

Strategy Analysis of the COVID-19's Influence on Apple

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ABSTRACT

Apple is one of the world's largest technology companies, which specializes in developing, manufacturing and selling personal computers, servers, peripherals, computer software, online services and personal digital auxiliary devices. Since January 2020, the COVID-19 outbreak has been spreading around the world, which had a huge impact on Apple's operation. The device sales and production has been affected in countries, including China, Italy, South Korea, and United States. According to the spread of the epidemic, many areas have also begun to shut down and most shops have been forced to close. At the same time, the shrinking sales volume has also had an essential impact on Apple's production. This study conducts the PEST analysis of Apple, and evaluates the effect of COVID-19 on this company. According to the actual situation, this paper analyzes Apple's strategy and puts forward some reference suggestions.

Keywords: *COVID-19, Apple, PEST, Strategy*

1. INTRODUCTION

An American worldwide corporation specializing in the design, development, manufacture, and marketing of portable electronic devices, mobile phones, computers, laptops, media devices, and software, Apple Inc. is located in Cupertino, California. The Company's headquarters is located in Cupertino, California and is controlled by an administrative team and panel of directors. The Apple company designs and manufactures a wide range of products, such as iPhone, iPad, Macs, Apple Watch, iTunes, and iPod. In addition, Apple promotes a culture of creativity and innovation by encouraging its engineers and designers to come up with groundbreaking ideas that ultimately made it a world leader in computing. The primary goal of Apple is not to make a profit but to make exceptional products.

The global spread of Covid-19 is affecting the economic environment and business model across the world. To cope with the challenges, Apple must change its strategies to adapt to the changes. Apple proved one of the biggest winners in the first year of the pandemic despite store closures, supply-chain disruptions, and strained finances for many customers as it posted a record fiscal year and saw its stock nearly double. As Apple's U.S. stores are open again and the job market starts to

recover, the company is expected to overcome its pandemic-related challenges and continue to benefit from increased reliance on technology. Experts say the main reason is that older models were not optimized for videoconferencing tools, such as Zoom, key for team meetings, and small classes. One of the biggest beneficiaries of the pandemic's tech trends are laptops, as working is becoming increasingly flexible. As the Company with the highest market value globally, surviving this crisis and completing further growth is very worth studying.

Apple is without a doubt one of the most successful corporations in the world. In general, the approaches presented in this study are easily adaptable to real-time image processing [1]. The user interface of an interactive computer system is how it communicates with its users. The user interface design incorporates every part of the system that is visible to the user. There was a period when all computer users were computer professionals, and interfaces comprised jumper wires on patch boards, punched cards created offsite, and batch printing. Keyboards, mouse, and graphical displays are the most popular types of interface devices used by non-specialists. As more people use computers, the user interface becomes an increasingly important component of the software of a system. Computer power is increasing,

which makes the user interface more of a bottleneck when it comes to solving problems by applying computer-based systems [2]. Rekimoto introduced a new sensor architecture for making interactive surfaces sensitive to human hand and finger gestures. It uses capacitive sensing and mesh-shaped antenna to determine the distance between the hand and the cover. This sensor recognizes multiple hand shapes and positions.

Unlike camera-based gesture recognition systems, this approach is not affected by illumination or occlusion issues since all sensor components are embedded into the surface. This article provides a description of the sensor architecture as well as two experimental systems that show its use: a table-size system and a tablet-size system. As a result of this design, various interaction approaches that would not be conceivable without it are outlined [3]. So that the display may be greatly expanded, the multifunctional portable device should include as few physical buttons, keys, or switches as feasible. It comprises audio and video inputs in addition to a multipurpose portable device with a range of input methods such as touch-sensitive screens, touch-sensitive housings, display actuators, audio inputs, and so on. The gadget also includes a user-configurable GUI. This enables the device to execute a wide range of functions [4]. It is possible to verify a user for a certain position using an electronic device equipped with a display and a fingerprint sensor. When a certain device function is locked, the device shows a graphical element on the display, the visual element showing the initial direction of finger movement that permits unlocking of that specific device function. It detects a user input that comprises a finger movement in the first direction over the fingerprint sensor and evaluates whether the input matches unlock requirements in part based on fingerprint information detected by the fingerprint sensor during the input.

