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# Mergers & Acquisitions: The proposed acquisition of Sonos by Apple

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# Abstract

Almost all devices around us today can be defined by two words: “Smart” and “Connected”. Smart speakers are one of the fastest growing categories with these two features. Smart speakers’ market is expected to grow at an impressive double-digit pace in the coming years. Despite of Apple being considered one of the most innovative companies in the world, it is failing to establish a good position in this market. In this dissertation, it is proposed the acquisition of Sonos Inc. by Apple in order to improve its performance in this very attractive market. Sonos Inc. intrinsic value is equal to $5698 million. The deal will be an all-cash deal, following a friendly approach with a purchase premium of 30% on Sonos Inc. current market value as of 31st of August 2021. The proposal generates a total purchase price of $6450 million, capturing net synergies of $1127 million.

Quase todos os dispositivos ao nosso redor nos tempos que decorrem podem ser definidos por duas palavras: “Inteligentes” e “Conectados”. Os altifalantes inteligentes são uma das categorias com o crescimento mais rápido contendo essas duas características. Espera-se que o mercado de altifalantes inteligentes cresça a um ritmo impressionante de dois dígitos nos próximos anos. Apesar de a Apple ser considerada uma das empresas mais inovadoras do mundo, não está a conseguir estabelecer uma boa posição neste mercado. Nesta dissertação, é proposta a aquisição da Sonos Inc. pela Apple com o objetivo de melhorar sua atuação neste mercado tão atraente. O valor intrínseco da Sonos Inc. é igual a $5698 milhões. A transação será realizada em dinheiro, seguindo uma negociação amigável com um prémio de compra de 30% sobre o valor de mercado atual da Sonos Inc. a 31 de agosto de 2021. A proposta total é de $6450 milhões, considerando as sinergias líquidas de $1127 milhões.

**Keywords:** Smart speakers, Sonos, Apple, deal, synergies

**Tittle:** Mergers & Acquisitions: The proposed acquisition of Sonos by Apple

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# List of Abbreviations

| | |
|---|---|
| **AI** | Artificial Intelligence |
| **APAC** | Asia-Pacific |
| **CAGR** | Compound Annual Growth Rate |
| **CAPEX** | Capital Expenditures |
| **CAPM** | Capital Asset Pricing Model~ |
| **CEO** | Chief Executive Officer |
| **CF** | Cash Flow |
| **CFO** | Chief Financial Officer |
| **D&A** | Depreciations & Amortizations |
| **DCF** | Discounted Cash Flow |
| **EBIT** | Earnings Before Interests and Taxes |
| **EBITDA** | Earnings Before Interests, Taxes, Depreciation and Amortization |
| **EMEA** | Europe, Middle East and Africa |
| **EV** | Enterprise Value |
| **FCFF** | Free Cash Flow to the Firm |
| **G&A** | General & Administrative |
| **GDP** | Gross Domestic Product |
| **IP** | Intellectual Property |
| **M&A** | Mergers and Acquisitions |
| **NOPAT** | Net Operating Profit After Tax |
| **NWC** | Net Working Capital |
| **PER** | Price-Earnings Ratio |
| **PV** | Present Value |
| **R&D** | Research & Development |
| **SEC** | Securities and Exchange Commission |
| **TV** | Terminal Value |
| **US CPI** | United States Consumer Price Index |

| | |
|---|---|
| **US ITC** | United States International Trade Commission |
| **WACC** | Weighted Average Cost of Capital |

# 1. INTRODUCTION

Over the years, technology has created amazing devices and tools, as smartphones and smartwatches, that have revolutionized our world and daily lives.

One of the latest technological innovations are the smart speakers. Smart speakers are devices that are activated by a voice command to realize different tasks such as listening to music, controlling the home´s lights, and ordering food. The global market of these devices has grown at an impressive pace, having achieved a growth of 44.9% in the third quarter of 2019. The top five players of this market are Amazon, Google, Alibaba, Baidu and Xiaomi.

Despite of Apple being considered one of the most innovative companies in the world, it is failing to establish a good position in this market. The HomePod (Apple´s product) was not well accepted by customers due to high prices and Siri-related limitations (Apple´s assistant voice). In November 2020, Apple launched the HomePod mini which has been better accepted than HomePod. However, Apple still has a lot of work to do in this market. A M&A transaction can be the solution for Apple to obtain a higher market share in this developing market. Sonos is the target firm suggested in this dissertation, given the number of important similarities they share such as, the perception of premium of their brands, high quality of their products and value design. Hence, it is hard to find one firm in the market that seem more philosophically aligned with Apple than Sonos.

Therefore, the dissertation´s main research question is the following: *Should Apple acquire Sonos on the 31$^{st}$ of August 2021?*

The dissertation is structured as follows: Section 2 review the relevant previous research on the different subjects discussed during the dissertation; Section 3 and 4 provides an in-depth analysis of macroeconomic and industry context; Section 5 provides an in-depth analysis of the firms under scrutiny; Section 6 presents the rationale behind this deal; Section 7 provides the valuation of target firm under different valuation methods; Finally, section 8 presents an overview about deal process.

# 2. LITERATURE REVIEW

## 2.1. Mergers and Acquisitions

M&A is a generic term for two types of transactions: mergers and acquisitions. Sometimes, they are referred to as one and the same but there is a difference. An acquisition occurs when one firm either buys a controlling interest in another firm´s shares, a business operation including the assets or the entire business entity. While a merger occurs when relatively equal firms agree to combine and become one entity. Acquisitions are much more common than mergers because it is not frequent that two firms are truly equal and can co-exist in a merged fashion. In practice, one firm almost always dominates the other.

The main purpose of M&A deals is to create value for shareholders, meaning that the value of the whole (combined firm) is greater than the value of the sum of its parts (the former separate firms).

### 2.1.1. Classification of M&A Transactions

M&A transactions can be classified in different ways according to the deal characteristics as showed in Table 1.

| **M&A Classifications** | | |
|---|---|---|
| ***Value Chain*** | ***Offer´s Characteristics*** | ***Economic/Geographic Area*** |
| • Horizontal<br>• Vertical<br>• Conglomerate | • Friendly<br>• Hostile | • Domestic<br>• Cross-Border |

Table 1 - M&A Classification

From the standpoint of value chain, M&A transactions can be classified as horizontal, vertical or conglomerate. A horizontal M&A takes place when the merged companies provide the same product or service to final customer, which means that they play in the same industry and are at the same stage of production. A vertical M&A occurs between entities that are in the same industry, but in different levels of the supply chain. Lastly, the conglomerate M&A occurs between completely unique companies. Typically, the main goal of this type of deal is to expand into other industries.

In terms of Offer´s Characteristics and the way the company is taken over, the M&A transaction can be classified as friendly or hostile. The difference between these classifications is in the position of the target firm´s management and shareholders in relation to the deal. In a friendly offer, the managers of the target firm support the transaction. On the other hand, if they are against the deal, it´s a hostile offer. This may have a significant impact on price and Damodaran (2005) states that the premiums on friendly deals are smaller than hostile mergers.

Lastly, M&A transactions also can be classified based on the locations where the firms involved in the deal are home based or operating. A deal is considered as domestic when is made between two firms within the same country, while it is classified as cross-border when involves two firms from different countries.

### 2.1.2. The motivations for M&A

There are several explanations for the existence of M&A deals. Seth, Song, and Pettit (2002) refer that understanding these explanations is the key to understand the success or failure of deals. Berkovitch & Narayanan (1993) identify synergies, agency and hubris as the three major reasons to justify M&A transactions.

Synergies are by far the most used justification that acquirers give for the premium they pay for a target. Damodaran (2005) define synergy as "the additional value that is generated by combining two firms, creating opportunities that would not been available to these firms operating independently". The author also refer that this concept can be categorized into two different groups: operating synergies and financial synergies.

Operating synergies are those that allow for efficiency gains or operating economies and can arise from: economies of scale, greater pricing bargaining power, combination of different functional strength or higher growth in new or existing markets. These synergies generally show up as higher expected future cash flows. (Damodaran A. , 2005)

On the other hand, financial synergies occur when the combination of firms improves financial activities to a level higher than if the firms were operating as separate entities and can emerge from: a combination of a firm with excess cash and a firm with high-return project, tax benefits, diversification, or higher debt capacity. They generally show up as higher cash flows or lower cost of capital. (Damodaran A. , 2005)

The agency theory suggests that acquisitions are motivated by acquirer management´s self-interest where they are searching for gains at the expense of shareholders gains (Berkovitch & Narayanan, 1993). For instance, managers might close a deal that increases the present value of their compensation even though that acquisition might destroy shareholder value (Berk & DeMarzo, 2017)).

Lastly, the hubris (overconfidence) hypothesis proposes that managers make mistakes in target firms´ valuations and engage in deals even when they have low chance of creating value because CEOs believe that they have enough abilities to succeed (Roll, 1986).

### 2.1.3. Payment Methods

The method of payment for the purchase price of the transaction is a key decision drive in a M&A transaction, since it can have huge consequences in the firm value. This decision has large impact on the buyer capital structure, ownership struct ure and taxation. Managers can choose between all-cash method, all-stock method or a mixed offering to fund the transaction.

All-cash deals occur when the buyer firm use only cash as method of payment. Cash may be obtained from internal sources or through additional debt. As M&A transactions are typically of large size, it´s common the buyers to fund themselves with new debt. As a result of this leverage, the buyer firm can incur in financial distress costs and divert leverage capacity from other opportunities. However, it can take benefit of the interest tax shield and remain ownership structure unchanged.

In all all-stock deals, shareholders of the target firm receive shares of the acquiring firm as payment, rather than cash. It can be an interesting payment method if there is possibility to defer taxes, if the acquirer´s shareholders are not concerned with corporate control or if debt capacity is limited. Although, this method is a problem if the acquirer wants to preserve the control.

Nowadays, mixed offerings are the most common payment method in M&A deals. In a mixed offering, the acquirer firm offers a mix of cash and stocks to fund the transaction. For large deals, this method is often the only realistically available type of payment due to the flexibility that it offers to the buyer.

According to Chaney, Lovata & Philipich (1991) and Boateng & Bi (2013), there are four key factors that influence the buyer's firm to choose the preferred payment method: cash availability, leverage, collateral and profitability.

### 2.1.4. Return to Shareholders

Over the years, the abnormal returns obtained by shareholders with the announcement of an M&A transaction have been studied by many researchers. Despite the results of these studies varying in terms of data and methodology, they show that shareholders of the target firms obtain positive abnormal returns, while the results regarding buyer's shareholders are inconclusive, existing studies that show positive earnings, and others that observe negative or nonsignificant returns. However, all studies commonly agree that returns of the buyer firms´ shareholders, whether positive or negative, tend to be low .

Some researchers performed in-depth analysis and tried to understand the factors that explain the abnormal returns through regression analysis. Jarrel & Poulsen (1989) states that changes in regulatory environment, competition between bidders and differences in relative size of the bidder and target firm are factors that negatively affect the buyer shareholders wealth. Wansley, Lane & Yang (1983) suggests the method of payment and the type of acquisition as those factors. Other variables related with profitability and stock ownership of the firms involved in transaction have also been proved to be significant by other researchers.

As a final remark it is important to retain that exists strong evidence that M&A activity creates value and that it is asymmetrical distributed between target and bidder´s shareholders, being the shareholders of the target firm the main beneficiary.

### 2.1.5. M&A in Technology Sector

M&A deals have remained an important source of value generation and growth for the technology sector. Before the emergence of coronavirus, tech M&A was robust. However, as expected, the pandemic had a huge impact on M&A activity in the first half of 2020. There was a decrease in the number of deals due to a lack confidence in the global economy as well as some problems of interaction that hampered the concretization of such transaction. In the second quarter of 2020, tech M&A exploded, having its spending soared to the highest level since the dot-com collapse. In 2021, it is expected that tech M&A will continue strong.

## 2.2. Valuation Models

Firm valuation importance has increased through decades, along with the evolution and development of capital markets and M&A industry. Fernández (2007) considers that understanding the instruments to value companies is an "indispensable requisite", but he explains that there are two concepts that must be clarified above all, price and value, as "value should not be confused with price" (Fernández, Company valuation methods. The most common errors in valuations, 2007). The concept of value does not match the concept of commensuration mentioned above, as the author argues that the concept linked to transactions is pricing, rather than value. Price always depend on the maximum value a buyer is available to pay and on the minimum value a seller is available to sell. In fact, there are various factors besides the asset value that can influence the transaction price: the seller´s need for liquidity, the buyer future economies of scale, among others.

