

Analysis of Business Model and Financial Operation: Evidence from Apple

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ABSTRACT

Technology is becoming more and more important to the world, even affecting various industries. The great material and spiritual wealth are derived from science and technology's progress. A small step in technological progress is a big step for human civilization. This article takes the world's largest technology company, Apple, as an example to explain the factors of success and future risks of technology companies. This paper explains Apple's business model, financial analysis, risk and returns analysis. This article reveals the importance of innovation to a company. Apple's rise and growth are due to its constant innovation and continuous reform of its products, as well as its exploration of new business models. The paper also explains Apple's competitor analysis and Apple's measures and actions in response to crisis events, such as Covid-19.

Keywords: innovation, business model, creative, financial analysis, risk and return

1. INTRODUCTION

In modern society, technology is the core force of a country and social development. The electronics manufacturing industry is characterized by a large industrial scale, rapid technological progress, and strong-industry relevance. The current electronic manufacturing industry is a significant development trend, integrated cross-border trend is becoming more and more obvious. First, Cross Dissolve as a feature of integrated innovation has become mainstream. For example, big data, virtual reality, artificial intelligence, etc., not only rely on a single point of technology, a single product but the integration of computer, communications, network, perception, display and other technologies, innovation. Secondly, the cross-field innovation characterized by penetrating radiation is increasingly prominent. While promoting the transformation of traditional industries, many new models, new business models and new industries continue to reveal.

This paper investigates the business model and financial operation of Apple Inc. By analyzing Apple's business model and financials, this paper reveals apple's current operation and development path to success. Apple's success is based on its innovation, all of which mainly comes from one person, Steve Jobs. Jobs and his friend, Steve Wozniak, created the first Apple computer on April 1, 1976. Steve Jobs established Apple Inc.

(AAPL) in 1977, which offers the best service in radio and television broadcasting and wireless communications equipment manufacturing. The head office of Apple is in Cupertino, California, United States, in addition, they also have many offices across the world. It is what they're on the path that has changed the way that many people all over the world use a computer, search the internet, listen to music, and even talk on the phone. A perfect example of how a dream became a reality is Apple, Inc. —one step at a time [1].

The paper can be organized as follow: section two presents business analysis which includes corporate governance and business model. According to the financial statements and financial ratio until March 2022, section three presents the risk and return of Apple Inc. Section four presents some discussions of competitor analysis and crisis management: Covid-19 pandemic. Section five is the conclusion of the whole paper.

2. BUSINESS ANALYSIS

This section analyzes the corporate governance and business model of Apple Inc.

2.1 Corporate Governance

Tim Cook joined Apple Inc. as the president, chief executive officer, and director in August 2011. He has

served as CEO for the past eleven years. Apple uses a hierarchical management organizational structure, which can see six executive officers and nine directors in total at Apple on March 23, 2022. 0.10% of the directors are inside directors. 54.20% of the shares are held by institutions. There are 6 senior executive officers and 9 key directors in total at Apple as of March 23, 2021. The total compensation of Tim Cook at Apple Inc. was \$1.38 million in 2020, with \$3,000,000 received as a salary, \$82,347,835 as equity, and \$12,000,000 as pension and other forms of compensation [2]. The shares owned by Apple CEO are 2,386,440 Apple Inc. shares and 1,206 Nike Inc. shares until March 23, 2022.

Apple's audit was conducted in accordance with the standards of the Public Company Accounting Oversight Board (United States). This included obtaining an understanding of internal control over financial reporting, assessing the risks of material weaknesses, testing and evaluating the effectiveness of the design and operation of internal control based on the assessed risks, and performing such other procedures as we considered necessary in the circumstances. As of 2021, Apple maintained, in all material respects, effective internal control over financial reporting based on the COSO criteria.

2.2 Business Model

In 2007, the launch of the iPhone took on the revolutionary label of "will change everything". Apple's products were more expensive than the competition as soon as they were launched, but Apple didn't cut prices and discounts, for this reason, the only discount was the educational offer. Apple does not fight price wars with other competitors, mainly because of the new features and technologies that have been added to the iPhone and have made the iPhone so far ahead of the industry at first. However, Apple also keeps strict control of costs in its internal supply chain so that it can bring more money for later technology development and technological innovation.

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Apple's business model can be divided into 5 parts. First, precise positioning. Apple first targeted the high-

end market because it knew it wasn't cheap and was beyond the reach of most of the market. Second, Apple's control of costs is very precise. Apple does not have its own processing plant; it is through the foundry to processes the products. Apple chooses Foxconn as a foundry for production because of its location in China where labor costs are relatively lower. If Apple sets the factory in the U.S., the labor and logistics costs will greatly increase. Choosing a foundry not only saves the huge overhead of opening a factory and reduces labor costs, but also ensures the quality of the products by relying on Foxconn's excellent production technology.

