Apple Inc.

Case Study Analysis

Team 6

Sumantra Chattopadhyay
[redacted]

Business Policy and Strategy
Dr. Crawford

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Executive Summary

This paper provides both internal and external situation analyses of Apple, Inc., which examine the company's most salient strengths and weaknesses. This analysis concludes that the primary strategic weakness of Apple is its overdependence on the physical products market in the Americas and China. In the later sections, this paper offers strategic recommendations based on the documented analysis and a final recommendation to Apple's C-suite managers. The final recommendation is for Apple to expand into the autonomous vehicle market by providing software and services to car manufacturers in the space, utilizing its superior brand equity and R&D capabilities.

Introduction

Apple Inc. is an American multinational technology company headquartered in Cupertino, California. The company designs, manufactures, and sells a variety of personal computers, mobile devices, wearable technology, and software services to individual, business, and government customers worldwide. Apple, a major player in the technology industry, is a strong company but faces certain strategic issues that will be described later in this paper along with recommendations to address them.

The paper first presents an analysis of Apple Inc.'s and the technology industry's external environment using the PESTEL framework. Then, Porter's five forces analysis is used to determine if the industry remains attractive to incumbents and new entrants or not, as well as key factors that drive profitability for the industry. Key success factors and key success measures are presented for the industry, and Apple's performance is compared to its industry to determine strengths and weaknesses. Next, value chain, VRIN, and SWOT analyses were conducted to analyze the company and understand its strengths and weaknesses. All this analysis pointed

towards the company's overdependence on the physical products market in the Americas and China as the primary strategic issue of Apple Inc. After considering several potential courses of action, this paper ultimately recommends that the company expand into the autonomous vehicle market by providing software and services to car manufacturers in the space.

Situation Analyses

PESTEL Analysis

This section analyzes the external environment of the tech industry (including hardware, software, technology retail, and other related sectors). The two most important external factors affecting the industry are presented here, but the full PESTEL analysis can be found in Appendix A.

Technological

The emerging IoT (Internet of Things) movement, which is the technology that facilitates communication between devices and the cloud, is currently sweeping the technology industry. Apple's closed ecosystem of products makes it a great candidate to lead this new tech movement by leveraging its brand equity and luxury technology business model (*Apple inc.: The world's most valuable company has perfected the luxury tech business model.*2020).

Legal

The smartphone industry and the technology industry as a whole have faced widespread criticism in recent years regarding a plethora of ethical and business-related issues, many of which have resulted in lawsuits and large settlements. Apple is currently facing lawsuits claiming over deceiving investors and regarding details in AppleCare's warranty. Facebook and Nokia are also undergoing lawsuits regarding privacy violations and unnecessary fees in their retirement plan, respectively.

Porter's Five Forces Analysis

The full Porter's analysis can be found in Appendix B, but we highlighted the Intensity of Competitive Rivalry and Bargaining Power of Buyers as the main drivers of profitability for the industry.

Intensity of Competitive Rivalry

The intensity of rivalry is high in the smartphone industry. The top five competitors in the global smartphone manufacturing industry as of 2021 include Samsung, Apple, Xiaomi, OPPO, and vivo (Reith, Popal, Scarsella, & Shirer, 2022). Together, these companies make up around 70% of the total market share: Samsung 20.1%, Apple 17.4%, Xiaomi 14.1%, OPPO 9.9%, and vivo 9.5% (Reith et al., 2022). During 2021, the market experienced a 7.7% shipment growth rate and is expected to increase 3.8%, reaching 1.43 billion smartphone shipments in 2022 (Reith et al., 2022). According to a recent report studying customer loyalty, approximately 66% of all adults consider themselves loyal to their smartphone manufacturer (Nearly 9 in 10 smartphone owners are likely to buy their next phone from the same brand .2018). Due to this, the industry is marked with high switching costs.

Bargaining Power of Buyers

Buyers in the tech industry are generally drawn to certain companies because of their ecosystems, which reduces buyers' bargaining power once in the ecosystem. Apple has a devoted following of customers. For the past ten years, the percentage of iPhone customers who plan to continue with Apple has been greater than 70% (Dudovskiy, 2021).

There is no reliance on a small number of clients. In 2020, 2019, and 2018, Apple had no single customer that accounted for more than 10% of net sales (Dudovskiy, 2021). In other words, the corporation sells its products to a wide number of customers, and individual customers are unable to use their bargaining power to lower prices or otherwise influence Apple.

Industry Attractiveness

Overall, the technology industry is very attractive due to its high profitability and fast product cycles. The intensity of competitive rivalry that characterizes the technology and smartphone industries is not a deterrent but in fact a testament to their attractiveness.

In terms of buyers' bargaining power, Apple's closed ecosystem, brand loyalty, and brand equity all serve to weaken it. Apple's customer base is so large and loyal that the company is not actually beholden to customers' preferences. The bargaining power of suppliers to the technology industry, and specifically the smartphone industry, is also relatively low due to the high number of suppliers selling standardized input products.

One unattractive aspect of the technology industry (for potential new entrants) is the high barrier to entry due to established brand reputation and economies of scale. Apple is already a major player in the technology industry, which means this issue does not affect the company. Substitutes are also not a major concern for Apple and other key technology companies; such products would include landline phones and digital cameras, which are entirely undesirable to customers.

In summation, the highly competitive technology industry is rapidly growing with regard to both large companies and startups. Its suppliers and buyers are not too powerful and do not have significant control over technology products. New entrants will not threaten large companies like Apple, and substitutes are also a non-issue. The industry is overarchingly attractive to industry staples like Apple as well as new companies.

Key Success Factors and Corresponding Key Success Measures

The full analysis illustrating Apple's measures with its industry can be found in Appendix C.