Although the price depends always on firm's external factors, researchers believe that every company has its own value. This value, independent from transactions' variables, correspond to the concept of intrinsic value, described by Damodaran (2006) as the asset value that would be obtained if we would be able to put together simultaneously: i) all the information regarding a corporation available to ii) an all-knowing analyst, that would perform a valuation through iii) "a perfect valuation model".

The valuation can be performed using different methodologies which have been evolving with time, having each one their own advantages and disadvantages. Although the different methodologies approach valuation from a different point of view, there is consensus among the research community that each methodology, used in the right way, is no more than a different way to approach the valuation problem, ending up to have the same underlying model. At the end of day, the model to choose should be the more robust one given all the lack and bias of available information (Young, Sullivan, Nokhasteh, & Holt, 1999).

Some methodologies share most of the computation mechanisms, being possible to aggregate the wide range of existing valuation approaches in broader groups. Researchers consider different categorizations but is possible to find similarity in their classifications. This dissertation only will focus in the two main groups:

I. Discounted Cash Flow
II. Relative Valuation (Multiples)

### 2.2.1. Discounted Cash Flows - Based Valuation

DCF is one of the most used methodologies and it is based on the finance dogma that "cash is king" (Copeland, Koller, Murrin, & J., 2000). Behind this paradigm is the notion that the value of an asset is a function of the expected future cash flows that asset will generate (Damodaran A. , 2006).

The future CFs are discounted to the present at the risky rate (r), which reflects the risk carried by the cash flows. This methodology always includes two streams of cash flows, depending on how stabilized the analyst believe the cash flows will be at a certain moment: the explicit period cash flows and the terminal value (Vernimmen, Quiry, Dallocchio, Fur, & Salvi, 2005).

The explicit period of cash flows is forecasted by the analyst and must be sufficiently long for the company to reach the steady state (constant growth that typically depends on the company life stage, the macro context and the industry, and constant rate of return in both assets-in-place and growing assets). The terminal value is calculated as the PV of the perpetual CFs that the company will generate at a constant growth rate (g) (Koller, Goedhart, Wessels, & Others, 2010),

$$DCF = \left[\frac{CF_1}{(1+r)^1} + \frac{CF_2}{(1+r)^2} + \cdots + \frac{CFn + TV_n}{(1+r)^n}\right],$$

$$TV_n = \frac{CF_n \times (1+g)}{(r-g)}$$

#### 2.2.1.1. Cost of Capital Estimation

##### 2.2.1.1.1. WACC

Free cash flows to the firm are cash flows made available for all investors and therefore they must be discounted at a rate that reflects the cost of firm's all types of financing (debt and equity), in other words, it should reflect the required return of all investors (debt and equity holders) (Koller, Goedhart, Wessels, & Others, 2010). In order to apply firm's real cost of capital, it is necessary to consider the relative amount of each type of financing in firm's total liabilities, thus FCFF are discounted at the weighted average cost of capital (WACC).

The WACC calculation encompasses three main drivers: cost of equity, after-tax cost of debt and company's target capital structure (Koller, Goedhart, Wessels, & Others, 2010):

$$WACC = \frac{D}{V} \times K_d \times (1 - T) + \frac{E}{V} \times K_e$$

*D: market value of debt*

*E: market value of equity*

*V: enterprise value*

*T: income tax rate*

*$K_d$: cost of debt*

2.2.1.1.2. Cost of Equity ($K_e$)

There have been multiple models developed regarding the cost of equity calculation but is consensual that Capital Asset Pricing Model (CAPM) is the standard model to estimate it (Damodaran A. , 2002).

CAPM stablishes the expected equity rate of return as a function of three factors that must be estimated, the risk-free rate ($r_f$), the company's systematic risk (β) and the Market Risk Premium (MRP) (Copeland, Koller, Murrin, & J., 2000).

$$K_e = r_f + \beta \times MRP$$

$$MRP = R_M - r_f$$

*$R_M$: expected return on the market portfolio*

The stock market refers to the concept of market portfolio, according to which it exists a market where all investors have the same information (there is no price imperfections), don't have transactions costs and hold a portfolio that captures market's total diversified risk by having all traded investments in their proportion of market value. Additionally, investors can invest in risk free assets according to their risk appetite (Damodaran A. , 2002).

2.2.1.1.3. Risk Free ($r_f$)

The risk-free rate is the absolute minimum return that investors require to part away with their money. The estimate of risk-free rate is typically based on long-term zero-coupon government bonds. Although they are necessary totally risk-free rate, US and Western Europe government

bonds have very low betas (to be risk-free, a security must have a zero-beta) (Koller, Goedhart, Wessels, & Others, 2010).

Because governments issue different maturities long-term bonds, is important to choose which bonds to use as reference. Koller *et al.* (2010) advocate that, in theory, each cash flow should be discounted at the yield of a zero-coupon government bond with the same maturity, i.e. for cash flows generated 10 years from now, a 10-year government bond should apply.

However, most of analysts uses, for simplification purposes, 10-year zero-coupon government bonds for the entire cash flow stream (Koller, Goedhart, Wessels, & Others, 2010). Damodaran. (2002) found that 10-year treasuries or longer are used as risk free rate in 70% of the cases.

2.2.1.1.4. Beta

The risk added by an individual asset is measured by comparing its behaviour with the market portfolio's (Vernimmen, Quiry, Dallocchio, Fur, & Salvi, 2005). Thus, assets that move independently of market portfolio have higher firm-specific risk than market risk, which can therefore be diversified, resulting in low risk added to the market portfolio (Damodaran A. , 2002). The firm-specific (systematic) risk is represented by firm's Beta (β) which is a standardized measure to relate the covariance of the asset and the market portfolio with the asset ($Cov_{mi}$) and the variance of the portfolio ($\sigma_m^2$) (Damodaran A. , 2002).

$$\beta_i = \frac{Cov_{mi}}{\sigma_m^2}$$

Thus, being the market beta equal to 1, firms with the same beta will move simultaneously with the marker average. Otherwise, the stock is riskier than the market average if its beta is higher than 1, or less risky if the beta is between 0 and 1 (Damodaran A. , 2002).

2.2.1.1.5. Market Risk Premium

The return that investors require in excess of riskless rate is known as market risk premium. Indeed, it is the required return for investments with average market risk (Damodaran A. , 2010).

Estimates have been obtained from investment bankers, leading analysts, surveys of academics and CFOs, aggregated data on implied risk premium and long-term average past realized returns

in many different markets around the world. The different methods and data support a range for a market risk premium between 4% to 6%.

#### 2.2.1.1.6. Cost of Debt

The cost of debt must truly represent the rate at which a company can borrow money. Damodaran (2002) explains that it can be obtained by adding a company-specific default spread to the risk-free rate. For firms that are rated by credit risk rating agencies, it is possible to obtain the default spread by matching the firm's rating with market expected default spreads (Damodaran A. , 2002).

### 2.2.1.2. Enterprise DCF

To calculate firm's equity value using this particular DCF method, the value of equity is equal to the enterprise value (EV) minus the value of any nonequity financial claims (Koller, Goedhart, Wessels, & Others, 2010). The enterprise´s value (EV) is obtained by discounting future free cash flows to the firm (FCFF) at the weighted average cost of capital (WACC):

$$EV = \left[\frac{FCFF_1}{(1+Wacc)^1} + \frac{FCFF_2}{(1+Wacc)^2} + \cdots + \frac{FCFF_n + TV_n}{(1+Wacc)^n}\right]$$

In general, free cash flow to the firm represents the cash generated by a company that is available for any business decision.

There are two common ways to compute this cash flow:

$$\text{FCFF} = \text{NOPAT} + \text{Depreciation} - \Delta\,\text{NWC} - \text{Capex},$$

$$NOPAT = EBIT \times (1 - T)$$

$$\text{FCFF} = \text{EBITDA} - \Delta\,\text{NW}C + \text{Taxes} - \text{Capex}$$

### 2.2.2. Relative Valuation (Multiples)

This is the most commonly applied valuation technique, inclusively Damodaran (2002) found that 90% of equity research valuations and 50% of acquisition valuations use relative approach, and Fernández (2002) mention a Morgan Stanley Dean Witter research to refer that multiples were by far used often by analysts valuing European companies than, for example, DCF (more than 50% use PER and near 20% use DCF).

The mechanism behind this approach consists basically on the application of market observed multiples (ratios) over companies' fundamentals, what leads researchers to argue that there is two key factors driving this methodology (Damodaran A. , 2006).

1. *The choice of the peer group, and;*
2. *The choice of which multiple to apply.*

Peers group is composed by companies with characteristics similar to the company object of valuation. The trickiest concern among the research community has to do with what characteristics to consider in order to make companies more comparable. Bhojraj and Lee (2002) refer that some researchers suggest "that the selection of comparable firms is essentially «an art form» that should be left to professionals".

For Damodaran (2006) the three drivers that make firms comparable are cash flow, growth potential and risk. The author disregards the industry as key driver for this methodology by arguing that it may not exist firms in an industry with similar profile, notwithstanding it is probable that somehow exists similar firms in other industries, taking into account the three drivers mentioned. However, peer group selection by industry has been proved as effective, once the industry is chosen by the three SIC code digits (Alford, 1992).

Companies' growth potential is in fact considered an important factor for practitioners, and Koller et al. (2010) reinforce the idea that companies' peer group must contain firms with similar growth prospects.

Macro and microeconomic factors are also considered relevant for comparable's selection, since only firms competing in the same market are likely to face the same exogenous stimulus and therefore susceptible to reach similar growth and returns on capital (Foushee *et al*., 2012).

At last, it is important to refer that both companies' prices and fundamentals, in which multiples are based in, may be collected from trading prices in stock exchanges (market multiples) or inferred from M&A operations (transaction multiples). Although literature is scarce on this issue, it is really important for valuations, once the two sources provide different views of value. Listed companies' prices reflect the buy and sell price of many investors, but Vernimmen et al. (2005) highlights that comparables based on deals have the benefit of reflecting actual transactions prices.

Regarding the selection of the multiple, research shows that multiples can be classified in two main groups: equity multiples and enterprise multiples. The first group of multiples is based on firms' earnings (operating earnings after interests) and market capitalization at the valuation date. On the other hand, enterprise multiples are based on earnings before interests' expenses and firms' total value (equity plus debt) (Vernimmen, Quiry, Dallocchio, Fur, & Salvi, 2005).

The most used equity multiples include price to book value (PBV) and price to earnings (PE) ratios. On the other side, the main enterprise multiples used are and EV/EBITDA and EV/Earnings Growth (Fernández, 2002).

There also are some ratios that could be classified in independent categories, namely revenue multiples (e.g. price to sales) and sector-specific multiples (e.g. price per ton of wood) (Damodaran A. , 2002). However, most literature keeps the broader classification.

Regardless the selection of the multiple, the choice of the fundamentals' period is deeply discussed by researchers and the majority seems to prefer forward-looking multiples. Liu *et al.* (2002) found that forward earnings have the best valuation performance by comparing valuation outcomes with actual stock's prices. The authors concluded that valuations based on historical prices had 23% deviation, in opposite with 18% for one-year forecasted earnings and 16% for two-year forecasted pricing (Liu, Thomas, & Nissim, 2002).

Koller et al. (2010) adds that aside from choosing the right multiple to apply, it is also important to calculate it consistently, either by using the same underlying assets or by normalizing the income variables used. Even so, this may be considered as a particular matter regarding the multiple choice.

#### 2.2.2.1. EV/EBITDA

This is the most used alternative to PE, being the most significant methodological difference (compared to PE), also one of the multiple's main virtues: since it considers both debt and equity, it is less susceptible to different capital structures (Goedhart, Koller, & Wessels, 2005).

The multiple is simply and frequently presented as the ratio between firms' enterprise value (EV) and its EBITDA:

$$EV/EBITDA = \frac{EV}{EBITDA}$$

Although this ratio is often used in valuation, researchers point out several disadvantages, mainly regarding the use of the EBITDA. A Moody's Senior Vice President commented on the failings of EBITDA as main determinant of cash flow, listing the most ten critical ones, from which Fernández (2002) highlights the lack of consideration regarding changes in working capital requirements and capital investments. Regarding this last concern, Vernimmen et al. (2005) warns that firms may have significant differences in terms of depreciation methods and periodicities, consequently influencing the depreciation levels.

### 2.2.3. Conclusion

Cash flow and relative valuation models are two different ways to compute the value of a company. The importance of using both approaches simultaneously to improve its performance is highlighted by Goedhart, Koller and Wessels (2005). Therefore, in this dissertation are used cash flow-based approach and relative valuation models to evaluate the target firm.

