cooperative relations with suppliers and operators, and it uses Hierarchical management to manage their co-operators. In the prospective supply chain management, Huawei has established seven steps to certify those suppliers. Through the supply chain collaboration system,

Huawei can notice the real-time interaction among enterprises, establish supplier supply and demand relationships, and ensure the stability and timeliness of supply.

3.2 Target Markets and Customers Analysis

Apple and Huawei both highlight the positioning strategy in creating a brand image in the minds of customers. Apple has a strong global presence, with Apple stores in more than 175 countries on every continent. Its largest regional market is the Americas, followed by Europe and China. Apple also has a strong loyal customer base as it is a genius in selling the Apple lifestyle. It targets at tech-savvy college students and middle-aged business elites aged 18 to 45, who identify themselves as conscious progressives. It indicates that they are willing to pay for technological advancements, socialize with friends, and pursue a trending lifestyle [7].

In contrast to Apple's global market layout, Huawei's target market is more focused on Asian developing countries and Oceania countries. According to Statista's study, "APAC: Huawei Smartphone Market Share by Country 2021," Huawei's smartphone market share in China reached roughly 38 percent in July 2021, making it the country's largest vendor. Huawei also has a considerable market share in Sri Lanka (20.04%), Malaysia (18.72%), Papua New Guinea (18.11%), New Zealand (15.74%), Laos (13.57%), and Philippines (12.12%) [8]. In addition, Huawei recognizes that a "one-size fits all" approach is inefficient, and thus, it has conducted a deliberate target customer segmentation. Huawei has revealed six distinct customer groups, including business focused, value-chaser, family-focused, entertainer, socializer, and heavy user. Huawei identifies that heavy user, socializer, and business focused customer are their target customers to drive telecom business growth [9].

4. DIFFERENT STRATEGIES TO ATTRACT CUSTOMERS

Apple is a trendsetter and game-changer in the industry. It has implemented many different strategies to attract customers, such as product innovations, a premium pricing strategy, and various promotional tactics. In terms of product innovations, Apple focuses on a simple and user-friendly design and is continually adding new features to deliver a great user experience for customers. Moreover, Apple's products are expensive and rarely reduces its prices; it only lowers the price for previous models until it releases new models. Apple also emphasizes customer experience and loyalty. Besides the widespread of Apple store, it continues to expand distribution channels and works with different telecommunication companies. Furthermore, Apple's press conference and its special event announcements

have become an important part of its brand image to attract potential customers. Apple actively uses its website and commercial to promote products [10].

Huawei, on the other hand, approaches the market with two new strategic initiatives due to its supply chain management challenges. The first strategy is to maximize 5G value and define 5.5G to drive the evolution of mobile communications. The second strategy is to provide a seamless, user-centric, and intelligent experience across all user scenarios. Technological innovations, especially its high-end performance with the P and Mate series, help build the brand image and word of mouth. In its domestic marketing, patriotism helps Huawei dominate China's smartphone market and build a loyal customer base [11]. Given different social context, Huawei takes the advance of social media platforms and e-commerce platforms, such as TikTok, Alibaba, JD, to expand its online marketing.

5. Conclusion

An accelerated trade war between the U.S. and China has changed the supply chain management of the two global electronics giants. Meanwhile, a high level of competitiveness characterizes the smartphone market with numerous foreign competitors fighting for a share of the business. It is becoming increasingly difficult, however, to create supply chains with effective, end-to-end processes that ensure resource availability, production efficiency, and product delivery. This paper investigates the operations strategy and supply chain strategy of Huawei and Apple, two innovative tech companies that have taken full advantage of effective supply chain strategies to maintain a competitive edge. This paper's findings attribute the success of both companies on their supply chain models. The paper provides valuable insights for the study of the supply chain of smartphones and technology innovation trends.

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