1. Undertaking technical research & development

   Measure: R&D Expense as a % of Sales

The following table provides data on top Apple competitors and their R&D expenses from their latest available annual report filing:

APPLE	SAMSUNG ELECTRONICS	GOOGLE	MICROSOFT	DELL	AVERAGE
5.99%	8.90%	12.25%	12.32%	5.60%	9.01%

Apple had an R&D expense as a percentage of sales that is lower than the industry average. With a below-average R&D expenditure, Apple may fall behind in launching new products and services that attract new customers and maintain existing ones. However, this below-average metric is slightly biased in that it does not account for disparities in net sales between the companies. In other words, the dollar amount of R&D expenditures by Apple is roughly on par with its major competitors like Samsung, Google, and Microsoft. Apple can classify this KSM as a weakness on a % of net sales basis or on-par as a dollar basis.

2. Ability to control stock on hand

   Measure 1: Inventory Turnover Ratio

   Measure 2: Days Inventory

The following table provides data, from 2020, on the top 5 companies in the Retail Market for Smartphones:

KSM	APPLE	AT&T	VERIZON WIRELESS	BEST BUY	SAMSUNG ELECTRONICS	AVERAGE
INVENTORY TURNOVER RATIO	41.5	24.8	31.8	6.3	4.9	21.86
DAYS INVENTORY	8.79	-*	11.47	57.50	74.28	38.01

**No available data for AT&T's days inventory. Therefore, the average is reflective amongst the data from Apple, Verizon Wireless, Best Buy, and Samsung Electronics.*

As seen in the above table, Apple has an inventory turnover ratio that is almost double the amount of the average. With an above-average ratio, Apple is seen to be performing efficiently and is able to effectively manage its inventory levels, without incurring significant storage costs or holding excess inventory.

On the other hand, Apple's days inventory is approximately four times below the average. This means that the firm quickly turns its inventory, which keeps holding costs to a minimum. Similar to the conclusion made from Apple's inventory turnover ratio, this measure also indicates that the firm does not hold too much inventory. Apple can label its position with this key success factor as a strength.

3. Attractive Product Presentation / Brand Image

   Measure: Customer Retention Rate

KSM	APPLE	SAMSUNG	NOKIA	LG	MOTOROLA	HTC	BLACKBERRY	AVG
RETENTION RATE (%)	90	77	58	41	37	32	31	52.3

Apple's retention rate of 90% is well above the 52% average among the other big players in the smartphone industry. Apple has effectively created an ecosystem where existing customers reject the idea of switching to other brands when purchasing a new phone. Additionally, when customers switch from their current brand, Apple is favored as the most popular alternative (Richter, 2014).

Value Chain Analysis

This section analyzes Apple's internal strengths and weaknesses regarding its value chain. Distribution and Follow-Up Service parts of the value chain are highlighted here, as these factors are impacting Apple the most. However, the complete analysis can be found in Appendix D.

Distribution

Apple's goods are designed in California, yet they are manufactured all over the world. Components are manufactured by specialists all over the world and delivered to two primary assemblers in China, Foxconn and Pegatron, to be assembled into the final product. The products are distributed after being manufactured in China and other factories to customers all around the world via various distribution channels.

Apple's physical storefronts and online store are parts of their direct distribution system. Apple's physical storefronts enable them to exert complete control over their brand image and customer perception. Every one of its locations has a high employee-to-customer ratio. The company also frequently open their storefronts in high-traffic areas to maximize visibility. Apple sells directly on their website as well. Their website is available in various languages and may be accessed from anywhere in the world.

In 2018, Apple claimed that direct channels accounted for 29% of net sales, while indirect channels accounted for 71%. Apple products are available from third-party vendors and wireless carriers. Stores like BestBuy, Walmart, and Target fall into this category because they are conveniently accessible and may offer discounts (Maarten & Parisa, 2021).

Follow-Up Service

Apple provides superior service to its customers. According to an annual study that measures levels of customer satisfaction across the United States, Apple received a score of 80 compared to the cell phone industry average of 79 in 2021 (Benchmarks by company: Cell phones.2021). This above-average score can be attributed to the various services that Apple offers, which make for a seamless experience and create added value for the customer. One of which is its AppleCare warranty program. AppleCare provides a standard one-year warranty and 90 days of technical support coverage for a majority of Apple's products (AppleCare products - apple.2022). This support includes setup and installation assistance. Another service offered by the company is its Apple Repair service. The firm provides three ways for the customer to start their product repair process, offering alternatives suited to customer preferences (Apple repair and repair status check.2022).

VRIN Analysis

This section analyzes Apple's internal resources to determine which of those resources contributes to Apple's sustainable competitive advantage. The full analysis can be found in Appendix E, but this section highlights Brand Equity / Customer Loyalty and R&D Process and Capacity to Spend as being the strongest providers of Apple's sustainable competitive advantage.

Brand Equity/Customer Loyalty

Apple's unmatched brand equity has all the classic sustainable competitive advantage elements. It is central to Apple's luxury technology business model and market position, making it valuable. In addition, Apple's brand equity was the highest-valued globally in 2021 at over $260 billion; this makes it rare.

Furthermore, Apple has built up and maintained its luxury technology business model since its inception. This means the company spent decades establishing a relationship with its customers, creating loyalty that is not easy to emulate. Therefore, Apple's brand equity is also inimitable. Finally, Apple's brand equity is non-substitutable because there is no greater asset than a blind faith associated with a brand. Long-term customers are so loyal to Apple that they may buy a technologically inferior product simply because it boasts an Apple logo and, therefore, a superior reputation. These factors prove that Apple's brand equity is an intangible sustainable competitive advantage.

R&D Process and Capacity to Spend

Apple has a (strong) temporary competitive advantage in its R&D process and its capacity to spend on it.

Research and development is central to the company's business model of launching new products and services so that it can attract new customers and maintain its existing ones, making it a valuable resource. In its 2021 annual report, the company states, "focused investments in R&D are critical to its future growth and competitive position in the marketplace" (*Apple annual report for 2021*.2021). This resource is rare because only a handful of other tech companies can afford to spend as much as Apple on R&D. This resource is not inimitable because any company can invest in R&D and realize returns from that process. Even if the precise dynamics of Apple's R&D process that exist as a result of organizational cultural inputs over time cannot be imitated, key figures in Apple's R&D strategy can be hired. Apple depends on R&D to keep growing by launching new products and services. Without R&D, the company will stagnate because customers will not receive anything new to keep them buying from Apple. Therefore, this resource is nonsubstitutable (there is no substitute for R&D).