When a user input matches the unlock conditions, the gadget activates the corresponding function. By concluding that the information does not fulfill the unlock requirements, the gadget keeps the particular position locked [5]. This invention pertains to an earphone that includes a body section and an acoustic output aperture that allows sound to be output into a user's ear from a driver located inside that body portion. The device's body is outfitted with an acoustic tuning element. An acoustic tuning member specifies a driver's back volume chamber and contains an acoustic output port for producing sound to emanate from the driver's back volume chamber, therefore improving the earphone's acoustic performance [6]. Audio output can be modified depending on the output of a sound sensor system in one embodiment of the present invention. During operation, the system makes use of an outstanding sensor to determine the ambient sound level in the vicinity of the device. The mechanism adjusts the

loudness of the device after assessing the amount of surrounding sound. This allows the device to adapt to its acoustic surroundings and lowers the potential of audio output disturbance by dynamically altering the volume setting [7].

An acoustic port, such as a speaker port, a microphone, and an earpiece and receiver port, can be found on a portable handheld test fixture. Once put on the test fixture, the port on the media device is linked to an acoustic aperture associated with a speaker, microphone, or earpiece/receiver, as applicable. A test tool, such as a sound pressure level, S.P.L., meter, must have an output or input sound port that may be linked to the test fixture's acoustic port [8]. The flexible circuit is followed by extending and electrically connecting the voice coil loudspeaker voice coil to the bottom side of the sound emitting surface [9].

As previously indicated, past studies attracted a tremendous lot of research interest. This article looks at how apples fared throughout the pandemic. The second portion contains a PEST analysis, the third section discusses the outbreak's impact on Apple, the fourth section discusses Apple's coping strategies, and the fifth section provides a summary.

2. PEST ANALYSIS

PEST Analysis (political, economic, social, and technological) is a management technique that allows a company to examine important external elements that impact its operations in order to become more competitive in the market.

Apple Inc. is a global firm recognized for the design of iPhones, MacBook, and iPods, among other things. They are also well-known for its systematic connectivity. Their devices have an unbelievable connection. It is one of the seasons in which they have the potential to be one of the top corporations in the world.

2.1. Political Factors

A trade war between the United States and China is possible. Factors such as government-level trade restrictions and tariffs, as well as insufficient political relations, may have an impact on the Company's performance in China. However, the United States of America's political relations with other countries are stable. They have negative consequences for the company and may have an impact on its performance because a significant portion of its income is earned outside of the United States of America. It may also have an impact on the Company's reputation and business operations in China. Apple struggled to keep political factors under control. The majority of its product sales come from countries other than the United States.

Nonetheless, in Apple's situation, significant political external variables such as enhanced free trade rules and balanced politics in developed countries provide chances. Apple's extra-liberal trade practices enable it to deliver the bulk of its products to various markets throughout the world. Because Apple can foresee only small political difficulties influencing its company, political stability provides opportunity in a number of industrialized countries. Apple may enhance its performance by capitalizing on political possibilities in its macro-environment, according to this component of the PEST analysis model.

2.2. Economic Factors

The majority of economic factors influence Apple's ability to generate opportunities. The most important external factors for Apple are rapid growth in developing countries and balanced economies in developed countries. Furthermore, due to the economic stability of most developed countries, Apple can expand its business and make more money. It is critical for developing countries to expand or grow quickly. Inflation, recession, and currency fluctuations could all have an impact on Apple. The inflation rate has risen, and the unemployment rate has risen. As a result, consumers spend less money, primarily on 'luxury goods.' Despite this, Apple's revenue is unaffected by the economic downturn, despite the fact that the majority of the company's products are high-end. Apple made it possible by creating products that were distinct from those of its competitors, which increased demand for Apple's products.

2.3. Social Factors

Nowadays, technology plays an important role in our social lives, and Apple is known as the technological ruler due to its quality and design. Furthermore, the music industry has had a significant social impact and has expanded its market to cyberspace. Apple has created the world's largest virtual media store for digital music, known as iTunes. Apple Incorporated benefits from the modern social lifestyle. The effects of social factors are central to Apple's business. Apple's main social factors include improved mobile access and social media. These elements present opportunities for Apple. The growing popularity of mobile access provides an opportunity for Apple to continue providing convenient mobile devices. The iPhone, iPad, and Apple Watch have already begun to capitalize on this opportunity. Furthermore, as the use of social media grows, so will the demand for Apple products. This aspect of Apple's business environment offers the company more opportunities than the others.

External technological factors are influencing Apple's ability to generate opportunities. Mobile cloud trend, 6G, and improving app market are the critical technical

external factors. The mobile cloud is a recent trend that includes various Internet-based companies and software behemoths such as Microsoft, Facebook, and Google. Apple is at the top of the market because it invests heavily in research and development. Additionally, the Company can capitalize on this opportunity by offering cloud-friendly gadgets and apps. Furthermore, the technological amalgamation of devices is a critical trend. Apple can capitalize on this opportunity by continuing to offer products that can be seamlessly connected. The app market is expanding, and Apple needs to expand its App Store. According to this component of the PEST analysis methodology, Apple is well positioned to capitalize on such critical possibilities in its business environment's technology aspect.

