**APPLE Inc..: Global Supply Chain Management**

Group- 4

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**EXECUTIVE SUMMARY**

Everything related to Apple Inc. is the buzz of the town, whether it is the new iPad, iPhone 11, Apple Map, or even labour and environmental concerns at the factories of its suppliers.

chainUnexpectedly, Apple's Supply Chain has been rankedyears, as the world's top supply chain for three years according to IT research company Gartner.

Apple Inc. is without a doubt the global leader in the software ecosystem, innovation, and branding. Is Apple's supply chain, though, truly the best? Among the most recognizable businesses in the past ten years is Apple Inc. Not only has Apple been creating and marketing fantastic items,. More significantly, the business has been creating an amazing environment and platform for its devoted customers, through which it can provide far better services and apps. The business is not immune to broader market dynamics, and sales of a few products are declining because of the general industry downturn or the maturation of specific industries, like smartphones. Apple faces fierce competition from well-known and well-funded businesses like Alphabet, Samsung, Amazon, and HP, as well as young Chinese competitors like Huawei and Xiaomi. The firm has prospered in its industry despite fierce competition, and its balance sheet and financial indicators rank among the best of its peers.

You will see in this case study how Apple's supply chain's fundamental procedures, difficult problems, and intricate business operations are analyzed.

**Background and its chain model**

The first successful personal computer firm was Apple Inc., formerly known as Apple Computer, Inc. (Smyth, 2021), a microcomputer design and manufacturing company. Steven P. Jobs and Stephen G. Wozniak formed it in 1976; the Jobs family garage produced the company's first computer. With its plastic casing and colourful graphics, the Apple II (1977) helped the firm take off, bringing in over $100 million by the time it began offering shares to the general public in 1980. The first personal computer to use a graphical user interface and a mouse was the Macintosh, which debuted in 1984. Jobs departed the firm in 1985 as a result of the "Mac's" dismal sales at first, although it finally found a place in the desktop publishing industry. In 1997, Apple called in Jobs. Through the introduction of more cutting-edge goods, including the iMac, he brought the firm back to profitability. In 2001, Apple released the iPod, a handheld MP3 music player, and iTunes, software for playing music that has been converted to the MP3 format. A year later, the firm started offering MP3 downloads of popular songs from major record labels online. In 2007, Apple unveiled the iPhone, a smartphone with a touch screen, and in 2010, it launched the iPad, a tablet computer that opened up a new market.

**Supply Chain**

Apple Inc.'s supply chain planning is a prime illustration of the New Product Development Process (NPD). It integrates marketing, R&D, and other supply chain management functions. Apple Inc. acquires licensing and third-party firms to expedite the release of new products. The entire procedure seems a lot like what other industries do. It's interesting to note that to get crucial raw materials, Apple Inc. must prepay some suppliers. A supply chain map is a useful tool for communicating complex systems in an easy-to-understand format, connecting places of origin to points of consumption. A supply chain map is a useful tool for communicating complex systems in an easy-to-understand format, connecting places of origin to points of consumption. The yearly report's data is also utilized to create the Apple Supply Chain Map.

Apple Inc. gathers raw ingredients from several suppliers and ships them to a Chinese assembly factory. From there, the manufacturer ships goods straight to customers (via UPS or FedEx) for those who purchase from Apple's online store.

Apple Inc. will maintain inventory at its central warehouse and call center in Elk Grove, California, and deliver items to various distribution channels, including retail shops, direct sales, and other distributors. When a product ends its life, the buyer can return it to the closest.

A diagram of a factory

Description automatically generated

(SupplyChainOpz, 2013)

**FEW ADVANTAGES OF APPLE’S SUPPLY CHAINS**

**1. Integration into the future**

Despite employing retail partners to distribute its products, Apple has its storefronts in high-traffic areas, as well as online stores. Apple sells more than 70 percent of its products and services directly to consumers and businesses.

**2. Intensive education for clients**

Apple operates its retail shops not simply to increase sales but also to provide consumer education. Apple educates users on product usage and provides product training. Even some stores are set up in such a way that you feel like you are in a classroom.

**3. Inner oversight over the whole supply chain.**

The development methods for the new product include a variety of parties. Apple often relies on contract manufacturers to manage product engineering and mass production. Engineers sometimes spend weeks at Asian factories ensuring that the products and equipment they purchase or manufacture function properly. By exchanging data, Apple's procurement teams maintain close control over its upstream vendors. Unlike other technology businesses that outsource production to third-party service providers, Apple prefers to oversee the whole supply chain internally.