SWOT Analysis

This section highlights the most important aspects of the company's strengths, weaknesses, opportunities, and threats. The full SWOT analysis can be found in Appendix F.

Strengths

Two of Apple's most important strengths are its overarching brand equity and its brand retention rate in the Smartphone Industry. As emphasized in the appendices below, Apple's brand equity is worth 263.38 billion dollars, making it the highest valued brand in 2021 (Most valuable brands worldwide in 2021.2021). This level of brand equity is central to Apple's luxury technology business model and its sustained market position.

In addition to strong brand equity, Apple also holds the strongest retention rate in the smartphone industry. A 2014 study determined that 90% of customers stay with Apple when purchasing a new phone (Richter, 2014). Retention rates for Apple's competitors are also listed below.

Brand equity in monetary value and retention rates serve as some of Apple's greatest strengths.

KSM	APPLE	SAMSUNG	NOKIA	LG	MOTOROLA	HTC	BLACKBERRY	AVG
RETENTION RATE (%)	90	77	58	41	37	32	31	52.3

Weaknesses

Some of Apple's most threatening weaknesses are the numerous litigation issues it faces worldwide. Such lawsuits are related to several areas of Apple's operations, including their device refurbishment process, Siri privacy issues, older iPhone performance throttling, among others. These lawsuits not only damage Apple's reputation but also prove to be quite costly; compensation and fines sought as a result of these lawsuits often number in the 8-figure range.

Opportunities

One of Apple's most exciting opportunities lies in its plans to develop software for autonomous vehicles in partnership with Kia. Both Alphabet and Uber are off to a rocky start in the self-driving

car space, and such ventures may conflict with Tesla's existing business. Apple can utilize the opportunity afforded by its competitors' slow progress to create a strong presence in the space. If they use this opportunity to leverage their brand equity, Apple can dominate the autonomous vehicle space and even create a new market for luxury self-driving cars.

Threats

One significant threat to Apple's iPhone market is its dependent on major network providers in the US and in Europe. In 2020, 42% of the company's accounts receivable were from cellular networks (Apple inc SWOT analysis.2021). This dependency makes the company vulnerable to significant loss of revenue and profits should any network providers experience failures that impact Apple's customers.

Primary Strategic Issue

The primary strategic issue faced by Apple, Inc. is to reduce its dependence on physical product sales, which are concentrated in the Americas and Chinese markets, by following its mission and vision to target new opportunities to improve and enrich people's lives with new technology services.

The company derived 62% of its net sales in the latest quarter (last 3 months ended December 25, 2021) from the Americas and China, making it overly dependent on external and internal forces in those regions to drive revenue (*Apple quarterly report december 2021.*2022). Apple generated 84% of its net sales from products in the same time period; only 16% from services (*Apple quarterly report december 2021.*2022). Apple should seize the expanding market potential in other software service spaces to develop and launch new innovations there, utilizing its superior brand equity, R&D spending capacity, and other strengths.

Strategic Recommendations

The following actions are recommended to Apple to solve the primary strategic issue, improving weaknesses, mitigating threats, and utilizing strengths and opportunities.

Recommendation 1–Apple should proactively address lawsuits regarding its software and other services so that its growth into the software and services space can occur unmitigated. Proactively addressing lawsuits may involve aggressive PR campaigns highlighting the safety and privacy features of Apple's software so that the public is aware of these strengths. The company will benefit from this recommendation by mitigating potential damages it has to pay from concerns with its software and services. However, only doing an aggressive PR campaign highlighting the strengths of its software and services without fixing legitimate safety and privacy gaps will lead to increased backlash, and this recommendation will fail.

Recommendation 2–Apple should integrate its supply chain in order to control more aspects of the production process. Currently, Foxconn assembles the majority of Apple's iPhones in Taiwan. However, due to political uncertainties between the US and China, as well as Taiwan and China, it may be in Apple's best interest to assemble iPhones as well as some of the components themselves. Additionally, Apple will be able to have more oversight over the production process. However, if this occurs, Apple could become the target of anti-trust regulation. Additionally, this would be a costly endeavor, and there is not necessarily a guarantee that the quality would be equal or superior to Foxconn's.

Recommendation 3–Apple should enter the autonomous vehicle space by designing and selling its custom software, developed through acquisitions of smaller companies and startups already focused on this space, as well as hiring experts in this field. Entering a brand-new space with the R&D capabilities and strong brand equity of Apple will enable it to quickly develop and launch

new software and services, gaining customers. By not entering the manufacturing segment of the autonomous vehicle industry, Apple prevents direct competition with American and foreign car manufacturers, enabling them to be potential customers of Apple's autonomous vehicle software. A potential risk with this recommendation is that the potential acquisition targets refuse to sell to Apple and remain independent or they are acquired by established players in the autonomous vehicle industry like Tesla. Another potential risk is that the time it takes to realize gains on the R&D invested in the autonomous vehicle project may be too long for some investors in the company and these investors may sell their holdings, causing the stock price of Apple to fall.

Final Recommendation

From the three options above, our strongest recommendation is for Apple to enter the autonomous vehicle space. Apple can expand its operations to design and sell custom software developed through acquisitions of smaller companies and startups already focused on this space, as well as hiring experts in this field.

Apple's mission and vision of creating technologies that improve and enrich people's lives empower the company to significantly impact the automotive industry overall; this industry directly affects many people on a daily basis. By acquiring more resources (the companies and people working on autonomous vehicle software already), Apple will jumpstart its position in the market rather than designing its own project from scratch. Instead of entering the hardware businesses in this segment (car manufacturing for autonomous vehicles), Apple should focus fully on its strengths. By leveraging its R&D capabilities and valuable brand equity, Apple will exploit the existing opportunities of the growing autonomous vehicle market without tying itself down to yet another physical product space. Additionally, avoiding the manufacturing segment of autonomous vehicles will provide Apple with a wider array of potential business customers such

as existing car manufacturers like GM, Ford, Jeep, BMW, Mercedes, etc., rather than directly competing with those brands in building cars.