## 3. MACROECONOMIC OVERVIEW

The year 2020 was a historic year for the global economy. In the first half of 2020, the world was consumed by the Covid-19 pandemic (coronavirus) that changed everyone´s lives as we all knew it. Coronavirus and its preventive and mitigation measures, especially the lockdowns, triggered the strongest economic contraction in modern history, being the deepest recession since World War II.

However, the global economic outlook has improved significantly in 2021. The economic outlook´s main driver is the expectation that herd immunity will arrive before the end of the year, along with major fiscal support. In 2021, it is expected a recovery of the global economy, with a growth of 6%, moderating to 4.4% in 2022.

The figure 1 contains the economic growth forecasts, done by the International Monetary Fund (IMF), for the next six years. More detailed information is exhibited in Appendix 1.

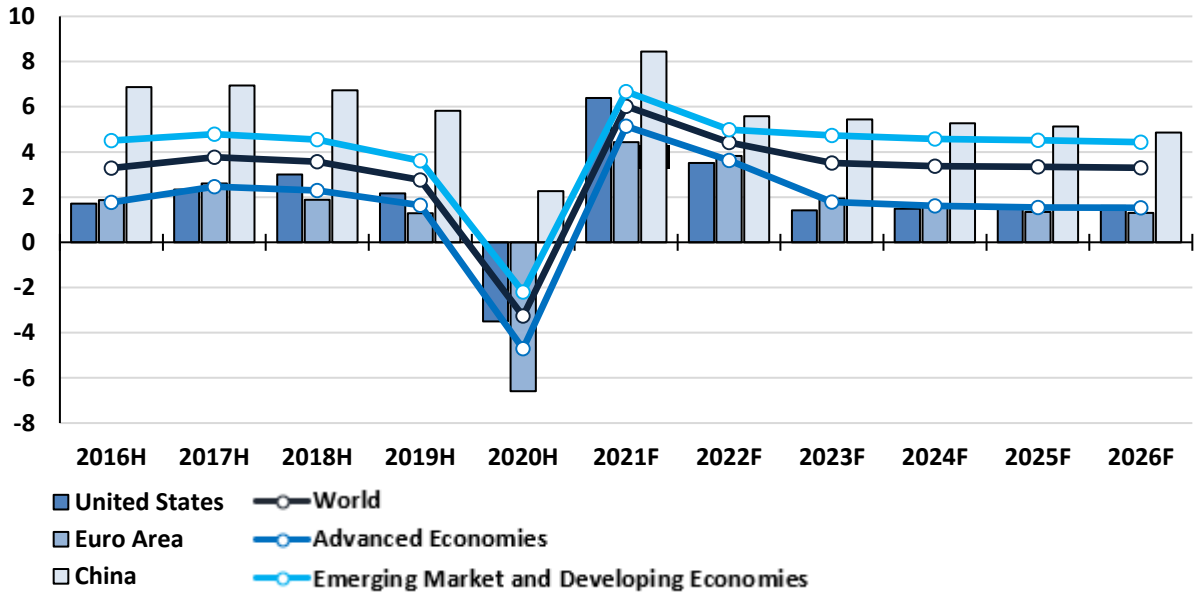


*Figure 1 - Real GDP, Annual Percent Change; Adapted from IMF Website, March 2021*

The United States economy is expected to expand by 6.4% in 2021, which represents the strongest growth since 1984. The stimulus package provided by the new Biden administration and the vaccination rollout are the main drivers of this forecast.

For Euro Area is forecasted a growth of 4.4% in 2021, underpinned by the pent-up demand and European Union recovery fund resources.

Even in pandemic period, the Chinese economy experienced an expansion, with a growth of 2.3% in 2020. China was the only one of the world´s largest economies that grew last year, although at the slowest pace since 1976. An effective containment of the covid-19 outbreak since the end of the first quarter of 2020, along with accommodative financial and fiscal policies and resilient exports were fundamental to its economic growth. For 2021 it is projected an expansion of 8.4% promoted by a forceful public investment response and central bank liquidity supports.

Additionally, it is expected that emerging markets and developing economies will support the global´s economic growth in the next six years, with emerging and developing Asia growing at a fast pace essentially driven by the growth of China and India.

These projections contain a high degree of uncertainty, with many possible downside and upside risks. Some of these risks depend on the race between the virus and vaccines. A faster progress in vaccines rollout can uplift the forecast, whilst new virus mutations that evade vaccines can lead to a keen downgrade.

## 4. MARKET OVERVIEW

Apple has a diversified portfolio of products. Hence, it is considered that it operates in more than one industry or sub-industry. On the other hand, Sonos only operates in consumer electronics and its focus is the smart speakers' market, one of the markets where Apple operates.

As the purpose of this dissertation is to suggest the acquisition of Sonos by Apple, this section provides an in-deep analysis of this common market.

### 4.1. Smart Speakers Market

Almost all devices around us today can be defined by two words: "Smart" and "Connected". Smart speakers are one of the fastest growing categories with these two features. Smart speakers are a type of speakers that have an integrated digital voice assistant powered by Artificial Intelligence (AI) that offers interactive actions such as listening to music, controlling the home´s lights, and shopping online.

#### 4.1.1. Market Segmentation and Competitive Environment

This market can be segmented based on end use of the smart speakers into personal or commercial channels. Personal channel includes the use of these speakers in household

purposes, while commercial channel includes applications in businesses, banking and financial corporations, public transit systems, among others.

According to the report of Global Market Insights, personal end use is expected to hold more than 90% of the market share in the next years, essentially driven by the expected growth of the smart homes where these devices play a key role, serving as the central hub for other smart devices. The possibility of intelligent connection between these devices and other smart devices as thermostats, smart TVs or smart light bulbs can contribute to a higher comfort of homeowners.

However, it is also expected that the market growth to be boosted by the increasing use of smart speakers for commercial purposes. Financial institutions such as the U.S Bank, Capital One and American Express already are using artificial intelligence to offer services, such as paying bills, money transfers and checking balances. For instance, U.S. Bank established a partnership with Amazon, Google and Apple in June 2018, launching its first banking services controlled by virtual assistants.

The Figure 2 contains a forecast of the distribution of smart speakers' shipments by region in 2020.

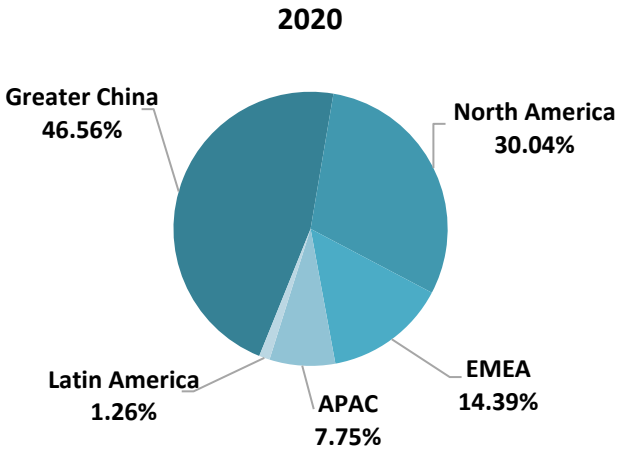


***Figure 2 - Smart Speaker Shipments by Region; Adapted from Statista***

The region of Greater China is expected to account for nearly half of the global smart speaker shipments projected for 2020. North America is the second region where it is expected the largest number of shipments, accounting with 30% of the global Smart speakers market.

Smart Speakers market is an extremely competitive and rapidly evolving market. The market is dominated by the high-tech companies, Amazon and Google. Other prominent players

comprise Baidu, Alibaba, Apple, Xiaomi, Sonos, among others. The market is characterized by intense pressures among players to develop products with innovative functionalities, whereby the participants in this market invest large amounts of money in R&D to bring innovation to their devices to combat the increasing competition. For instance, Amazon announced the launch of the Amazon Echo Show, the first smart speaker with an embedded screen, also known as smart display. In Figures 3 and 4 are presented the smart speaker´s market share by vendor in 2018 and 2019, respectively.

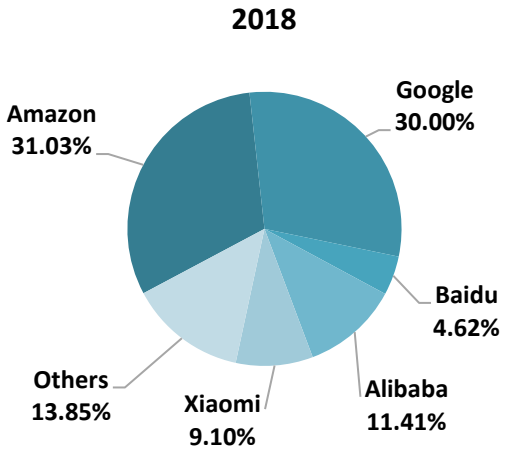


*Figure 3 - Global Smart Speaker Vendor´s Market Share in 2018; Adapted from Statista*

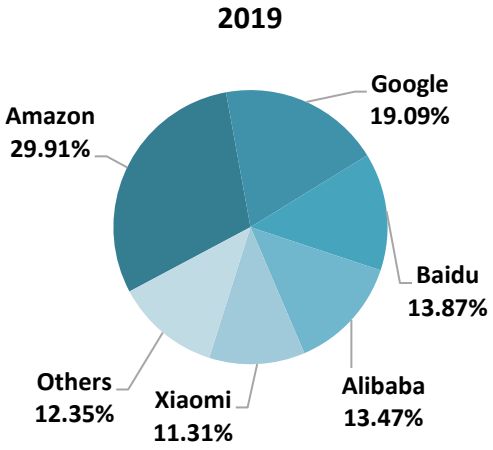


*Figure 4 - Global Smart Speaker Vendor´s Market Share in 2019; Adapted from Statista*

### 4.1.2. Growth Projections

The global Smart speaker market size was estimated at $11.9 billion in 2019 and is projected to grow at a CAGR of 19.98% between 2019 and 2025. In terms of shipments[1], it is expected

[1] In Appendix 2 is presented more detailed information about the forecast of smart speaker shipments

to grow from 85.1 million in 2019 to 394.1 million by 2025, at a CAGR of 29.11% (Statista, 2020).

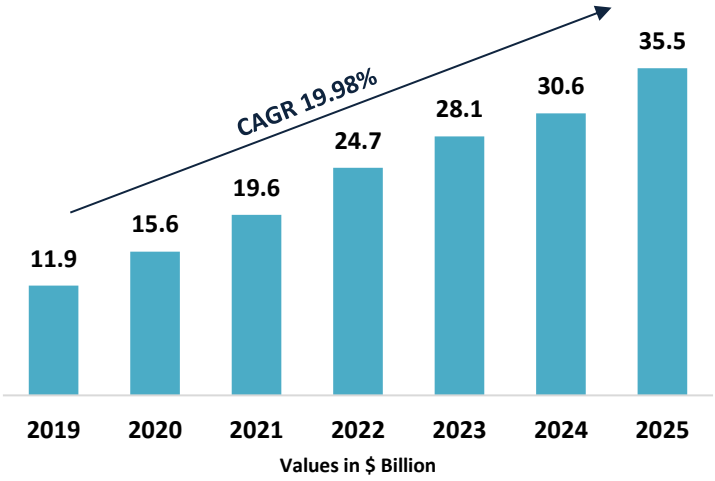


***Figure 5 - Smart Speaker Market Value Worldwide; Adapted from Statista***

4.1.3. Market´s Key Drivers, Challenges and Opportunities

The growth of the global smart speaker market is expected to be driven by (1) the increasing popularity smart home technology, (2) increasing demand for multifunctional devices, (3) rising in real disposable income and (4) growing attraction of the millennial generation towards technological devices. However, (5) privacy and security concern and (6) localization of language spoken by intelligent virtual assistant represent the main challenges of this market. Additionally, (7) development of fifth generation (5G) infrastructure is expected to create incredible opportunity for the market growth.

1. **Increasing popularity of smart home technology (Driver):**

Smart homes are residences that use a set of interconnected smart devices that can be automatically controlled remotely from anywhere with an internet connection. Smart homes are ceasing to be an exotic idea of a minority of technology enthusiasts to be more topical and enticing than ever. According to a report[2] published by Statista, the penetration rate of smart home worldwide was near to 10.6% in 2020 and it is expected to increase to 21.4% in 2025. People are gradually replacing traditional home devices by smart devices. Convenience, safety and cost saving are seen as the main advantages that smart home solutions can bring to their homeowners. The growth of the smart speaker market is significantly propelled by the

2

increasing popularity of smart home technology due to the capability of the smart speakers to smoothly connect with other smart home devices.