Third, Maximize Margins and Profits from High-End Market Share. Over the past 10 years, the iPhone has accounted for 58.8% of Apple's total sales. Profit margins for the iPhone have remained between 60% and 70%. Apple has been leading the cell phone market and has identified the high-end market to maximize profits. Fourth, innovation and self-innovation. Since 2007, Apple has released 12 generations of the iPhone. from the beginning, Apple launched its own independently developed system and processor. In the past few years, it has continuously made technical innovations, such as multi-touch screens, dual cameras, Apple Pay, Siri, iMessage, FaceTime, and facial recognition. In terms of marketing, hunger marketing and bundled sales are carried out. Hunger marketing is to regulate supply and demand, create the "illusion" of oversupply, maintain high selling prices, and profit margins, and also maintain the brand image and increase the added value of products. Bundled sales such as iTunes bundles for iPods, iPhones, iPods, and iMacs, and the recently introduced air tag, are only available to customers using Apple systems. All these strategies have increased the stickiness and loyalty of Apple users.

3. FINANCIAL ANALYSIS

In the first quarter of fiscal 2021, Apple's sales were \$111.44 billion, a year-on-year increase of 21 percent. Net profit was US\$28.755 billion, a year-on-year increase of 29%. Distributed by sales, iPhone accounted for 58.8% of its sales, the Mac accounted for 7.8%, wearable devices and accessories accounted for 11.6%, and service revenue accounted for 14.2%. The iPhone accounts for three-fifths of Apple's sales and is the main force in Apple's products. The second is service revenue, such as App Store and iTunes, which combine hardware products, application software and service content, and Apple can get a lot of profit from the software.

3.1 Risk and Return

The amount of profit or loss that investors could expect from investing in a company is defined as the expected return. The current risk-free rate of Apple Inc. is 2.25% [4]. The expected return of the market

investment portfolio is initially estimated to be 10.72%, with the beta being equal to 1.99 [5]. Using the CAPM formula, the expected return rate would be 19.1053%.

Apple's 5-year standard deviation is 8.49% [6]. With the data above, we can estimate that the total risk for potential investors in the company's equity is very low.

3.1.1 Cost of equity

A 5-year monthly beta of 1.29 was used for our calculations. According to our information and the research collected from Apple, this is the most reasonable figure. This is because the beta accurately reflects the low risk of investing in a company like Apple. Apple has a cost of equity figure of 10.09% under the CAPM model (Table 1). As Apple is not 100% equity financed, the CAPM model is used instead of the standard method to determine the cost of equity figure. Coupled with a beta of 1.29, Apple should be seen as a stable firm with high risk than the market.

Table 1. CAPM Model

WACC calculation	
Risk-free rate	2.35%
Beta	1.29
Average Market Return	8.35%
Cost of equity (CAPM)	10.09%

3.1.2 Cost of debt

Apple currently has a total debt figure of \$118.5 billion which increases year over year. Apple is highly reliant on debt financing, with a debt-equity ratio of 1.48 [7]. However, it has an interest coverage ratio of 28.42 which shows Apple does have the ability to service its existing debt load [8].

With an interest expense of \$2.645 million and debt of \$118.9 billion, Apple's cost of debt is roughly equal to 2.2306% [9]. Over the past year, debt has been riskier globally due to the COVID-19 pandemic. However, Apple has not incurred any issues paying back its debt, as seen by the interest coverage ratio.

3.1.3 Cost of capital

According to the income statement, Apple's market value of debt is 118.5 billion and equity is \$2844 billion, respectively. According to our calculations, Apple's weighted average cost of capital (WACC) is 9.67% (Table 2). We used a beta of 1.29 however, a higher beta would have resulted in a higher cost of capital. Similarly, a higher cost of debt (led by an increase in debt with a greater increase in the interest expense), or a higher cost of equity (led by a higher beta or a higher market return) would result in a higher cost of capital. Apple has a lower

debt load in 2021 in comparison to the previous 5 years. This is a result of Apple financing its long-term projects and an economic slowdown fueled by a global pandemic. Due to this, WACC would have been higher in the previous years, implying a decreasing risk of debt and equity, and generally a decreasing risk of default by Apple to yield a lower overall WACC figure.

Projects for firms in the computer hardware industry are expected to be like how they were in the past. This is because Apple, like its competitors, invests in long-term five-year projects, with new projects undertaken that are relevant to the current time period's technology. However, these projects are risky as Apple already has a significant amount of debt. In addition, with the introduction of the new COVID-19 variant, Omicron, firm risk and market uncertainty will definitely increase in the coming years.