A potential risk associated with this recommendation is that the potential acquisition targets refuse to sell to Apple and remain independent, or they are acquired by other established players in the autonomous vehicle industry like Tesla. Another potential risk is that it may take too long for investors to realize gains on the R&D invested in the autonomous vehicle project. These investors may sell their holdings, causing Apple's stock price to fall. This fall in market value may increase the perceived risk associated with the company, raising Apple's borrowing costs and disincentivizing future R&D (and other) investments, thus stifling innovation and growth.

Despite such risks, this recommendation adds the most potential value to Apple—it epitomizes the company's vision for delivering great experiences for its customers and innovating in a way others cannot. Apple has tremendous strength in terms of its brand equity, which can easily garner the interest of potential customers in new spaces. The company's high capacity to spend on R&D ensures that new, substantial projects like this proposal can be sustained in the long term through adequate funding. The other recommendations fail to add such lasting and significant value, the type of value that will only come from bold expansion into new markets, in line with Apple's purpose.

Appendices

Appendix A — PESTEL Full Analysis

Political

- Apple depends heavily on low-cost Chinese manufacturing. Growing tensions between the US and China may incite restrictions on Chinese imports (Akins, 2021). Such restrictions may force Apple to change its manufacturing practices and significantly increase costs for the company. In fact, the costs may be so high that they translate into higher prices for consumers.
- Apple's close relationship with China has additional ramifications. If China is perceived as a threat to the West, Apple's association with China has the potential to become a political issue in and of itself.
- Apple's dominance in several markets makes it a target for antitrust laws (Iovino, 2021). If the company becomes too large or any sector is unlawful, the government may attempt to break up the company or minimize its market share.

Economic

- A strong dollar can weaken imports of dollar-denominated US-made goods to foreign markets, especially emerging markets whose currencies are usually weaker compared to the dollar. Many players in the tech industry are based in the US but have a global customer base. As such, the industry may see weakening growth from their international customers, especially in emerging markets, if those economies have weakening local currency with which to buy goods from these tech companies.

- IBISWorld recorded an annualized growth of 8.7% from 2016 to 2021 regarding private investment in computers and software. Increased investment results in new innovations and assures companies in the industry that there is demand for its products (Ristoff, 2021).

Social

- Consumers between the ages of 18 and 29
    - Approximately 96% of these consumers own a smartphone. This is attributed to the trend that these consumers were introduced to cell phones and smartphones at a younger age compared to other age groups (O'Connor, 2021)
    - Consumers within this age group are considered to be the most technologically proficient generation (Daly, 2021)
    - Approximately 78% of these consumers own a laptop. This is a result of the rapid growth of the Internet and institutions such as schools adopting the use of technology in educational learning (Daly, 2021)
- Consumers between the ages of 50 and 64
    - This consumer segment has the highest income levels compared to any other segment. These consumers often purchase the newest smartphone models and premium accessories that complement these purchases (O'Connor, 2021)
- In 2021, consumers between the ages of 30 and 49 were the most likely to own a tablet computer compared to other age groups (Faverio, 2022)
- Low, mid, and high-income groups in the US contributed nearly an equal amount of smartphone users in 2021. The breakdown is as follows: low income 32.2%, medium-income 32.2%, and high income 35.6% (Smartphones.)

Technological

- Its closed ecosystem of products enables Apple to lead the emerging IoT (Internet of Things) movement, which is essentially the technology that facilitates communication between devices and the cloud (*Apple inc.: The world's most valuable company has perfected the luxury tech business model.*2020).
- Apple's technological innovations are becoming increasingly secondary to its brand equity. That means competitors can offer the same technology at a lower price, which may destabilize Apple's business model of luxury technology (*Apple inc.: The world's most valuable company has perfected the luxury tech business model.*2020).

Environmental

- Electronic goods manufacturing creates a number of environmental difficulties, according to the European Environment Agency, which estimates that electronic equipment alone generates 10 million tonnes of garbage in Europe each year.
- China is the world's top manufacturer of electronic consumer products and, as a result, the world's greatest producer of electronic waste (10.1 million tons). However, China's e-waste per capita rate in 2019 was still lower than the global average.
- The rise in electronic trash in these countries is primarily due to rising living standards and customers' capacity to afford various electronic goods. Furthermore, the countries' e-waste is difficult to control. Thus, in the consumer electronics goods market, the most important measures that may be performed are recruiting and safe disposal methods. As a result, consumer electronics companies are expected to take sustainable measures in accordance with the Triple Bottom Line strategy in order to promote environmental sustainability and waste reduction (Taylor, 2021).

Legal

- Apple is currently facing a lawsuit in the UK from Norfolk City Council, a large investor, which recently received class-action status. Norfolk claims that Tim Cook deceived investors by stating that demand in China was normal in 2018. Just two months later, Apple issued a warning that they would not reach profit predictions due to weak demand in China, which caused a 8% drop in share price (Norfolk county council to sue apple in class action over 'misleading' iPhone prediction.2022).
- Apple is also facing a class-action lawsuit in California regarding the terms of its AppleCare warranty. The warranty states that customers would receive “new or equivalent to new” devices but instead issued refurbished devices. The plaintiffs are requesting $27.5 million in legal fees and $95 million in settlement (Scarcella, 2022).
- Recently, the Texas Attorney General filed a lawsuit against Meta stating that Facebook was collecting data through Facebook’s facial recognition in a way that was in violation with Texas privacy laws. Last year, a similar class action lawsuit was took place in Illinois which resulted in a total $650 million settlement (Timsit, 2022).
- In December, Nokia was sued by seven ex-employees over claims that the company’s 401(k) plan was unnecessarily expensive and wasted money (Hallez, 2021).