2. **Increasing demand for multifunctional devices (Driver):**

A multifunctional device is a single device that allows people to do multiple tasks. One example of a multifunctional product indispensable in our lives is the smartphone. In last years, the smartphone market experienced a significant growth. The main reason appointed to the success of smartphones is the different features that it can offer to their owners. Smart speakers are also an example of a multifunctional device that offer various features such as listening to music and news, ordering some food, checking weather information, controlling other smart devices and much more through a simple key word. All the features concentrated in only one product offer more utility to the consumer at minimal incremental cost when compared with other substitute products. For this reason, the demand for smart speakers has been increasing.

3. **Real disposable income and a greater inclination toward technological products among Millennials (Driver):**

According to Deloitte[3], the household disposable income in U.S. decreased in 2020 but will return to its normal growth levels this year. An increase in the disposable income is associated with an increase in the purchasing power of consumers. Due to the lockdowns, people began to give more importance to their homes. Hence, it is expected a greater willingness by homeowners to invest their money in their homes. Additionally, Millennials are the generation most interested in having smart technology in their home. These above-mentioned factors boost the growth of the smart speaker market.

4. **Privacy and Security Concern (Challenge):**

Lately, there has been a growing concern about data protection. In the smart speaker market this concern is also a reality, mainly because these devices provide personalized service to its users by collection and analysis of the users' data. The possibility of smart speaker manufacturers to utilize private data collected for targeted advertising or other uses represents a threat to the privacy of the data. In addition to privacy, security is also a concern of the smart

[3] United-States Economic Forecast Report by Deloitte, 2020. This report already considers the covid-19 impacts.

speakers' consumers with the possibility of illicit cyber-attacks to their home setup. These privacy and security questions represent a big challenge to smart speakers' manufacturers.

### 5. Localization of Languages (Challenge)

Localization of languages is the process of adapting content, products and services to a specific country or region. Today, there are roughly of 6500 languages spoken in the world. Hence, internationalization represents a big challenge to smart speaker´s manufacturers. They need to concern with language understanding, translation and generation, including accent and dialects, and knowledge about the culture of the different countries (history, music, news, celebrities, jokes, among others).

### 6. Establishment of 5G Infrastructure (Opportunity)

5G is the fifth-generation mobile network and a new global wireless standard. The main advantage of this new infrastructure is the explosive data transfer speed up to 10 gigabytes per second. As smart speakers are devices that collect and analyze a large amount of data to offer a personalized service to its users, the high-speed internet can bring relevant improvements and efficiency to smart speaker's performance.

## 5. COMPANY REVIEW

### 5.1. Sonos Inc.

Sonos, Inc. is one of the world´s leading sound experience brands. It is an American based company that was founded in 2002 by John MacFarlane, Craig Shelburne, Tom Cullen and Trung Mai. The company is engaged in the development and manufacturing of wireless multi-room home audio systems.

#### 5.1.1. Market Performance

The company completed the initial public offering ("IPO") in August 2018 and is listed on the NASDAQ stock exchange under the symbol of "SONO.", with a free float of 98.60% and a market capitalization of $4.98 billion (August 2021 figures). Since its IPO, the firm's stock price increased 164.07%. In the last year, the stock price reached a maximum value of $41.19[4] and a minimum of $12.40[5].

[4] 52-Week High (14/04/2021)
[5] 52-Week Low (04/09/2020)

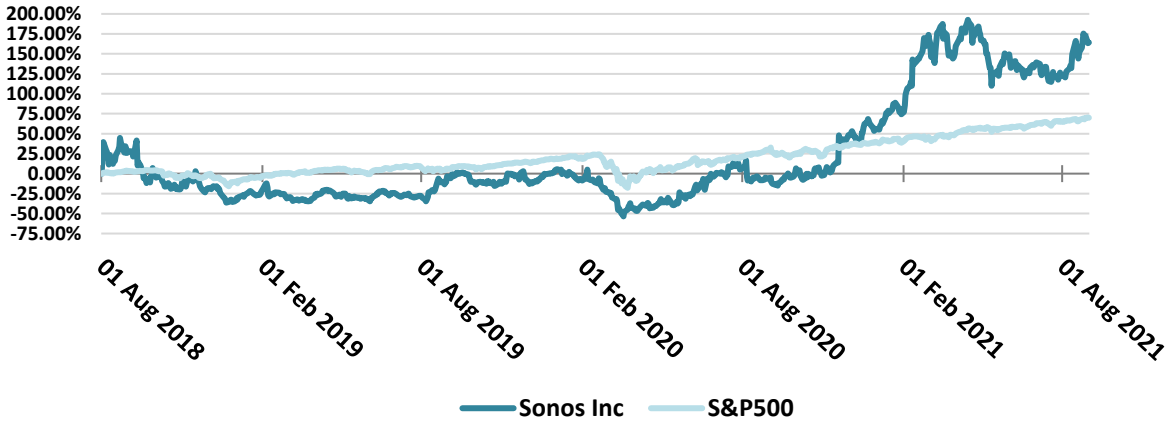


*Figure 6 – SonosvsS&P500 Index-Cumulative Daily Returns since 1st August 2018; Adapted from Bloomberg*

### 5.1.2. Ownership Structure

The company´s shares outstanding, as of August 2021, was 125.77 million, being the investment management companies BlackRock Inc and The Vanguard Group the largest shareholders of Sonos, with 9.57% and 8.96% of shares outstanding, respectively (Figure 7). The remaining shareholders were mainly investment managers, predominantly from U.S.

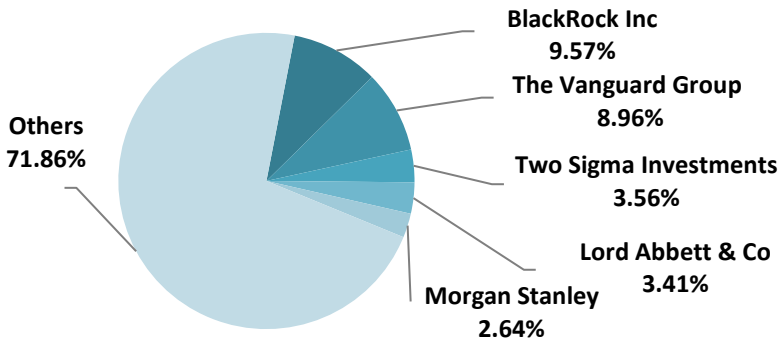


*Figure 7 - Sonos´ Ownership Structure; Adapted from Bloomberg Terminal, August 2021*

### 5.1.3. Sonos' Products

The company´s products[6] include wireless speakers, home theatre speakers, and other home audio components. Sonos has increasingly focused its product roadmap on smart speakers. The company believes that the success of its business depends on the continued growth of smart speakers' market, and its ability to establish and maintain market share on this market.

[6] Appendix 3 contains a Sonos' products overview

Since 2020, Sonos began to divide its product revenue in three different categories: Sonos Speakers (wireless speakers and home theatre speakers), Sonos system products and, Partner and other products.

Sonos products are characterized by their simple but attractive designs and their simple color schemes. Products are also known by their high sound quality and intuitive use form. Sonos' smart speakers are considered one of the best speakers in the market by innumerous review websites.

The company does not have an own virtual assistant. However, Sonos has partnerships with Amazon and Google that allow its customers to choose Alexa (Amazon VA) or Google assistant to integrate in their smart speakers.

### 5.1.4. Company´s Strategy

Sonos intends to continue to make strong investments in R&D to combat the increasing market competition. It has developed a long-term roadmap to deliver innovative products, services and software enhancements. The main goals of this roadmap are to attract new customers and increase the sales of existing customers, through the improvement of the customer experience.

The company is also committed in the improvement of the direct-to-consumer relationships. Sonos believes that the direct-to-consumer channels (Sonos website and Sonos App) will continue to be an important driver to its growth, as occurred in 2020. The relationships with partners are also a priority for Sonos. The company has more than 130 content partners[7], more than 10 home automation and home control partners[8] and 2 voice assistants' partners. The company intends to deepen the relationships with its current partners, as also establish new valuable partnerships.

In geographic terms, the Sonos' goal is to increase its household penetrations rates in the geographic markets where it already operates. Increase brand awareness, expand products offering and grow partner ecosystem are some initiatives that it will use to achieve this goal.

[7] Content partnerships improve customers experience, providing to access to streaming music, podcasts, audiobooks and other contents through Sonos' devices. Disney, Sportify, YouTube and Apple are some of the content partners of Sonos.

[8] Home automation and home control partnerships allow to build new products, applications, and services, increasing customer engagement and creating new experiences for Sonos' customers. The relations with IKEA and Audi are examples of this type of partnerships.

The company also intends to expand to new geographic markets, using region-specific marketing campaigns and distribution channels.

### 5.1.5. Recent M&A Activity

In November 2019, Sonos Inc acquired Snips SAS, a France-based developer of an artificial intelligence voice platform for connected devices that offers private-by-design voice technology. It was acquired totally for approximately $37.5 million in cash. The acquisition brought a talented group of employees and strategic IP to improve the voice experience on Sonos' products, and the possibility of Sonos to have an own virtual assistant.

### 5.1.6. SWOT Analysis

To assess the performance, risk, competition and potential of a business, it is important to perform a SWOT analysis.

| **S** Strengths | **W** Weaknesses | **O** Opportunities | **T** Threats |
|---|---|---|---|
| • Diversified Geographic Presence<br>• Strong R&D Capabilities<br>• Revenue Growth<br>• Strategic Partnerships<br>• Smart Speakers' High Quality | • Operational Performance | • Positive Outlook for Online Retail Industry in US<br>• Positive Outlook for Global Consumer Eletronics Market | • Highly Competitive Environment<br>• Rapidly Evolving Market<br>• Foreign Exchange Risks<br>• Dependence on Contract Manufacturers<br>• Covid-19 Outbreak |

***Table 2 – Sonos' SWOT Analysis; Adapted from MarketLine and own analysis***

### 5.1.7. Historical Operating and Financial Analysis

In this section, it will be performed a historical operating and financial analysis of Sonos, taking in consideration the last five fiscal years[9] (2016-2020), with special attention in 2019 and 2020.

[9] Sonos' fiscal years ended in final of September

Additionally, the company´s income statement, balance sheet and cash flow statement are exhibited in Appendix 4.

5.1.7.1. Revenues

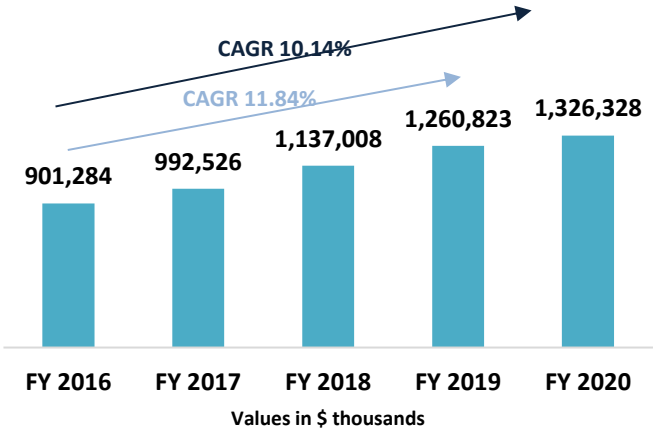


*Figure 8 – Sonos' Total Revenues; Adapted from Company's Annual Reports*

In the period between 2016 and 2019, Sonos´ revenue growth had a positive and stable trend, with a revenue CAGR of 11.84%. The revenues growth slowed down in fiscal year 2020 caused by the effects of Covid-19 but nevertheless Sonos presented an interesting revenue growth of 5.20%. Due to the Covid-19 pandemic, Sonos experienced significant global growth in its direct-to-consumer sales channel, mainly through its website, which grew by 84.3% and represented 21.4% of its total global revenue for fiscal year 2020. Despite of the increase of revenues, the volume of products sold decreased 6,4% from 6.2 million for fiscal year 2019 to 5.8 million for fiscal year 2020, as a result of, among other things, the lockdowns with the temporary closure of some of the retail stores and disruptions in its supply chain.

In 2020, Speakers continued to be the most category sold by the company, representing 78% of total revenues in that year.

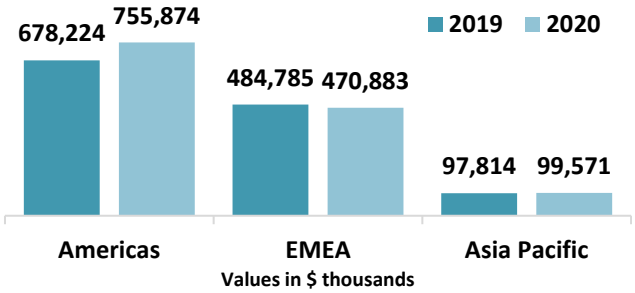


*Figure 9 – Sonos' Revenues by Region in 2019 and 2020; Adapted from Company's Annual Reports*

In terms of revenues by geographic region, Americas continued to be the region where Sonos had more revenues, followed by Europe, Middle East and Africa (EMEA) and Asia Pacific (APAC) as the last region. In the Americas, sales grew 11.45% in the last year. In EMEA and APAC, it declined 2.87% and grew 1.80%, respectively. The presence of Sonos in Asia Pacific is still narrowed what it may be a high potential market to explore by Sonos.