**4. Limited investment in fixed expenditures**

Apple's financial report shows a high return on assets and inventory. This is the consequence of a low-fixed-cost investment approach. Because low fixed costs must be distributed across a large volume, Apple's production costs are primarily variable. Apple purposefully emphasizes variable costs, which only rise as sales volume increases. Apple outsources production and uses third-party logistical services to achieve low asset investment. According to the latest financial report, Apple Inc. has approximately $73.10 billion in liquid cash (Cap, 2024).

**5. Immediate collaboration of supply chains**

Based only on the iPhone launch timetable, it takes an average of one year to produce a new iteration. The management team at Apple maintained the lifetime of the iPhone, an innovative product, closer to one year than that of a standard product, which typically lasts four to five years. Apple uses a just-in-time supply chain to communicate with the manufacturer in real-time, supporting the short product development cycle.

**6. Close ties with suppliers.**

As previously said, Apple maintains tight relationships with contract manufacturers. Apple designers collaborate closely with suppliers to help turn prototypes into mass-produced devices. Furthermore, Apple regularly discloses demand forecasting information with suppliers beginning 150 days before the product introduction to allow for adjustments in production schedules and to meet unexpected spikes in orders. One well-known example is Foxconn producing over 10,000 iPhones per day within 96 hours as a result of Apple's last-minute screen change.

**7. Limited product configuration.**

Apple's products are notable for their restricted number of configurations. When comparing iOS to Android OS, Apple restricted the design and configuration of its devices. iOS was built with fewer customization options to deliver a more user-friendly experience. With a restricted number of variations, Apple can simplify the supply chain process.

**8. Global operation**.

Apple spreads its product production among many nations, including China. Some industrial processes need labour-intensive operations and extensive quality control methods. Other countries can supply resources that the United States lacks. According to one Apple estimate for iPhone manufacture, it takes 15 days to locate competent industrial engineers in China, but it may take up to 9 months in the United States.

**9. High integration with centralized research and development.**

Technology businesses frequently segregate their R&D departments and profit-and-loss responsibilities for each product division. However, Apple has heavily integrated the R&D department as well as profit and loss reporting for the whole firm. Everyone in the firm is responsible for the items' success.

**10. Logistics backwards performed efficiently**

Apple created an excellent reverse logistics operation to improve the post-purchase experience for customers. Consumers may report faults online, and the system will automatically gather purchase information based on the serial number. Apple offers prompt service for product returns by sending a pre-addressed, pre-stamped box via express package service to receive the damaged goods. Apple's reverse logistics feature significantly increased customer happiness, reduced the number of calls to its technical support service, and eliminated the possibility of consumer mistakes while processing returns.

**CHALLENGES**

1. As of February 2020, Apple ranked as the world's most valuable firm. Due in large part to the new iPhone 11.103's robust sales, the business announced iPhone revenues of $56 billion for the first quarter of fiscal year 2020, up from $33.6 billion in the fourth quarter of 2019. Nevertheless, there were no indications that Apple would be able to duplicate the popularity of the iPhone any time soon, even if the company was spending billions of dollars annually on research and development. With the smartphone market stagnating, Apple shifted its attention to its other companies, wearables, and services, but the iPhone remained essential to the company's long-term survival. (Annual Report, 2020).
2. When Apple Inc. lost $6 billion in sales, Tim Cook did not pull punches or try to hide the unpleasant news. During the results call, he was extremely open about Apple's supply chain challenges and their impact on the bottom line. He provided a more direct explanation of the chip scarcity, but he did not specify when the difficulties would be rectified. (kline, 2022)
3. The growing popularity of the electronics and services sectors posed additional obstacles, necessitating the development of new supply chains and vendors. Content for streaming services and Apple News+ needed to be created, and licensing deals had to be established. Wearable goods necessitated the development of supply chains that used different technology and assembly methods than the iPhone.
4. While Apple's business model will undoubtedly continue to evolve, Tim Cook had a significant task in defining how the company's supply chain should adjust to meet its strategic objectives.
5. Apple Inc. acquires its materials, such as tin, tungsten, and gold, from areas that are associated with human rights abuse and environmental deterioration, which leads to criticism of Apple Inc.

**Conclusion**

In this age of AI and the cutting-edge race of the supply chain, Apple Inc.'s goal is to become carbon-neutral by 2030. Some of the suppliers and manufacturers in Japan and Taiwan are increasing the use of solar and wind energy, which will help Apple Inc. provide its tech gadgets in a very efficient and cost-effective manner (Ross, 2023). Steps are taken by Apple Inc. towards human rights abuse and environmental degradation by implementing a due diligence process in the supply chain (Apple supply chain dynamics, 2024).

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