External political variables generate more possibilities than threats. The bulk of the recognized economic conditions provide opportunity. They allow the company to expand its operations in the future, but some of the identified negative elements may have an influence on Apple's sales in China. The social elements indicated as being far more beneficial to the company than the other variables. P.C.P.C. sales appear to have skyrocketed during the epidemic, owing to mass purchases by businesses and schools that must now connect to workers and pupils remotely, as well as consumers who had delayed an update for years.

3. THE IMPACT OF COVID-19

3.1. Sales

COVID-19 has had an impact on retail outlets, and iPhone sales in China are down this year. Previously afflicted by the domestic pandemic, Apple has finished its offline retail outlets for several days in a row, while mobile phone sales have plunged. According to data from the domestic mobile phone market provided in February by the China Academy of communications and communications, the domestic mobile phone market shipped 6.341 million units in February, a 54.7 percent reduction year on year. In January and February, 26.7 million units were supplied, a 42.1 percent decrease year on year. It's worth mentioning that Android phones sent roughly 5.84 million messages in February, while iPhones sent about 490000. This indicates that phone shipments in February declined by 770000 (62%) year on year and 1.82 million (78%) month on month. The closing of shops had a tremendous impact on Apple. This time, eliminating all retail outlets outside of Greater China will result in a substantial drop in Apple's mobile phone sales since retail stores are critical to Apple's business model.

Marketing and promotion of items at a physical retail business fosters a relationship between the staff and the customer. Product sales are directly affected by employee-customer engagement and communication.

Because Apple values interactions between staff and customers, it will improve formal language training for on-site technical support professionals to stress the significance of details. There are guidelines and regulations for the usage of preload images and music on each prototype. It is dedicated to provide the best possible experience for its clients. Because of this exceptional user experience, some individuals will visit Apple retail outlets to purchase products. Apple retail locations stand out among numerous retail outlets by offering consumers with a more ultimate experience through high-quality customer service and the quest of perfection. Apple will suffer enormous commercial losses as a result of the pandemic forcing the closure of physical retail shops.

3.2. Supply Chain

A novel profit model has been adopted by Apple, which differs from the traditional manufacturing industry of controlling product costs. Apple's combined marketing strategy of "hardware + iTunes software + content" is a novel profit model. Rather than selling products, Apple sells an integrated "solution" that meets people's demands in life, work and entertainment. Based on this unique closed ecosystem design, Apple has the confidence to adopt the skimming pricing method, which means that the products have high pricing and high gross profit. Although the unit charges for music, application software and other services are low, they are "profit without cost", 63.7%. The traditional product value chain suggests that Apple has built its primary competitiveness on the two ends of the "Smiling Curve" with the greatest value: research and development and marketing, capturing the most significant profit space, while Apple has primarily outsourced assembly and manufacturing in low-value areas. Since 1998, the cook has implemented drastic reforms in Apple's manufacturing and supply chain, putting pressure on its vast inventory. He closed all factories and will manufacture outsourcing products worldwide. He also shut down many warehouses and domestic distribution centres at the same time and arranged supply chains near the factories of Apple's outsourcing manufacturer partners. The result has been a dramatic reduction in Apple's inventory and fixed asset investment, allowing Apple to become a standard "light company" that focuses on marketing and R & D. A large proportion of Apple's suppliers come from China. Perhaps because the Chinese government's reasonable supervision of the epidemic has recovered faster than other countries, it has no significant impact on product sales.

3.3. Consumers

According to M.B.L.M., 50 percent of the 3000 U.S.U.S. customers assessed during the epidemic utilized Apple's products and services more than normal. During the pandemic, Apple's good system product ecological

chain provided tremendous ease to workers who worked from home. Prior to the virus, 33% of users stated they were "inseparable" from Apple and its services. This proportion increased to 40% last year and will reach 48% by 2021. Similarly, the share of "close users" has risen from 41% before the new crown to 51% in 2020 and 52% this year. Prior to the pandemic breakout, around 22% of customers were prepared to pay a 20% premium for Apple products, growing from 21% last year to 29% in 2021. As can be seen, the pandemic has increased customer reliance on Apple.

4. STRATEGIES IN COVID-19

The global proliferation of COVID-19 is altering the global economic climate and business model. To meet the difficulties, Apple's methods must evolve to keep up with the times.

According to experts, the main reason is that previous models were unsuitable for videoconferencing applications like Zoom, which are essential for team meetings and small classrooms. Laptops have benefited the most from the pandemic's technological advancements, since employment is becoming more flexible.