#### 5.1.7.2. Costs

In 2020, Sonos initiated a restructuring plan which was successfully completed in the first quarter of fiscal year 2021. The main goals of this plan were reducing operating expenses and preserving liquidity to combat the uncertainties and challenges related to coronavirus, and provide higher operating flexibility and better positioning to follow its long-term strategy. As a result, the company reduced approximately in 12% its staff and closed a retail store in New York and six satellite offices. The total costs associated with this restructuring plan were $26.3 million. In Appendix 5 is exhibited more detailed information about restructuring costs.

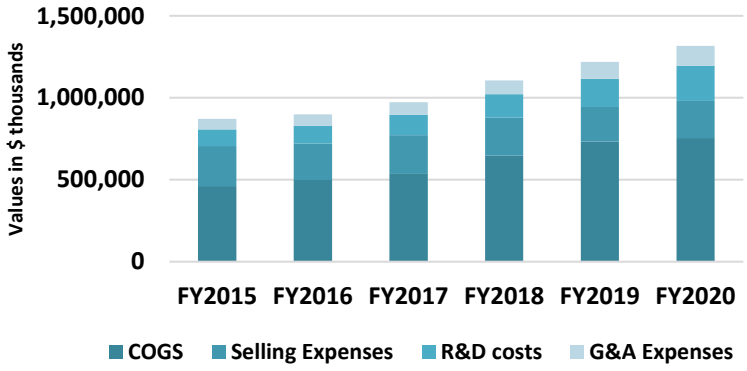


***Figure 10 – Sonos' Historical Costs; Adapted from Company's Annual Reports***

In terms of costs, the Cost of Goods Sold (COGS), from fiscal year 2019 to 2020, increased $20.9 million due to the increasing of tariffs on products imported from China to the U.S. Excluding these tariffs, the COGS would have decreased $10.1 million in comparison with the prior year driven by a product and material cost reduction. Nevertheless, Sonos experienced an increase of 130 basis points of its gross margin.Excluding the restructuring plan' impact of 5.1$ million, the R&D costs increased by 38.4$ million , for fiscal 2020 compared to fiscal 2019, representing 16.2% of the total revenues. This high investment in R&D shows the Sonos' efforts to produce innovative products and services to combat its competitors.

#### 5.1.7.3. Key Metrics

In general terms, Sonos has showed an improvement in its financial metrics during the last years. Although Sonos has presented an attractive gross margin when compared with the industry, the company has reported negative earnings in the last five years. As mentioned before, the company operates in a fast growth and highly competitive industry which is affecting its profitability. However, it is expected[10] that Sonos will invert this trend in 2021, with Reuters forecasting a net margin of 7.72%.

| | 2016H | 2017H | 2018H | 2019H | 2020H | Industry Median |
|---|---|---|---|---|---|---|
| ***Profitability*** | | | | | | |
| Gross Margin | 44.8% | 45.9% | 43.0% | 41.8% | 43.1% | **25.5%** |
| EBITDA Adjusted Margin | 3.3% | 5.6% | 6.1% | 7.0% | 8.2% | - |
| EBITDA Margin **(1)** | 0.0% | 2.0% | 2.7% | 3.4% | 4.2% | **12.5%** |
| Operating Margin | -3.4% | -1.6% | -0.8% | 0.5% | -2.1% | **10.0%** |
| Net Margin | -4.2% | -1.4% | -1.4% | -0.4% | -1.5% | **6.4%** |
| ***Earning Power*** | | | | | | |
| Asset Turnover | --- | 2.92 | 2.30 | 1.87 | 1.68 | **1.14** |
| ***Liquidity*** | | | | | | |
| Quick Ratio | 0.86 | 0.84 | 1.03 | 1.14 | 1.22 | **1.26** |
| Current Ratio | 1.21 | 1.35 | 1.68 | 1.69 | 1.68 | **1.82** |
| ***Leverage*** | | | | | | |
| Assets/Equity | --- | --- | 2.82 | 2.71 | 2.74 | **1.86** |
| Debt/Equity | --- | --- | 0.19 | 0.12 | 0.08 | **0.42** |
| % Long-Term Debt to Total Capital | 28.5% | 30.5% | 13.3% | 7.9% | 5.7% | **23.6%** |
| ***Operating*** | | | | | | |
| Inventories Turnover | --- | 6.4 | 4.2 | 3.6 | 3.8 | **3.0** |

**(1)** Normalized values were used to compute EBITDA Margin, excluding unusual expenses such as restructuring charges.

***Table 3 – Sonos' Historical Key Metrics; Obtained from Thomson Reuters***

## 5.2. Apple

Apple Inc. is an American multinational technology firm that was founded in 1976 by Steve Jobs, Steve Wozniak and Ronald Wayne. According to Forbes[11], Apple was the most valuable

[10] According to forecasts presented on Thomson Reuters Eikon and Bloomberg Terminal. Reuters' forecasts are based in the median of different professional analysts' estimates while Bloomberg uses the mean of them.
[11] Forbes´ annual list of world´s most valuable brands

brand of the world in 2020. The company is engaged in designing, manufacturing and selling of consumer electronics, computer software and online services.

### 5.2.1. Market Performance

The company is listed on the NASDAQ stock exchange under the symbol of "AAPL.O", with a free float of 94.55% and a market capitalization of $2.51 trillion (August 2021 figures). Since, 1st August 2018, the firm's stock price increased 212.69%. As of August 31, 2021, Apple's share price reached its maximum value of the last year, $151.83[12]. The minimum value in the last year was $103.10[13].

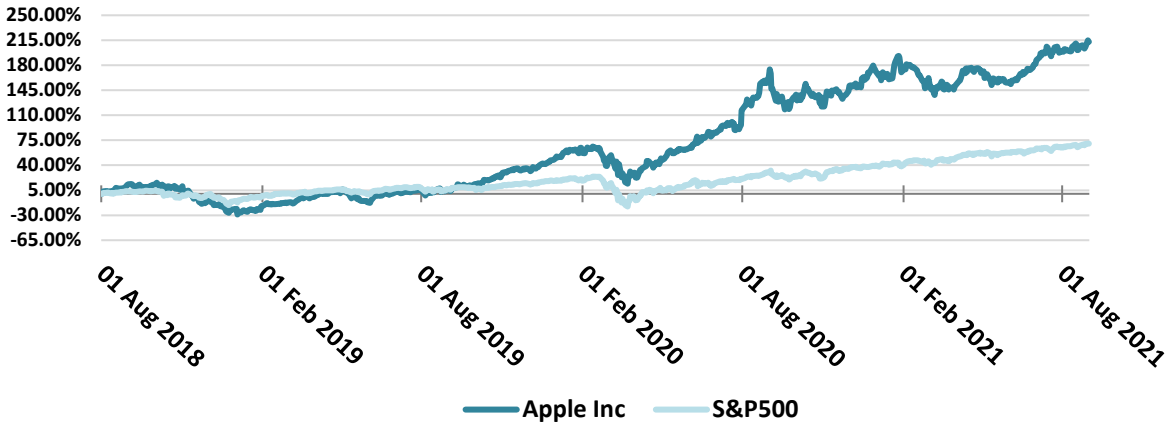


***Figure 11 - ApplevsS&P500 Index-Cumulative Daily Returns since 1st August 2018; Adapted from Bloomberg***

### 5.2.2. Ownership Structure

The company´s shares outstanding, as of March 2021, was 16.53 billion, being the investment management company Vanguard Group the largest shareholder of Apple, with 7.65% of shares outstanding (Figure 12). The remaining shareholders are mainly investment managers, predominantly from U.S.

[12] 52-Week High (31/08/2021)
[13] 52-Week Low (21/09/2020)

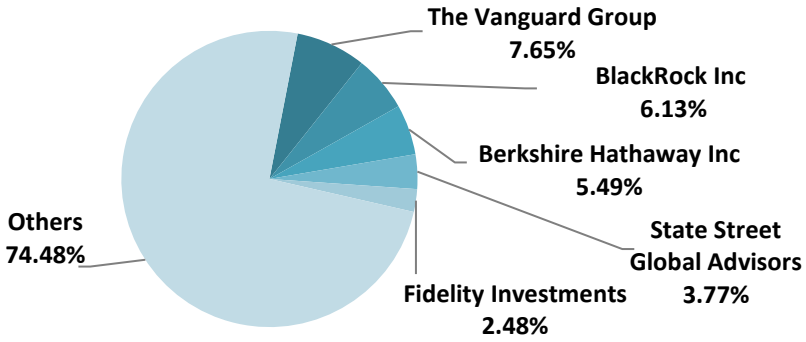


*Figure 12 - Apple´s Ownership Structure; Obtained from Bloomberg Terminal, August 2021*

### 5.2.3. Apple' Products

The company´s products include smartphones (iPhone), personal computers (Mac), tablets (iPad), wearables (AirPods, Apple TV, HomePod, among others) and accessories. Moreover, it also sells a range of related software (for instance IOS), services, networking solutions, and third-party digital content and applications.

Originally, Apple started to focus its business on personal computers, having unveiled its first product, Apple I, in 1976. Three decades later, in 2001, it created the iPod, a portable MP3 player, which quickly became the market leader. In 2007, it launched the first iPhone that changed the course of action for the company. iPhone was a success and rapidly became the focus of the company, representing its main source of revenue.

In early 2018, the company launched its first smart speaker, the HomePod. Despite the excellent compact design and the brilliant sound quality, Apple ran into problems with it very early on. HomePod did not have the expected demand and, in early 2021, Apple announced the discontinuation of this product.

The late start in smart speaker's market, the mistaking of what exactly the consumers wanted out of a smart speaker, the high asking price and Siri-related limitations are some reasons appointed to HomePod's fail. Apple's voice assistant, Siri, was the first voice assistant on the market and had no serious competition for at least three years until Amazon create Alexa. Some specialists appoint that Apple failed to take advantage of the huge opportunity to entry in smart speaker's market when Siri was the only game in town. Other HomePod's problem was the exceeding focus in sound quality, while Amazon and Google focus on what their smart speakers can do. The high asking price also was appointed as a problem, being more than twice the price of the top-line models of the market leaders, Amazon and Google. Finally, Siri-related

limitations were also a problem. There are some things that Siri on the HomePod cannot do and Alexa and Google Assistant can, for instance it cannot send emails or make calls, recognize different voices or interact with the personal calendar. Moreover, Siri presents some intelligence problems. Loup Ventures assessed Siri, Alexa and Google assistant on a set of 782 question. Alexa correctly answered 64% of them and Google assistant scored 81% while Siri only had 52.3% correct.

Despite the HomePod fail, Apple recognize that smart speaker is a very attractive market. In the last quarter of 2020 launched the HomePod mini, a small smart speaker with an impressive sound quality too, but with Siri-related limitation improved and at a great price of just 99$ (nearly of one third of HomePod's price).

### 5.2.4. Recent M&A Activity

Apple has presented an intense activity in M&A field. In February of 2021, the company's chief executive Tim Cook revealed that the company had bought about 100 companies in the past six years. Some of these deals were not public because they were small enough that the company did not need to report them to SEC. These deals have been used to speed expansion in fields where Apple needs technical talent, or it sees a specific business or technology that could differentiate it from its competitors. Apple has bought several companies in fields such as AI, augmented and virtual reality technology, payments startups, maps, semiconductors, among others.

The Apple's largest acquisition was Beats Electronics for nearly $3 billion, in 2014. Appendix 6 presents some of the Apple's deals.

### 5.2.5. SWOT Analysis

| **S**<br>Strengths | **W**<br>Weaknesses | **O**<br>Opportunities | **T**<br>Threats |
|---|---|---|---|
| • Strong Brand Reputation<br>• Strong R&D Capabilities<br>• Strong Financial Performance | • Lawsuits<br>• Incompatibility with Other Devices and Software<br>• High dependence on iPhone product line | • Exploration of Green Technology<br>• Positive Outlook for Smart Wearable Market<br>• Strategic acquisitions | • Highly Competitive Environment<br>• Rapidly Evolving Market<br>• Foreign Exchange Risks<br>• Supply Chain Disruption<br>• Covid-19 Outbreak |

***Table 4 – Apple's SWOT Analysis; Adapted from MarketLine and own analysis***

### 5.2.6. Company´s Strategy

Apple branding strategy focuses on the consumers emotions. The personality of Apple brand is about imagination, innovation, passion, hopes, dreams and aspirations, creating a lifestyle idea. The company brand is positioned as a premium brand.