Table 2: WACC Model

WACC	
Weight of equity	0.96
Weight of debt	0.04
WACC	9.67%

3.2 Capital Structure

Apple Inc. uses both debt and equity to finance its projects. Apple uses a dual-class structure for their equity, this means that they have two classes of common shares. The total stockholder's equity is \$71.93 billion at the end of 2021. Apple has 16 billion shares outstanding. Likewise, Apple Inc. uses both public and private debt financing to fund projects.

On the continuum of debt and equity financing, Apple is more reliant on debt financing, as demonstrated by its debt-to-equity ratio of 1.73. Apple had roughly 16 billion shares outstanding. In comparison, the industry-standard debt to equity ratio is 4.35 [10]. This demonstrates that Apple is more reliant on debt than its industry to finance new projects. To reinforce this idea, Apple has a debt leverage ratio of 0.81. This is worrisome at first glance because it would appear as though they may not be able to meet their financial obligations. However, Apple has an interest coverage ratio of 43.28, which is higher than the industry ratio of 23.34. This means that if the firm was forced to pay for all debt interest with its EBITDA, it could achieve that task 43.28 times. In addition, the firm has 63.913 billion cash on hand at the 2021 fiscal year-end [11]. This analysis validates that the company is in a position where it can afford its amount of debt and is in good shape.

4. DISCUSSION

This section presents the competitor analysis and the impact of the covid-19 pandemic. Competitor analysis is

an important part of enterprise strategic decision, it is to analyze the competitor's present and future decisions and direction. Companies can not only observe the changes in the market in time, but also identify the advantages and disadvantages of competitors, and make competitive responses immediately to improve the products and change strategy.

The role of crisis management in business is becoming more and more obvious. Crises generally occur with an uncertainty of initiation, the uncertainty of timing, the uncertainty of access to materials and information, the uncertainty of magnitude and the uncertainty of consequences of decisions. Companies need to place a higher priority on crisis planning. The covid-19 pandemic that began in early 2020 caught many companies off guard. Section 4.2 will discuss Apple's response to the crisis of Covid-19 and the impact of the Covid-19 had on Apple.

4.1 Competitor Analysis

Many brands have gradually occupied an increased share of the technology market in recent years, such as Huawei, and Samsung. Huawei has its software and hardware platform with self-developed chips. Its advanced production process system has shortened the production cycle of products and improved production efficiency and quality. Huawei's corporate culture emphasizes unity, learning, and aggressiveness as performance-oriented. However, Huawei lacks branding and has weak marketing. Now Huawei's main market is the Asian market, North America, the world market is weak. And Huawei's R&D links are weak and lack original innovation. Apple's advantage over Huawei lies in its emphasis on research and development and strong innovation concept.

Samsung's brand strength is first and foremost the camera, and Samsung phones have cameras that can be compared to some of the top cameras on the market. They also have a high-resolution screen, mastering the best OLED technology, Samsung is the best choice to improve the experience. Samsung's recently released folding screen phone has become a breakthrough in the market. However, creases will appear after using it for a long time, and refinements need to be made. The focus of mobile communication lies in its lightness and portability, while Samsung's phones are large and bulky, causing a lot of inconvenience to users. Apple's advantage over Samsung is that Apple devices are not easily damaged and have a long service life. And the device is light and easy to carry

4.2 Covid-19 Pandemic

The crisis for Apple continues to intensify, with the company closing factories and stores across China. Most people are anxious about packaging plants across China

could receive the impact, disrupting Apple's supply chain. Archie Lockamy establishes Bayesian networks analyzing the external risk factors associated with Apple's key suppliers. It showed that "Apple's supply chain has a moderate risk of disruption due to external risk events occurring at key suppliers." [12].

However, the epidemic has brought a lot of revenue to Apple because of the need for devices for remote work and study, and Apple's quarterly revenue increased 11% year-over-year to \$59.7 billion.

5. CONCLUSION

Apple uses independent innovation and research that is transforming mobile devices around the world. Apple's soul and corporate culture are built on innovation. In recent years, Apple has also continued to work in this area of innovation to develop better technological devices for the world. Innovation is the only thing that drives the progress and success of a company. It is the innovation that has allowed Apple to progress to become one of the largest computer hardware manufacturers in the world with a market value of over one trillion dollars. Looking at its financial results, Apple is in a good financial position and its assets are in good proportion to its liabilities. Apple is in a position where it can afford the amount of its debt. However, it is worth noting that Samsung, Huawei, and other large companies are catching up to Apple. Apple should also pay attention to the strategies as well as decisions of its competitors and always adjust according to the market changes and the analysis of the strategic decisions of its competitors.

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