Firm Valuation & Industry Report: Apple

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Introduction:

Apple is a well established company which has dominated the technology industry for years. With a wide variety of products such as the Iphone, Ipad, Mac Computers, and many other technological devices they have asserted their brand as the main technology brand. Although they have many amazing products, Apple has really made their brand standout through brand loyalty, market capitalization, and many other strategies which has made them one of the most impactful companies in their industry as well as the world.

Industry Definition and Scope:

Apple is in the Information Technology and Consumer Technology industries. Apple's main products and segments include the IPhone, Mac, Apple Watch, IPad, Apple Music, Apple TV, Apple Care and ICloud Storage. Key sectors that Apple operates in outside of information technology and consumer technology are digital services, retail, and customer service.

History Evolution

The first key milestones of Apple was the creation of the first Apple computer (1976). The second Apple computer was created in 1977 and created a major market for personal computers. The company went public in 1981. The Macintosh computer was launched in 1984 and drastically changed the personal computer industry. In 1997 Steve Jobs returned as CEO after leaving the company in 1985. The first IMac was launched in 1998 and was one of the first computers to move to CD and internet download design. In 2001 Apple launched ITunes and Ipod which entered Apple into the digital music world. The IPhone was released in 2007 and became one of the most influential technology releases to date with the addition of one of the first touch screens. Apple went on to sell over 2 billion units of the first IPhone. In 2010 the first IPad was introduced to the market making it one the first mainstream tablets. In 2018 Apple became the “highest-valued” company with a market value of over $1 trillion. Apple introduced its first streaming service Apple TV in 2019.

Current Industry Landscape:

Apple holds a large presence in the consumer electronics industry. They continue to globally expand and are driven by the continued advancements in technology and increasing demand for connectivity. Samsung and Microsoft are some of Apple's main competitors as they both maintain a considerate market share, specifically in the premium smartphone industry. Apple's key markets are North America, Europe, and China, with some other emerging markets offering growth opportunities as smartphone penetration increases.

Key Industry Drivers and Trends:

Technological advancements continue to run innovation at Apple, Apple influences the development of products and services new to the technology industry such as augmented reality features and AI functions and services.Apple is constantly adapting to changing data privacy laws and trade policies that are impacting their global operations. Economic factors like income level, purchasing power, and the global economic conditions are influencing the consumer spending on Apple products, and affecting sales performance and overall market dynamics.

Competitive Landscape:

Samsung and Google are two major competitors for their smartphones and pixel devices as well as hardware. There are multiple product lines between the two companies and innovation and price are two leading competitive factors. Apple stands out because of its customer relations, name-brand title and brand loyalty and awareness, product innovation and rapid production, and

services that allow for continual purchases within stores and online. Regarding entry, there is strong brand loyalty, investment in R&D, and new technology and intellectual property with patented tech. For exits, international trade with complicated regulations can be difficult to maneuver, agreements with other partnerships and obligations for the long term scale, and sunk costs like infrastructure and development investments.

Supply Chain and Distribution Channels:

Apple's supply chain is extremely efficient because of its outsourcing and in-house production. Foxconn is the assembler while many other sources are used for specific elements like display panels and semiconductor chips. Pegatron does its device preparation and assembly, and Apple emphasizes its relationships with partnerships that enable environmental sustainability. Apple has an online store, in-person stores, and other retailers to sell their products. Products are shipped globally through air and sea freight, and warehouses all over the country and world maintain limited products for efficient selling.

Industry Challenges and Opportunities:

The Major challenges facing this industry right now are supply chain disruptions, globally, which impact production and delivery schedules for apple. As well as intense competition in the tech industry as a whole with emerging innovation from chinese manufacturing. This also comes with cybersecurity threats and ensuring the privacy and security of user data. Apple also has lots of growth area with the continued investment in AI and machine learning. As well as advancements in AR and VR technology, like the new apple pro vision. Apple has a future outlook by entering new markets like healthcare for example.

1.) We have four years recorded in history, ranging from 2020 to 2023. We are predicting from 2024 (current) to 2033.

2. When predicting Apple's Financial metrics, Revenues, and tax rate, we are able to make a number of assumptions based on general market patterns, competitor performance, historical trends within internal performance such as the revenue growth rate of around 6%, product release or advancements, as well as a number of other factors. In terms of the financial metrics such as Gross PPE, COGS, SG&A, D&A, R&D, and OpEx it's likely we will observe investment in innovation, potential M&A, efficiency improvements, and measures to cut costs all of these will result in positive growth measures regarding all these numbers; you could expect to see similar patterns of growth in these numbers as they have had in recent years as well.. Tax rate can be rather difficult to predict accurately as it is controlled by many factors, often global factors such as politics such as legislative change (often more significant change than in the US), trade and commerce, regulations, global economies and distributions. Though assuming globally things do not shift too much we can assume this will remain around 16% as it has in recent years.