Apple business strategy involve the following four pillars: focus on design and features of products, enhancing costumer experience, strengthening an experience ecosystem, and decreasing dependence of the business on iPhone's sales.

The Apple's products are characterized by being simple, but with an attractive design and advanced functionalities. The products usually are sleek and minimal, with simple color schemes and a clean and organized design. The names are short and easy to remember[14]. Moreover, Apple also recognize that innovation is crucial to continue successfully compete in the rapidly evolving markets where it operates.

Other Apple's business strategy consists in enhancing costumer experience. The giant tech company adapts to its customers' wants and needs to offer them relevant experiences that will

[14] The name of some products of Apple begins with the letter "i". The "i" started to be a way to inform that the device had an internet connectivity, but people lost this association and begin to associate it to the Apple brand.

increase brand loyalty. Furthermore, Apple's ecosystem also represents an important competitive advantage. The company's devices and software connect easily and work very well with each other. However, the same devices do not work well with products of other companies which creates a closed ecosystem.

Last but not least, Apple is engaged in decreasing the high dependence of the business on iPhone's sales, betting in other divisions in order to make a risk diversification. One example of Apple's efforts to decrease this dependence are the changes in high position roles that Apple has been doing recently. For instance, in recent times, the company changed the machine learning and AI chief, the retail chief and the Siri's head. The diversification has showed positive results, having almost all the Apple product's categories, excluding iPhones, accounted with a double-digit growth in 2020.

### 5.2.7. Historical Operating and Financial Analysis

This Chapter contains an analysis of the historical operating and financial performance of Apple over the last five fiscal years[15] (2016-2020), with special emphasis on 2019 and 2020.

Additionally, the company´s income statement, balance sheet and cash flow statement are exhibited in Appendix 7.

#### 5.2.7.1. Revenues

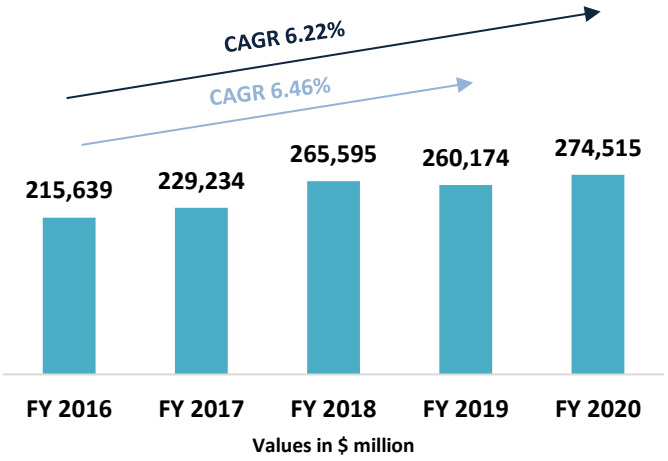


***Figure 13 - Apple´s Total Revenues; Adapted from Company's Annual Reports***

Since 2016, Apple's total net revenues grew at a CAGR of 6.22%. However, in 2019, Apple's total net revenues decreased 2% primarily dueto the lower net sales of iPhone. As it is possible

[15] The Apple' fiscal years ended in final of September

to observe in Table 5, iPhone is by far the category most sold by the company, representing nearly 50% of its total sales. However, the contribution of iPhone sales to total sales has been decreasing, essentially due to the high growths of other category when compared with smartphones market that is in a maturing stage. Wearables, Home and Accessories category[16] was the category that experienced the higher growth, in the period between 2016 and 2020, with a CAGR of 28.78%, followed by service category with a CAGR of 21.90%.

| *Values in $ million* | 2016H | 2017H | 2018H | 2019H | 2020H | CAGR |
|---|---|---|---|---|---|---|
| **iPhone** | 136,700 | 141,319 | 164,888 | 142,381 | 137,781 | **0.20%** |
| % Total Revenues | 63.39% | 61.65% | 62.08% | 54.73% | 50.19% | --- |
| **MAC** | 22,831 | 25,850 | 25,198 | 25,740 | 28,622 | **5.81%** |
| % Total Revenues | 10.59% | 11.28% | 9.49% | 9.89% | 10.43% | --- |
| **iPad** | 20,628 | 19,222 | 18,380 | 21,280 | 23,724 | **3.56%** |
| % Total Revenues | 9.57% | 8.39% | 6.92% | 8.18% | 8.64% | --- |
| **Wearables, Home and Accessories** | 11,132 | 12,863 | 17,381 | 24,482 | 30,620 | **28.78%** |
| % Total Revenues | 5.16% | 5.61% | 6.54% | 9.41% | 11.15% | --- |
| **Services** | 24,348 | 29,980 | 39,748 | 46,291 | 53,768 | **21.90%** |
| % Total Revenues | 11.29% | 13.08% | 14.97% | 17.79% | 19.59% | --- |
| **Total Revenues** | **215,639** | **229,234** | **265,595** | **260,174** | **274,515** | **6.22%** |

***Table 5 - Apple's Revenues by Product Category; Adapted from Company's Annual Reports***

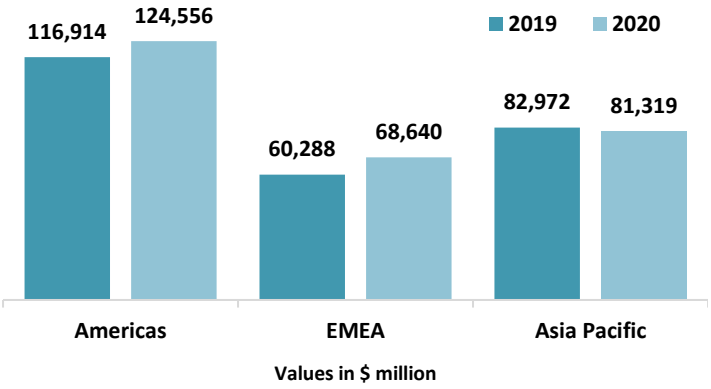


***Figure 14 - Apple's Revenues by Region in 2019 and 2020; Adapted from Company's Annual Reports***

Regarding the breakdown of revenues by geographic region, Americas continued to be the region that generate more revenues for Apple, followed by APAC and EMEA, respectively. APAC was the only region where the sales declined (-1.99%), The Covid-19 impacts, the increasing competition from Chinese tech companies and an unfavourable impact of the

[16] Wearables, Home and Accessories category includes AirPods, Apple TV, Apple Watch, Beats' products, HomePod, iPod touch and Apple-branded and third-party accessories.

weakening in foreign currencies relatively to the U.S Dollar are some factors that justify this decline.

5.2.7.2. Costs

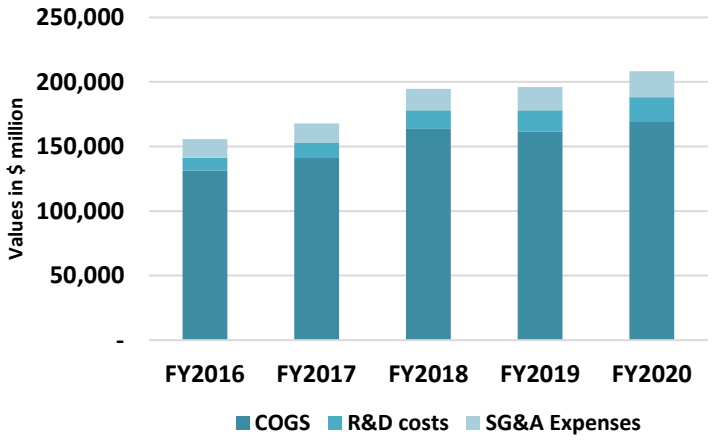


***Figure 15 – Apple's Historical Costs; Adapted from Company's Annual Reports***

From fiscal year 2019 to 2020, Apple gross margin percentage increased 40 basis points, driven by an increase in services gross margin. Like Sonos, Apple also believes that the R&D investments are crucial to its future growth and competitive position in the market. Over the last years, the company has increased its investment in R&D, having invested an amount equivalent of 7% of total revenues in 2020.

5.2.7.3. Key Metrics

As mentioned before, Apple is considered the most valuable brand of the world. So, as expected, the company has strong financial metrics, presenting better levels than the industry median in almost all ratios.

In terms of profitability, Apple has presented much better levels of profitability than the industry median over the last 5 years. However, these levels have been decreasing. In 2020, the company reported a net income of 53.7 billion, nearly of 20.9% of Apple's total revenues, while net margin median of the industry was 2.6%.

Additionally, in terms of financial performance, Apple has presented high levels of return on equity and these levels have been increasing, which shows Apple capacity to create value to its shareholders.

Lastly, the company has presented higher leverage ratios than its industry. However, these high levels of debt do not seem to represent a major problem to the company's performance, which presented an interest coverage ratio higher than 20, demonstrating a high ability to meet its debt obligations.

| | 2016H | 2017H | 2018H | 2019H | 2020H | Industry Median |
|---|---|---|---|---|---|---|
| **Profitability** | | | | | | |
| Gross Margin | 39.1% | 38.5% | 38.3% | 37.8% | 38.2% | **39.7%** |
| EBITDA Margin | 32.4% | 30.9% | 30.8% | 29.4% | 28.2% | **12.2%** |
| Operating Margin | 27.8% | 26.8% | 26.7% | 24.6% | 24.1% | **6.4%** |
| Net Margin | 21.2% | 21.1% | 23.0% | 21.2% | 20.9% | **2.6%** |
| **Earning Power** | | | | | | |
| Asset Turnover | 0.70 | 0.66 | 0.72 | 0.74 | 0.83 | **0.72** |
| ROE | 36.9% | 36.9% | 50.6% | 55.9% | 73.7% | **0.6%** |
| **Liquidity** | | | | | | |
| Quick Ratio | 1.33 | 1.23 | 1.10 | 1.50 | 1.33 | **1.12** |
| Current Ratio | 1.35 | 1.28 | 1.13 | 1.54 | 1.36 | **1.44** |
| **Leverage** | | | | | | |
| Assets/Equity | 2.51 | 2.80 | 3.41 | 3.74 | 4.96 | **2.47** |
| Debt/Equity | 0.68 | 0.86 | 1.07 | 1.19 | 1.73 | **0.38** |
| % Long-Term Debt to Total Capital | 35.00% | 38.90% | 42.30% | 46.20% | 55.70% | **24.70%** |
| **Operating** | | | | | | |
| Inventories Turnover | 58.60 | 40.40 | 37.20 | 40.10 | 41.50 | **5.90** |

***Table 6 - Apple's Historical Key Metrics; Obtained from Thomson Reuters***

## 6. TRANSACTION RATIONALE

In the last years, Apple has followed a different transaction strategy when compared with other big tech competitors. While its competitors typically strike multi-billion-dollar deals, Apple opts to acquire smaller innovative firms that complement and boost its products. However, Beats and Intel were two exceptions to the company strategy, and it is possible that Sonos will be the next. In February 2021, Apple's CEO said, in an annual meeting of shareholders, "We're not afraid to look at acquisitions of any size", reinforcing Apple transaction strategy but not excluding an eventual big deal in future.

With this transaction, Sonos would become the biggest acquisition of Apple. Nevertheless, that would not be a problem, because Apple is the world's largest public listed company, and it has a strong financial position and high level of liquidity. The company ended last year with nearly $38 billion in cash and equivalents, and almost $53 billion in marketable securities, while generating over than $80 billion in operating cash flow. Therefore, the acquisition value will not be a problem for Apple. Moreover, Sonos has reported losses in the last years due to the rise of its R&D costs. If acquired by a cash-rich company like Apple, Sonos could gain higher R&D investments that would improve its products and boost its revenues.