Appendix B — Porter's Five Forces Full Analysis

Threat of New Entrants

- The threat of new entrants is low in the markets discussed in the following bullet points:
- Retail market for smartphones
    - High barriers to entry
        - High level of competition
        - Highly concentrated industry
        - Strong brand names in the smartphone market (i.e. Apple's iPhone, Samsung Electronics' Galaxy)
        - Existing firms in this industry have an established relationship with suppliers
        - Existing firms in this industry have strong reputation with consumers
        - Established competitors benefit from economies of scale
        - Consumers' perception of brand awareness
        - Moderate capital requirements
- Retail market for laptop computers
    - Moderate barriers to entry
        - Moderate capital requirements
        - Highly competitive industry
        - Existing competitors have access to established supply networks and distribution channels
        - Little product differentiation
        - Strong brand recognition amongst larger industry firms (i.e. Best Buy, Amazon)

- Operating systems market
    - High barriers to entry
        - Highly concentrated market
        - Rapid pace of technological change
        - High capital requirements (i.e. skilled and highly knowledgeable labor)
        - Strong consumer brand awareness (i.e. Microsoft's Windows OS, Apple's macOS)
- Global smartphone manufacturing industry
    - High barriers to entry
        - Strong brand recognition and loyalty
        - Economies of scale give existing industry firms an advantage
        - Existing competitors have established distribution networks and channels
        - Existing competitors have strong relationships with their component part suppliers
        - Established firms have intellectual property rights that protect their product designs (i.e. patents)
        - High capital requirements (i.e. R&D, manufacturing equipment, cutting-edge technology)
        - High switching costs for consumers

Bargaining Power of Suppliers

- There are a large number of suppliers in the industry for smartphone manufacturers and many of them offer largely standardized products. Because of this, Apple and other

competitors in the industry face low switching costs. Additionally, suppliers will prioritize maintaining a strong relationship with a large customer like Apple.

- The three largest competitors in the industry for semiconductors and electronic parts are Intel, Samsung, and Taiwan Semiconductor Manufacturing Company, all three of which have less than an 8% market share (Mieles, 2021).

Bargaining Power of Buyers

- For the past ten years, the percentage of iPhone customers who plan to continue with Apple has been greater than 70%. Because of this high level of devotion, the world's largest IT corporation by revenue is able to offer its products at significant profit margins.
- Customers are encouraged to stick with the Apple brand because all devices sync, which weakens their bargaining power significantly.
- There is no reliance on a small number of clients. In 2020, 2019, and 2018, Apple had no single customer that accounted for more than 10% of net sales (Dudovskiy, 2021).

Threat of Substitutes

Substitutes for Apple products would include landline phones and digital cameras. These limited products are entirely undesirable to consumers and cannot even hope to compete with Apple. Therefore, the threat of substitutes for Apple products is minimal to a point where it’s almost non-existent.

Intensity of Competitive Rivalry

- The technology industry is highly competitive, and companies like Google and Microsoft are racing to defeat Apple in every possible market. As Apple’s technological innovation becomes secondary to its brand equity, technologically superior Google and Microsoft substitutes threaten to overtake Apple.

- The intensity of rivalry is high in the industries discussed in the following bullet points:
- The top five competitors in the global smartphone manufacturing industry as of 2021 include Samsung, Apple, Xiaomi, OPPO, and vivo (Reith et al., 2022). Together these companies make up around 70% of the total market share. The breakdown is as follows: Samsung 20.1%, Apple 17.4%, Xiaomi 14.1%, OPPO 9.9%, and vivo 9.5% (Reith et al., 2022). During 2021, the market experienced a 7.7% shipment growth rate, and is expected to increase 3.8% reaching 1.43 billion smartphone shipments in 2022 (Reith et al., 2022). According to a recent report studying customer loyalty, approximately 66% of all adults consider themselves loyal to their smartphone manufacturer (Nearly 9 in 10 smartphone owners are likely to buy their next phone from the same brand .2018). Due to this, the industry is marked with high switching costs.
- The main competitors in the retail market for smartphones include Apple, AT&T, Verizon Wireless, Best Buy, and Samsung Electronics (O'Connor, 2021). These companies have common dimensions that they compete on: price, product range, customer service, location, and promotional activity (O'Connor, 2021). Apple holds the most market share at 28.5%, while AT&T, Verizon Wireless, and Best Buy each hold anywhere between 11% and 18% (O'Connor, 2021). These competitors are not equally balanced. The market revenue is expected to grow from $84.1 billion in 2021 to $99.6 billion in 2026, an annual rate of 3.4% (O'Connor, 2021). This industry has low switching costs.
- The main competitors in the retail market for laptop computers include Apple, Best Buy, and Amazon (Daly, 2021). Out of these three companies, Apple holds the most market share at 12.0% (Daly, 2021). Best Buy and Amazon own 3.2% and 2.2%, respectively (Daly, 2021). These firms are not equally balanced competitors. They compete in the

following areas: price, selection, location, promotions, and customer service (Daly, 2021). A 7.37% revenue increase is expected in the global market for laptops and PCs to reach $238,616.7 million in 2026 (PCs.). The retail market, specifically, has a projected annual growth rate of 3.1% until 2026, when it will reach $106.9 billion (Daly, 2021). There are low switching costs in this industry.

- The main competitors in the operating systems market include Microsoft, Apple, and VMware (Egan, 2021). Microsoft owns over half of this market share at 56.8%, Apple at 13.8%, and VMware at 3.5% (Egan, 2021). With clear differences in market share, this industry does not have equally balanced competitors. In this industry, competition is based on the number of platforms, devices, and applications that can run on the operating system (Egan, 2021). By 2026, the industry is expected to reach $149.4 billion with an annualized rate of 2.4% (Egan, 2021). There are high switching costs associated with this industry due to specialized development – only certain applications run on macOS and others are created strictly for Windows computers (Egan, 2021).