3. When predicting NWC, CapEx and Salvage value, we can assume trends will remain relevant to recent years without any large unpredictable changes in market conditions. For NWC this is about 10% of Apple's total revenue meaning that for the period of 2024 NWC will be around $43.2B. CapEx remaining upon consistent trends this number falls around $9-12 billion annually therefore, we could assume this number will be anywhere around $13 billion and under. Finally for Salvage value exact numbers are difficult to speculate as factors such as depreciation methods and strategies for disposal of assets employed by Apple however this number will likely be a small fraction of PPE assuming 10% or less.

4. We used the Capital Asset Pricing Model, or CAPM, to figure out the cost of equity. When executed, the equation would be .05+ 1.25 x (.14) which gets an answer of cost of equity to be 15.92500%.
5. The number we found for the cost of debt was 1.85%. You can use the historical data from previous years to find this value. Using the historical data you can use the formula for cost of debt which is Interest Expense/Total debt. The instructor told us to input the value of 1.85% into our DCF model in excel rather than calculating it. The total cost of debt for the year of 2024 is around $105 billion at an average interest rate of 3%. In 2024 payments will fall around $3.15 billion. Tax rate next will be around the average of 16%, meaning after taxes cost of debt should fall around 3%x(1-0.16)=3%x0.84=2.52%, $105B/2.52%= $2.646B.
6. To find WACC, we plugged in our calculations that include cost of debt (1.85%), cost of equity(15.93%), weight on equity(97.51%), weight on debt (2.49%) and the tax rate (14.7%). These values led us to the equation (0.9751x 15.93%) + (0.0249 x 1.85% x (1 - 0.147)) to get us to (0.9751 x 0.1593) + (0.0249 x 0.0185 x 0.853). Finally, 0.1554 + 0.000396= 15.58%. The high cost of equity can be a major component of this calculation.
7. Terminal Value represents the valuation of Apple and all the financial metrics predicted beyond a period of forecast. This can be calculated using two different strategies but follows a belief that a company will continue at steady growth rates beyond the foreseeable future. Corresponding assumptions in regards to the Terminal value of Apple would include Perpetual Growth rate assuming this is 2-3% annually consistent with global GDP growth rates. Discount rate based on Apple's WACC will fall around 8%. FCF will follow both future and historical predictions and trends. Exit Multiple will remain at a value of 10-12x EBITDA based on comparable analysis and market/industry trends.
8.The expected Stock Price from the DCF model was $58.51. The formula we used to calculate our EV gave us a number that was significantly lower than it should have been. We were unable to identify the cause of the low EV so we left it, and then made another version with the adjusted EV which gave us an expected price of $203.08.
9. The competitors and comparable companies include Google, DELL, Microsoft and Amazon. All of these companies are in the consumer technology and digital services industries. Each company offers products such as computers, cell phones and other online services.
10. We used two multiples in the multiples section of the firm valuation. The first multiple that we used is EV/EBITDA. This multiple allows us to evaluate the valuation of competitors in the same industry. The average for this multiple was 20. The second multiple that we used is EV/Revenue. This multiple also allows us to evaluate competitors' valuations but it also allows us to analyze competitors revenue performance. The average for EV/Revenue was 6. Given the alternative method for calculating the expected stock price, we found that the expected value of the stock is between $140.17 and $153.01. Given this information, we found that the average expected stock price is $146.59.
11.Our expected stock price from the comparable model is $146.60.
12.According to our expected price that our model gave us of $58.51 the model has determined that Apple’s stock price is way overvalued. Due to this we expect the stock to decrease long term, and as a result we recommend selling all shares of Apple immediately. When looking at our manually adjusted EV it has the current stock price at $203.08 which is a little above the current price of $195.52. Based on this we recommend buying some more shares, but not a significant amount because the expected value is not significant. It is still a good investment so it

is worth buying some shares but not a large amount. Next, we recommend setting a sell price around $205 and when the stock reaches that price to sell all your shares.
13.When filling out the expected stock prices for Apple there were some special characteristics we dealt with. For example many of the numbers we looked at when filling out our data were in different units such as thousands, millions, or billions. As a result we had to convert all the numbers to the actual number so all the values were the same.

Excel link: https://1drv.ms/x/s!Akb66_da-Llqgn-fzN_Un94HTMp4

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