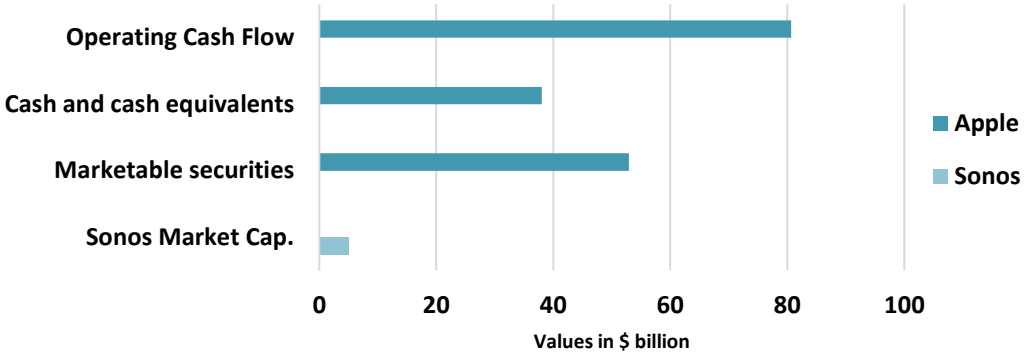


***Figure 16 - Apple's liquidity and Sonos' Market Capitalization; obtained from companies' annual reports and Bloomberg, August 2021***

The acquisition of Sonos is aligned with Apple's corporate strategy and can contribute to its goal of decrease the high dependence of its business on iPhone's sales. Smart speaker is a very attractive market with high growth potential. Apple debuted in this market in 2018 with the launch of HomePod that was a disappointment, although it did not give up of this market and launched introduction

Sonos can be an interesting solution for Apple due to its success in this market. Despite its size, Sonos has a relatively high revenues and there are a lot of smart speakers reviews that consider its devices as one of the best of the market. Acquiring Sonos would help Apple boost its hardware capabilities and, consequently, its smart speakers' revenues.

Additionally, one of the main problems of HomePod was the Siri-related limitations. This deal also can be interesting in this point of view. The recent Sonos' acquisition, Snips, an AI developer startup, could help Apple to improve Siri capabilities.

Moreover, Sonos seem to be an ideal acquisition target for Apple because of three important similarities that the two companies share: both make high-quality products, value design of its products and are perceived as premium brands. Sonos, like Apple, is focused on delivering high-quality products, using its services to augment and complement the appeal of its hardware. The design also deserves a strong focus and deep investment by both companies, they put a lot of efforts to offer truly distinctive product looks that stands out from other competitors' products. Lastly, both are perceived as premium brands due to its products prices, that are, generally, at the higher end of the market.

Regarding intellectual property, Sonos hold over 1000 issued patents. In 2019, its patent portfolio showed its strength, placing third in a patent study[17]. In January 2020, Sonos filed a complaint with the US ITC and a lawsuit against Google. It sued Google for infringement of certain patents related to its smart speakers and related technology. Sonos also made similar claims against Amazon but it preferred not include the company in the lawsuit to focus only on the battle with Google. The strong patent portfolio of Sonos and the deterioration of the relationships between Sonos and the two leaders of the smart speakers' market may positively contribute to the concretization of this deal.

[17] Patent Scorecards study in electronics industry by 1790 Analytics LLC

# 7. SONOS VALUATION

In this chapter, it will be determined the equity value of Sonos using different methods, namely the DCF and the relative valuation (trading multiples). As the proposal of this thesis is the total acquisition of Sonos by Apple, it will only be evaluated the target firm.

## 7.1. Discounted Cash Flow Method

Ideally, the financial projections of cash flows, used in DCF method, should be done until the company achieve a stable period. Since Sonos is a company that operates in a market with high growth perspective, it was forecasted firm's business plan[18] for the next ten years.

### 7.1.1. Revenue

To forecast revenue between 2021 and 2025, it was created an own model[19] based on future market perspectives, company's future revenue goals and own sensibility about smart speaker's market.

Sonos, as mentioned in chapter 5.1.2, divides its revenue in three categories: Sonos speakers, Sonos system products, and partner products and other revenue.

Sonos speaker's category includes the revenue originated by smart speakers and other speakers, nevertheless Sonos does not make the distinction between these two products. To estimate the revenue derived from Sonos speakers' category, it was considered very important to make this distinction because smart speakers market presents a much higher growth than the traditional speakers' market. Therefore, as the company launched its first smart speaker in 2017, it was assumed that smart speakers represented only 40% of Sonos speaker's total revenue in 2018 and its representation will increase during the forecasted period, representing 70% in 2025. This assumption was made based on Sonos' annual report where the company states "We have increasingly focused our product roadmap on voice-enabled speakers" and "The success of our business depends in part on the continued growth of the voice-enabled speaker market".

Regarding smart speakers, it was also assumed that the company will slightly decrease its market share until 2025. The company operates in a rapidly evolving and highly competitive market where its competitors are mostly big tech companies with greater financial, technical,

[18] Appendix 9
[19] Appendix 8

and marketing resources. For these reasons, it will be very hard for the company to increase or maintain its market share.

Additionally, it is expected that the average price of products sold will decrease 0.27% annually. This value represents the average US CPI for durable goods [20]of the last ten years.

Sonos system products, and partner products and other revenue categories' revenue was forecasted based on the average revenue growth of the last three years.

Figure 16 presents the historical revenue of the last three years and the revenue forecast for the next five years obtained through the own model.

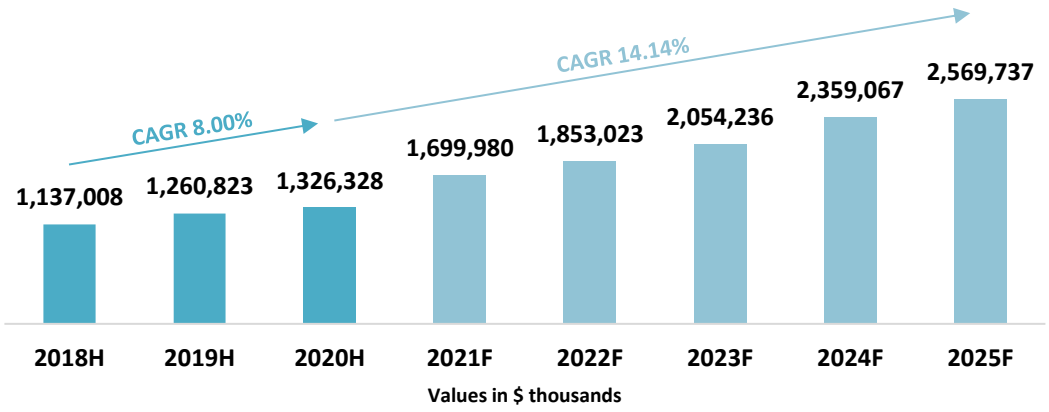


***Figure 17 - Sonos' Total Revenue 2018-2025; Obtained from Company's Annual Reports and Own Model***

Revenue forecasting is both a science and an art. Business valuation output depends on the ability to accurately predict the company's future income. To support the revenue forecasting model used, it was observed the revenue estimates for the next five years (2021-2025) made by professional analysts that are available in Thomson Reuters Eikon and Bloomberg Terminal and it was verified that their revenue estimates are slightly higher than the forecasted revenue shown in Figure 17. Moreover, the revenue forecast given by the own model is in line with Sonos' perspective to 2021 that estimates a revenue between $1.695 billion and $1.71 billion. The company revenue target to 2024 is $2.25 billion, however the own model created forecast a revenue of $2.36 billion which is similar to the forecasted values obtained from Bloomberg and Thomson Reuter Eikon. In order to obtain a more reliable revenue estimate, the average of

[20] "Consumer Price Index for All Urban Consumers: Durable in U.S. City Average" obtained from Federal Reserve Bank of St. Louis' database (FRED)

the estimated revenue from these four different sources was computed and assumed in the DCF model (Table 7).

| Revenue Forecast (Values in $ thousands) | | | | | |
|---|---|---|---|---|---|
| **Source** | **2021F** | **2022F** | **2023F** | **2024F** | **2025F** |
| **Own Analysis** | 1,699,908 | 1,853,023 | 2,054,236 | 2,359,067 | 2,569,737 |
| **Thomson Reuters Eikon** | 1,715,000 | 1,854,390 | 2,042,680 | 2,393,790 | 2,621,420 |
| **Bloomberg Terminal** | 1,697,130 | 1,860,570 | 2,078,250 | 2,393,500 | 2,621,500 |
| **Sonos' Annual Reports** | 1,702,500 | ND | ND | 2,250,000 | ND |
| **Revenue used in DCF (Average)** | **1,704,013** | **1,855,994** | **2,058,389** | **2,349,089** | **2,604,219** |

***Table 7 - Revenue Forecast Benchmark; Own analysis***

In the period between 2026 and 2030, it was only used the revenue forecasts obtained from Bloomberg Terminal.

### 7.1.2. COGS and Operating Expenses

In 2020, Sonos increased its gross margin, essentially due to a material cost reduction, a shift of the product mix to higher margin products and a cost leverage on higher volume. To forecast Sonos' COGS, it was followed the target level defined by the company that points to a gross margin between 45% and 47% in 2024, after 2024 was considered a gradual increasing of the gross margin until achieve 48.5% in 2030.

Regarding operating expenses, they were divided in R&D costs, sales and marketing costs, and general and administrative costs. In an initial phase, it was calculated the adjusted value of each one of these types of expenses to exclude the effects of irregular and non-recurring items. The forecasting was made based on these adjusted values.

For R&D costs, it was assumed that they will be 12.5% of the total revenues until 2025 which corresponds to the average of the last three years and then it was assumed a slightly decrease in this percentage until the end of the forecasted period.

Sonos has been decreasing the percentage of sales and marketing costs in terms of revenues in the last years. Regarding these costs, it was forecasted that this decrease will continue until the end of the forecasted period, due to the efforts that the company is doing to become more efficient.

Lastly, regarding general and administrative costs, it was assumed that they will grow at the average growth rate of the last two years in 2021 and then they will maintain their representation in total revenue until 2030.

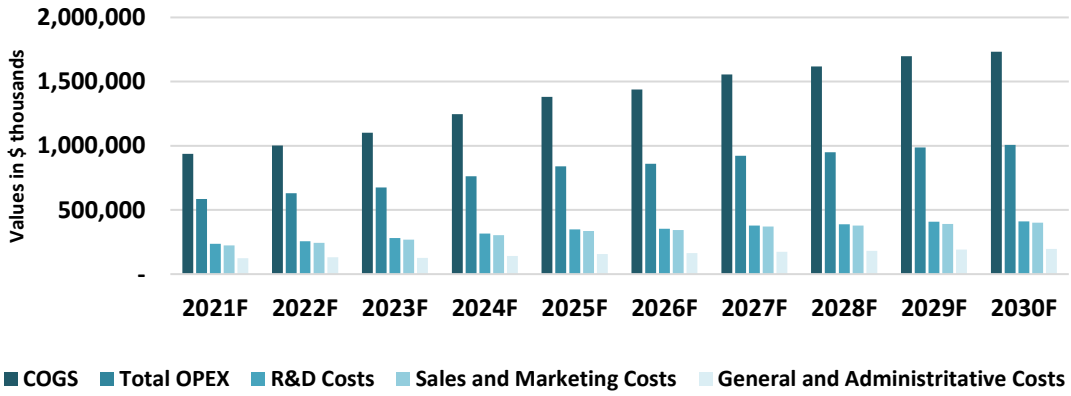


*Figure 18 - Forecasted Costs; Own calculations*

### 7.1.3. Capex, D&A and Working Capital

Considering the high growth perspectives of the market where Sonos operates, it is expected that the company will need to invest more than the depreciations charges to achieve a sustainable growth. Capital expenditures are assumed to change as a percentage of revenues.

Regarding depreciations and amortizations, they are computed as a percentage of net tangible assets.

In terms of working capital items, they are driven by revenue straight-line forecasting. These items' connection with revenues and COGS are assumed to remain constant over time.

Appendix 10 contains more detailed information about assumptions made.

### 7.1.4. WACC

To compute WACC, it is needed to consider the following variables: the cost of equity, risk-free rate, beta, market risk premium, equity and debt ratios, cost of debt and tax rate.

Regarding the computation of the cost of equity, it was used as a proxy for risk-free the 10-year US government bond yield. Beta was estimated by computing peers' unlevered betas and adjust them for Sonos' capital structure. Finally, the market risk premium was set as 5.50%, which represents the historical average for the last 10 years. Applying CAPM formula, Sonos' cost of equity is equal to 7.41%.

Since Sonos has negative net debt, the cost of debt has no relevance for the discount factor of the DCF. Thus, the WACC equals the cost of equity.

### 7.1.5. Discounted Free Cash Flow to the firm

Using the abovementioned assumptions, the FCFF estimations were computed. In 2030, it was calculated the terminal value using a terminal growth rate of 1.7% which corresponds to US GDP long-term growth rate forecasted by IMF European. Discounting FCFF and terminal value at the WACC rate of 7.41% leads to an enterprise value of $5362 million. By adding net cash and subtracting other non-operating liabilities, which amounted $382 million and $46 million, respectively, the equity value is $5698 million or $45.31 per share. As a benchmark, Bloomberg projects a target value of $45.83 per share for Sonos. Sonos shares are traded on the 31st of August 2021 at $39.73, implying an expected appreciation of 14.04%. (Appendix 11).