Appendix C — Key Success Factors / Key Success Measures Full Analysis

Factor 1: Undertaking technical research and development

- Key Success Measure: R&D Expense as a % of Sales (*Samsung quarterly report december 2021*.2020; *Apple annual report for 2021*.2021; *Microsoft annual report for 2021*.2021; *Dell annual report for 2021*.2021; *Alphabet annual report for 2021*.2022)
    - Apple data: Year Ended September 25, 2021
    - Samsung data: Year Ended December 31, 2020
    - Google data: Year Ended December 31, 2021
    - Microsoft data: Year Ended June 30, 2021
    - Dell data: Year Ended January 29, 2021
- Apple underperforms relative to its competitors on R&D spending as a percentage of sales. However, its dollar value of R&D expenses is about on par with its competitors.

APPLE	SAMSUNG ELECTRONICS	GOOGLE	MICROSOFT	DELL	AVERAGE
5.99%	8.90%	12.25%	12.32%	5.60%	9.01%

Factor 2: Ability to control stock on hand

- Key Success Measure 1: Inventory Turnover Ratio

  Inventory turnover is a ratio that measures a firm's efficiency, based on its levels of supply. It measures how many times a firm has sold and restocked its inventory during a one-year period.
- Key Success Measure 2: Days Inventory

Days inventory, or days in inventory, is a ratio that measures how long it takes firms to turn their inventory, meaning how long inventory is held in storage before it is sold.

The following table provides data, from 2020, on the top 5 companies in the Retail Market for Smartphones:

KSM	APPLE	AT&T	VERIZON WIRELESS	BEST BUY	SAMSUNG ELECTRONICS	AVERAGE
INVENTORY TURNOVER RATIO	41.5	24.8	31.8	6.3	4.9	21.86
DAYS INVENTORY	8.79	-*	11.47	57.50	74.28	38.01

*No available data for AT&T's days inventory. Therefore, the average is reflective amongst the data from Apple, Verizon Wireless, Best Buy, and Samsung Electronics.

Apple compared to the industry averages

As seen in the above table, Apple has an inventory turnover ratio that is almost double the amount of the average. With an above-average ratio, Apple is seen to be performing efficiently and is able to effectively manage its inventory levels, without incurring significant storage costs nor holding excess inventory.

On the other hand, Apple's days inventory is approximately four times below the average. This means that the firm quickly turns its inventory, which keeps holding costs to a minimum. Similar to the conclusion made from Apple's inventory turnover ratio, this measure also indicates that the firm does not hold too much inventory.

Factor 3: Attractive product presentation / brand image

- Key Success Measure: Brand retention rate in the Smartphone Industry

Retention rate measures the percentage of customers who choose to stay with the same brand when purchasing a new phone. The following study was conducted in March 2014 (Richter, 2014).

KSM	APPLE	SAMSUNG	NOKIA	LG	MOTOROLA	HTC	BLACKBERRY	AVG
RETENTION RATE (%)	90	77	58	41	37	32	31	52.3

Factor 4: Breadth of product line

- Most, if not all, of Apple Inc.'s master brand items display the company's line extension strategy. The line extension approach is carried out by modifying the specifications and features of essentially the same product. We can view the possibilities to consider if we were planning on acquiring the new iPhone 8 to obtain a better understanding of this notion.
- The iPhone 8 comes with 64 gigabytes of storage as standard, or 128 gigabytes for a premium. This method is utilized to meet the needs of clients who require more or less storage. Starting around the time of the iPhone 5, this strategy was also observed in the iPhone product line (Apple marketing program report.2020).

Appendix D — Value Chain Full Analysis

Finance

- Apple maintains a strong financial position as evidenced by its considerable cash generating power on a quarterly basis ($47 billion generated from operating activities in the 3 months ended December 25, 2021) and yearly basis ($104 billion in the fiscal year ended September 25, 2021) (*Apple annual report for 2021*.2021; *Apple quarterly report december 2021*.2022).
- This cash generation enables the company to be able to support its other value chain activities with the needed resources. For example, Apple can further develop its products and services, adding value to the customer. Apple can also use this cash to expand its foreign sales through advertising & promotion, lessening dependence on the Americas.

Human Resources

- Hiring practice: candidate screening
    - Apple looked for employees that were driven to change the world and create some of the best technology (Rothaermel & King, 2017)
    - Some of the qualities that Apple looked for in potential candidates included smart, creativity, willingness to face challenges, and passionate for what they do (Rothaermel & King, 2017)
- Current employees
    - At the beginning of the fourth quarter of 2021, Apple recorded a total of 154,000 full-time employees (*Apple annual report for 2021*.2021). This is a 4.8% increase, compared to the 147,000 employees from 2020 (*Apple annual report for 2020*.2020)

- From 2014 to 2019, Apple's employee retention rate grew from 61% to 89%
- New hires receive training via Apple's Genius Training Student Workbook. This guide includes information on how employees should verbally respond to customers in specific situations, how to read customers' body language, words that employees are not allowed to say, and how to provide feedback to customers

Management Information Systems

Apple uses its iCloud and other internal cloud infrastructure to run its management information systems. Given that the company has been developing this infrastructure since its early days, Apple has a strong value-add to using its own internal infrastructure rather than outsourcing components to other vendors.

Supply-Chain Management

- The primary physical resources required to produce Apple's products are raw materials and electronic components. The raw materials consist of gold, palladium, aluminum, copper, and nickel.
- The largest component manufactures include Foxconn, Pegatron, Intel, and Samsung. Apple has a very strong relationship with Foxconn, who performs a lot of research and development for semiconductor and electronics. They also assemble the majority of iPhones for Apple
- However, ethical concerns have arisen regarding Apple's sourcing and supply chain. More than 60% of the world's cobalt is sourced from the Democratic Republic of Congo, which is plagued with war, corruption, and child labor (*Apple inc: Value chain analysis.*2021).