4.1. Diversification of Products

Apple's choice to expand its services division paid off during the pandemic, yielding the highest-ever revenue and assisting the company in defending itself against downturn in certain of its areas.

Apple should continue to develop a wide range of consumer electronic gadgets, such as smart phones (iPhone), tablets (iPad), PCs (MAC), smart watches (Apple Watch), and TV boxes (Apple TV). The iPhone accounts for the vast bulk of Apple's total income. Furthermore, Apple provides its clients with a variety of services such as Apple Music, iCloud, Apple Care, and Apple Pay. Apple's devices use software and semiconductors created in-house, and the company is well renowned for its combination of hardware, software, and services. Apple's goods are sold online, in company-owned shops, and through third-party merchants.

4.2. Building Subscription Income

Apple's move to expand into a subscription-based company, as anticipated some years ago, has aided. Apple's previous product-driven income generating approach depended significantly on developing extremely popular electronic goods, leaving the company vulnerable if economies fell or customer enthusiasm decreased.

Apple currently provides an Apple Card-based payment plan for iPhones and has stated that it is "working on offering this for other items as well." Even

during a crisis, subscription income is more predictable. This might help Apple maintain a consistent income.

4.3. Focusing on Telework

Working remotely has increased productivity among certain of the Company's workers while significantly cutting management expenditures. People are becoming more acclimated to working and learning from home, and this trend is likely to continue. The message must be that, rather than perceiving remote working as a temporary business disruption, Apple can simplify the experience in order to boost both company efficiency and employee autonomy.

4.4. Increasing Online Service and Sales

Before COVID-19, Apple's retail outlets primarily acted as a point of sale, product repair, and servicing. During the epidemic, though, Apple was forced to reconsider the format of its shops and relocate some of those experiences online. Apple, like other retailers, is balancing its in-store and online offerings as customers resume normal buying patterns.

4.5. Strengthening the Apple Ecosystem

Apple's business model is vertical integration in the sense that the corporation has advanced competence in software, hardware, and services all at the same time. Apple's vertical integration is one of the key aspects that distinguishes it from the competitors. The Company has reaped enormous benefits from its vertical integration. In particular, an important source of Apple's competitive advantage is its ecosystem, which is enabled through such integration.

Apple devices and software are simple to sync and operate well together. Applications run on many Apple devices at the same time, with no change in user interfaces. However, the similar things do not pair with other firms' products, resulting in the appearance of a closed ecosystem. Apple's ecosystem raises the cost of moving to the competition for its users. The ecosystem also gives opportunity to utilize current customer connections to provide more products and services.

5. CONCLUSION

This article discussed how Apple operated in the pandemic and their PEST situations. They were smart at

this point. It used the time to look at disadvantages to them and turned it into an advantage. Also, Apple are developing in all the areas in the PEST. Some companies only form the technology part and forget about the other three. Youth entrepreneurs should learn about how they react to the pandemic. Also, this case taught a lesson about how to adapt to the environment. In the future, youth entrepreneurs should act like Apple and manage the poverty smartly with the environmental changes and time.

REFERENCES

- [1] Lee, J.-S. (1980). Digital Image Enhancement and Noise Filtering by Use of Local Statistics. *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 2(2), 165–168.
- [2] Jacob, R. J. K. (2002). User interface. *Computer graphics companion* (pp. 243–252).
- [3] Rekimoto, J. (2002). SmartSkin: an infrastructure for freehand manipulation on interactive surfaces. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems* (pp. 113–120).
- [4] Hotelling, S. P. (2006). Multi-functional hand-held device.
- [5] Fadell, A. M., Hodge, A. B., Schell, S. V., Caballero, R., Dorogusker, J. L., Zadesky, S. P., & Sanford, E. (2008). Embedded authentication systems in an electronic device.
- [6] Howes, M. B., Azmi, Y., Porter, S. P., & Aase, J. S. (2013). Earphone having an acoustic tuning mechanism.
- [7] Mahowald, P. H. (2007). Method and apparatus for using a sound sensor to adjust the audio output for a device.
- [8] Lee, M. M., Seguin, C. G., Burrough, B., Dinh, R. H. M., Labidi, C., Farrell, D., ... Paez, C. (2007). Method and apparatus for acoustics testing of a personal mobile device.
- [9] Grazian, A. P., Wilk, C., Tao, H., & Porter, S. P. (2017). Speaker subassembly and speaker subassembly diaphragm.
- [10] Marcus, A., X, Y. S., M, P. L., D, C. A., & J, L. J. (2021). WIRELESS EARBUD AND CASE.