Operations

- Apple's operations maximize the customer journey, utilizing both direct and indirect channels to reach their customers at the business-to-business level and at the consumer level (*Apple inc: Value chain analysis.*2021)
- Apple's combination of an e-commerce marketplace and brick-and-mortar stores provides a convenient and pleasant experience to customers, both for shopping and follow-up-services such as AppleCare and repairs

Distribution

- Apple's goods are designed in California, yet they are manufactured all over the world. Components are manufactured by specialists all over the world and delivered to two primary assemblers in China, Foxconn and Pegatron, to be assembled into the final product. Due to the lower cost of labor in China, Apple's manufacturing costs are substantially reduced.
- Apple's physical storefronts and online store are parts of their direct distribution system. Apple's physical storefronts enable them to exert complete control over their brand image and customer perception Apple sells directly on their website as well. Their website is available in a variety of languages and may be accessed from anywhere in the world.
- In 2018, Apple claimed that direct channels accounted for 29% of net sales, while indirect channels accounted for 71%. Apple products are available from third-party vendors and wireless carriers. Stores like BestBuy, Walmart, and Target fall into this category because they are conveniently accessible and may offer discounts (Maarten & Parisa, 2021).

Marketing & Sales

- In 2017, Apple won the 2017 CMO Survey Award for Marketing Excellence for the 10th year in a row. There are many components in their overall marketing strategy (Moorman, 2018).
    - All elements of the Apple experience are consistent within their overall ecosystem. The iPhone operating system, Apple stores, Apple Pay, advertisements, the website, and more are all consistent with Apple's brand image.
    - Apple uses pricing to enforce its image as a luxury brand. The most up-to-date model of Apple products rarely go on significant discounts.
    - Apple has leveraged marketing and user interfaces in order to instill a simple, clean, and minimalist image within customers (*Apple inc: Value chain analysis.*2021).

Follow-Up Service

- In the cell phones industry, Apple received a customer satisfaction score of 80, compared to the industry average of 79 in 2021 (Benchmarks by company: Cell phones.2021)
- In the personal computers industry, Apple received a customer satisfaction score of 82, compared to the industry average of 79 in 2021 (Benchmarks by company: Personal computers.2021)
- In the online retail industry, Apple received a customer satisfaction score of 75, compared to the industry average of 78 in 2020 (Benchmarks by company: Online retail.2021)
- Apple offers its Apple Repair service. The firm offers three ways that the customer can start their product repair process: Apple can arrange for the customers' product to be shipped to one of its Apple Repair Centers, customers can find an Apple Authorized

Service Provider, or customers can visit an Apple Store where employees can provide assistance (Apple repair and repair status check.2022)

- Apple offers its own warranty program, called AppleCare. A majority of Apple's products come with a standard one-year warranty and 90 days of technical support. This support includes setup and installation assistance. The firm also offers AppleCare+, which provides customers the option to purchase additional warranty coverage for their Apple products (AppleCare products - apple.2022)

    - Apple also offers premium warranty programs called AppleCare+ and AppleCare+ with Theft and Loss. AppleCare+ provides customers the option to purchase additional warranty coverage for their Apple products. AppleCare+ with Theft and Loss provides coverage for a replacement phone, in the event that a customers' phone was lost or stolen, in addition to the services from AppleCare+ (AppleCare products - apple.2022)

Appendix E — VRIN Full Analysis

Resource 1: Apple's Brand Equity

- Valuable
    - Yes
    - Apple's brand equity is central to its luxury technology business model and market position
- Rare
    - Yes
    - According to Statista, Apple's brand equity was worth 263.38 billion dollars, which made it the highest-valued brand equity in the world in 2021 (Most valuable brands worldwide in 2021.2021)
- Inimitable
    - Yes
    - Apple has been building its luxury technology business model since its inception. Apple has spent decades establishing a relationship with its customers, and that level of brand loyalty is not easily imitated
- Nonsubstitutable
    - Yes
    - There is no substitute for, and no greater asset than, a blind faith in a company that is associated with its brand equity
- Type of Competitive Advantage
    - Sustainable competitive advantage

Resource 2: Customer Loyalty

- Valuable
    - Yes

    - Apple's customer loyalty is one of the main reasons that it has a retention rate of 90% when customers are looking to purchase a new smartphone (Richter, 2014).
- Rare
    - Yes
    - In the same time period that Apple has shown strong growth of customer retention, major competitors, including Samsung, Nokia, and LG have shown a decline in customer retention (Richter, 2014).
- Inimitable
    - Yes
    - A large part of Apple's customer loyalty stems from the fact that they have established an ecosystem of products and services that seamlessly interact with each other. Additionally, other products and softwares are significantly less compatible with Apple products, which attracts new customers. Because of the image and customer loyalty that Apple has built, it is unlikely that competitors would be able to mimic this strategy and capture market share.
- Nonsubstitutable
    - Yes
    - Customer loyalty can not be substituted for another resource that will bring similar benefits.
- Type of Competitive Advantage
    - Sustainable competitive advantage

Resource 3: R&D Process and Capacity to Spend

- Valuable
    - Yes

    - In its most recent quarterly report, Apple stated that it spent $6.3 billion in the 3 months ended on December 25, 2021, representing 5.09% of net sales for that quarter (*Apple quarterly report december 2021*.2022).
    - In its most recent annual report, Apple stated that it spent $21.9 billion in the fiscal year ended September 25, 2021, representing 6% of net sales for that year (*Apple annual report for 2021*.2021).
    - These dollars further the company's innovation in existing and new product lines
- Rare
    - Yes
    - Only a handful of other Big Tech companies can afford to spend as much as Apple on R&D
- Inimitable
    - No
    - In terms of the capacity to spend, any other company can spend money on R&D, but the scale of the spending will be limited by the size of the company. As mentioned above, only a few other companies can afford to spend as much as Apple.
    - Therefore, this resource is imitable.
- Nonsubstitutable
    - Yes
    - Apple depends on R&D to keep growing by launching new products and services. Without R&D, the company will stagnate because customers will not receive

anything new to keep them buying from Apple. Therefore, this resource is nonsubstitutable (there is no substitute for R&D).

- Type of Competitive Advantage
    - Temporary competitive advantage

Resource 4: Product Line & Quality

- Valuable
    - Yes
    - Apple's net revenue from iPhone sales was $142.4 billion in 2019, while that from Mac sales was roughly $25.7 billion. In 2019, service revenue increased to $46.3 billion. Apple made $21.3 billion in revenue in fiscal 2019 from iPad sales, while Wearables, Home, and Accessories brought in $24.5 billion (Pratap, 2021).
- Rare
    - Yes
    - The combination of these products with the level of quality they come with is an uncommon combination, making this a sustainable competitive advantage.
- Inimitable
    - Yes
    - If a company decided to make similar products that interact with each other and start to expand into other sectors, they could give Apple some competition.
    - I think it is important to note that in order to do this they would have to have a lot of flexibility which would be insanely difficult.
- Nonsubstitutable
    - Yes

    - These products are unique in that they are of premium quality and that they are only available from Apple. You cannot buy an iphone from Samsung.
- Type of Competitive Advantage
    - Sustainable competitive advantage

Appendix F — SWOT Full Analysis

Strengths

- Apple's brand equity is worth $263.38 billion, which made it the highest-valued brand in the world in 2021 (Most valuable brands worldwide in 2021.2021)
- Apple's closed ecosystem of products facilitates the company's unmatched brand equity and high market share. It is simply so easy to integrate iPhones with MacBooks and Apple Watches that many Apple users would never even consider switching to other products. Apple prevents customer churn simply by creating sky-high incentives for its users to stay.
- Apple's distribution network utilizes both direct and indirect channels to reach their customers in various markets, including consumer, small and mid-sized business, education, enterprise, and government markets. This in combination with direct sales and third-party resales through both online and brick-and-mortar stores makes Apple's distribution channels a force to be reckoned with (*Apple inc SWOT analysis.*2022).

Weaknesses

- Apple faces numerous litigation issues around the world, related to their device refurbishment process, Siri privacy issues, older iPhone performance throttling, and other areas. Compensation or fines sought as a result of these lawsuits often number in the 8-figure range (*Apple inc SWOT analysis.*2022).
- Apple still has a large concentration of sales in the Americas (41% of net sales as of Q4 2021), and though growth abroad is helping the company to diversify its sales, the company is still vulnerable to localized geographic disruptions such as Congress's deliberations over new tech laws targeting tougher privacy standards, and anti-competitive practices (*Apple quarterly report december 2021.*2022).

Opportunities

- Apple has pledged that all operations, products, and services will be carbon neutral by the year 2030. Additionally, 175 suppliers have also pledged that they will transition towards renewable energy sources in the same time frame. As environmental concerns become increasingly important to consumers and the threat of emissions-related regulations become more likely, Apple has a strong opportunity to act early and be one of the pioneers in the tech industry with regards to sustainability (Apple charges forward to 2030 carbon neutral goal, adding 9 gigawatts of clean power and doubling supplier commitments.2021).
- In recent years, Apple has announced plans to develop software for autonomous vehicles in partnership with Kia. With rough starts for Alphabet and Uber's self-driving ventures as well as rising concerns with Tesla's existing business, Apple has the ability to create a strong presence in the space, especially with the existing trust in their software (Gurman, 2021).

Threats

- Apple's brand equity is far more valuable than its concrete technological innovations. As a result, competitors can offer the same technology at a lower price (*Apple inc.: The world's most valuable company has perfected the luxury tech business model.*2020). This threatens Apple's business model of luxury technology. Apple will need to either maintain its brand equity in the face of entirely better technology, or find other ways to differentiate.
- Apple's iPhone market is significantly dependent on major network providers in the US and in Europe. In 2020, 42% of the company's accounts receivable was from cellular networks (Apple inc SWOT analysis.2021). This dependency makes the company vulnerable to significant loss of revenue and profits, should any of the network providers experience failures that impact Apple's customers.

- Like any large technology company, cyber attacks could result in significant losses for the company. According to the IC3 (Internet Crime Complaint Center), the top five internet crimes include phishing, non-payment, extortion, data breaches, and identity theft (Apple inc SWOT analysis.2021). On a large scale, these crimes could cost the company millions; Apple needs to stay ahead of them by implementing proactive cybersecurity measures.

Appendix G — Vision, Mission, Purpose, Values

Vision

“We believe that we are on the face of the earth to make great products and that's not changing. We are constantly focusing on innovating. We believe in the simple, not the complex. We believe that we need to own and control the primary technologies behind the products that we make, and participate only in markets where we can make a significant contribution. We believe in saying no to thousands of projects, so that we can really focus on the few that are truly important and meaningful to us. We believe in deep collaboration and cross-pollination of our groups, which allow us to innovate in a way that others cannot. And frankly, we don't settle for anything less than excellence in every group in the company, and we have the self-honesty to admit when we're wrong and the courage to change” (Apple inc. F1Q09 (qtr end 12/27/08) earnings call transcript.2009).

Mission / Purpose

“Apple’s mission is to make the greatest products on earth and enrich the lives of others” (Apple's (AAPL) CEO tim cook on Q1 2015 results - earnings call transcript.2015).

“Creating technology that improves people’s lives” (Apple inc. (AAPL) CEO tim cook on Q3 2021 results - earnings call transcript.2021).

Values

“Our values are part of everything built here — including careers.

Accessibility– Technology is most powerful when everyone can make their mark.

Education– Education is the great equalizer and a powerful source of opportunity for all.

Environment– Our goal is to leave the planet better than we found it.

Inclusion and Diversity– We're committed to making Apple more inclusive and the world more just.

Privacy– We design Apple products to protect your privacy and give you control over your information.

Racial Equity and Justice Initiative– This is a long-term effort to help ensure more positive outcomes for communities of color.

Supplier Responsibility– We believe in a safe, respectful, and supportive workplace for everyone."

(Community and culture - careers at apple.2022)

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