In order to achieve a more reliable valuation of Sonos, mitigating the risks associated with the choice of certain assumptions, it was performed other DCF valuation using exit multiple approach[21] and also a sensitivity analysis.

### 7.1.6. Sensitivity Analysis

A sensitivity analysis was conducted to assess the change in share price given a percentage increase/decrease in WACC and terminal growth rate. It is usual to include this analysis in any equity valuation, as these variables depend on the methodology used and the judgment of the advisor. Besides this, WACC and terminal value have a great impact on enterprise value. With this analysis, it was obtained a price range between 40.19 (WACC +50bps; TGR -30bps) and 52.09 (WACC -50bps; TGR +30bps) $ per share.

| | | Terminal Growth Rate (TGR) | | | | |
|---|---|---|---|---|---|---|
| | **Share Price $** | **1.10%** | **1.40%** | **1.70%** | **2.00%** | **2.30%** |
| **WACC** | **6.41%** | 51.07 | 53.21 | 55.62 | 58.36 | 61.50 |
| | **6.91%** | 46.35 | 48.06 | 49.96 | 52.09 | 54.50 |
| | **7.41%** | 42.41 | 43.78 | 45.31 | 47.00 | 48.89 |
| | **7.91%** | 39.06 | 40.19 | 41.43 | 42.79 | 44.31 |
| | **8.41%** | 36.18 | 37.12 | 38.14 | 39.26 | 40.49 |

***Table 8 - Share Price sensitivity analysis, own calculation***

[21] DCF valuation using exit multiple approach valuation is presented in the next chapter (7.1.7 Relative Valuation).

### 7.1.7. Relative Valuation

Sonos relative valuation was performed based on the company's peers. Firstly, it was selected peers based on the following criteria: industry, geographic presence, size, profitability, growth and specific business. It was only found one peer with these criteria (Bang & Olufsen). In order to improve benchmark, it was also considered the major players of smart speaker's market as peers. Despite of these major players operate in same market of Sonos, they have higher dimensions and all of them also operates in other markets. For these reasons, Bang and Olufsen was assigned with a higher weight of 55% and the other 45% were divided by the remaining peers. To mitigate the subjectivity related with the allocation of weights, it was also computed mean and median multiples. The ratios used were Forward EV/Revenue and EV/EBITDA. More detailed information about peers' selection is available in Appendix 12.

| Company Name | Identifier | EV/Revenue 21' | EV/EBITDA 21' | Weight |
|---|---|---|---|---|
| Bang & Olufsen A/S | BO.CO | 1.41x | 15.88x | 55.00% |
| AMAZON.COM INC | AMZN.O | 3.31x | 21.19x | 7.50% |
| Alphabet Inc | GOOGL.O | 6.23x | 15.89x | 7.50% |
| Xiaomi Corp | 1810.HK | 1.54x | 22.89x | 7.50% |
| BAIDU INC | BIDU.O | 2.84x | 13.33x | 7.50% |
| ALIBABA GROUP HOLDING | BABA.K | 4.89x | 17.81x | 7.50% |
| Apple Inc | AAPL.O | 6.02x | 18.98x | 7.50% |
| **Weighted Average** | | **2.64x** | **16.99x** | |
| **Mean** | | **3.75x** | **18.00x** | |
| **Median** | | **3.31x** | **17.81x** | |
| **Weighted Average Share** | | **$38.41** | **$37.10** | |
| **Mean Share Price** | | **$53.46** | **$39.13** | |
| **Median Share Price** | | **$47.52** | **$38.75** | |

***Table 9 - Relative Valuation; Own calculation***

As abovementioned, it was used the exit multiple approach to develop DCF model. This approach is more commonly used among professionals than the perpetual growth method. The exit multiple approach assumes the business is sold at the end of the projected period using the existing public market valuations of comparable companies. Using the multiples presented in Table 9, it was obtained a price range of $50.67-65.12 per share, being $50.67 the price per share assuming the exit multiple of 2.64x (Table 10).

| Valuation @ 31 Aug 2021<br>Values in thousands, except share price | 2021F Q4 | 2022F | 2023F | 2024F | 2025F | 2026F | 2027F | 2028F | 2029F | 2030F | TV |
|---|---|---|---|---|---|---|---|---|---|---|---|
| FCFF | 37,511 | 122,357 | 179,054 | 228,676 | 240,981 | 302,754 | 305,255 | 367,402 | 368,861 | 420,442 | 8,870,621 |
| *Timing factor* | *0.0822* | *1.0822* | *2.0822* | *3.0822* | *4.0822* | *5.0822* | *6.0822* | *7.0822* | *8.0822* | *9.0822* | *10.0822* |
| Discount factor | 0.994 | 0.926 | 0.862 | 0.802 | 0.747 | 0.695 | 0.647 | 0.603 | 0.561 | 0.522 | 0.486 |
| DCF | 37,291 | 113,243 | 154,278 | 183,433 | 179,960 | 210,484 | 197,574 | 221,383 | 206,920 | 219,575 | 4,312,878 |
| Enterprise Value @ 31 Aug 2021 | 6,047,441 | | | | | | | | | | |
| (+/-) Net Cash / Net Debt | 382,373 | | | | | | | | | | |
| (+/-) Other assets & liabilities | (45,977) | | | | | | | | | | |
| Equity Value @ 31 Aug 2021 | 6,373,416 | | | | | | | | | | |
| Share Price | *$ 50.67* | | | | | | | | | | |

*Table 10 - DCF model for Sonos using Exit Multiple EV/Revenue 21' (2.64x); Own calculation*

### 7.1.8. Valuation Summary

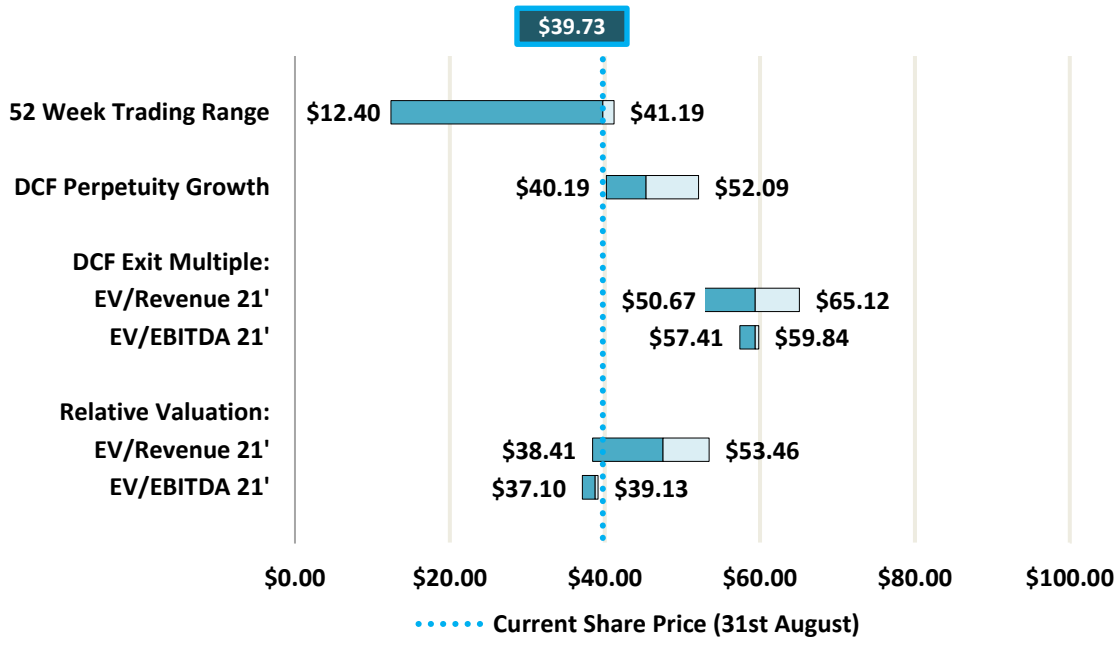


*Figure 19 - Sonos' Valuation Football Field*

# 8. Deal Consolidation

## 8.1. Synergies

Like the mostly M&A deals, synergies are the main motive for this acquisition. This transaction can be the boost that Apple needs to achieve the success in smart speaker's market. For this reason, it is expected that revenue synergies represent one of the main synergies of this deal. The combination between Apple's brand awareness and Sonos smart speakers' quality is the main driver to revenue enhancements. Moreover, revenue synergy also can be achieved through the teamwork between the talented and dynamic group of employees of each company.

Additionally, it is also expected that cost savings will be a very important synergy achieved with this deal. Economies of scale, improvements in supply chain, and intensification of bargaining power are the main drivers of cost savings in this transaction. Regarding R&D, Sonos could benefit from Apple's centers that are spread around the world and the Apple Park[22] which is equipped with the most recently technology.

Regarding financing synergies and tax benefits, it was assumed to have little significant impact.

Damodaran (2005) advocates that synergies hardly ever appear instantly hence it was assumed that deal will generate no synergies in 2022 and then it will harvest synergies gradually until achieve its full potential in 2025.

To mitigate the uncertainty and subjectivity about synergies, they were computed for three different scenarios: Pessimistic, Base and Optimistic case. From this calculation, it was obtained a PV synergies' range of $808-3132 million. However, for further analysis, it will only be considered the base scenario, which establishes a PV of synergies in $1969 million.

[22] Headquarter of Apple opened in 2017

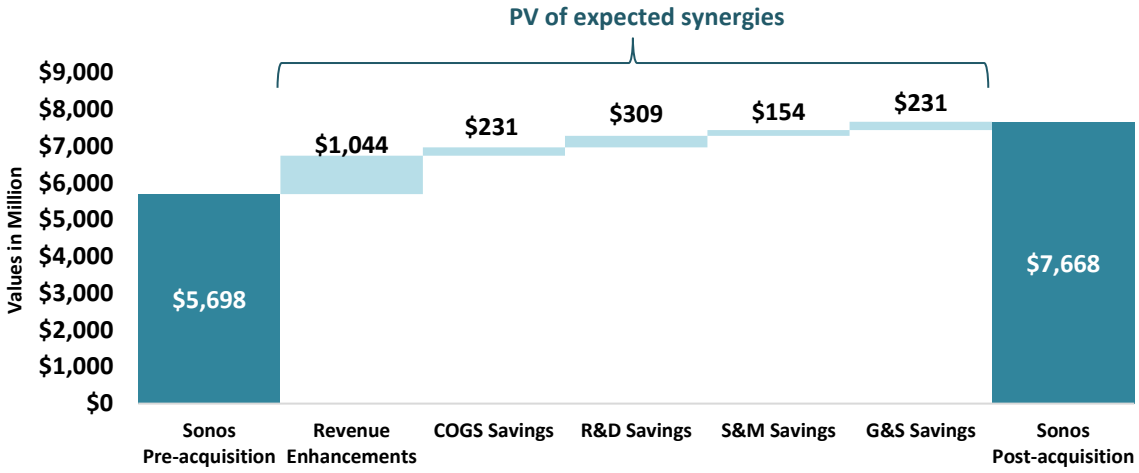


***Figure 20 – Sonos' Equity Value Pre-acquisition and Post-acquisition, Base Scenario; own calculation***

More detailed information about the computation of synergies is presented in Appendix 14.

## 8.2. Transaction Process

After the calculation of synergies, it is possible to calculate the maximum and recommended Sonos' price per share. The maximum price that Apple should offer is equal to the equity value computed using DCF model with perpetuity growth rate plus the synergies (Figure 20). Therefore, the maximum price offered by Apple should be $60.97, which would correspond to 53.45% premium over the market.

Regarding transaction and integration costs, they are assumed to be 1% of Sonos' EV. Transaction costs include one-time advisory and legal fees, incurred in 2021. Regarding integration costs, it was assumed that they will be gradually charged in the first three years after the deal concretization (Appendix 15).

In terms of premium, the comparable transactions in the technology sector usually ranges between 25% and 35%. For this deal, a premium of 30% is recommended, meaning an offer of $51.65 per share. With this premium level, Apple captures $1169.62 million, assuming a full synergy realization. Moreover, the proposed deal, ideally, should follow a friendly approach to the target board and negotiation terms. This approach could bring more benefits to Apple in terms of deal costs and facilitate the implementation of the deal.

About financing, Apple should opt to finance transaction entirely with cash, following the pattern of previous acquisitions and signaling to the market that the company is confident in the

success of the deal. Furthermore, according to information[23] obtained from Thomson Reuters, Apple stocks seems to be undervalued in the market, hence paying with stock would be inconsistent with the firm's interests.

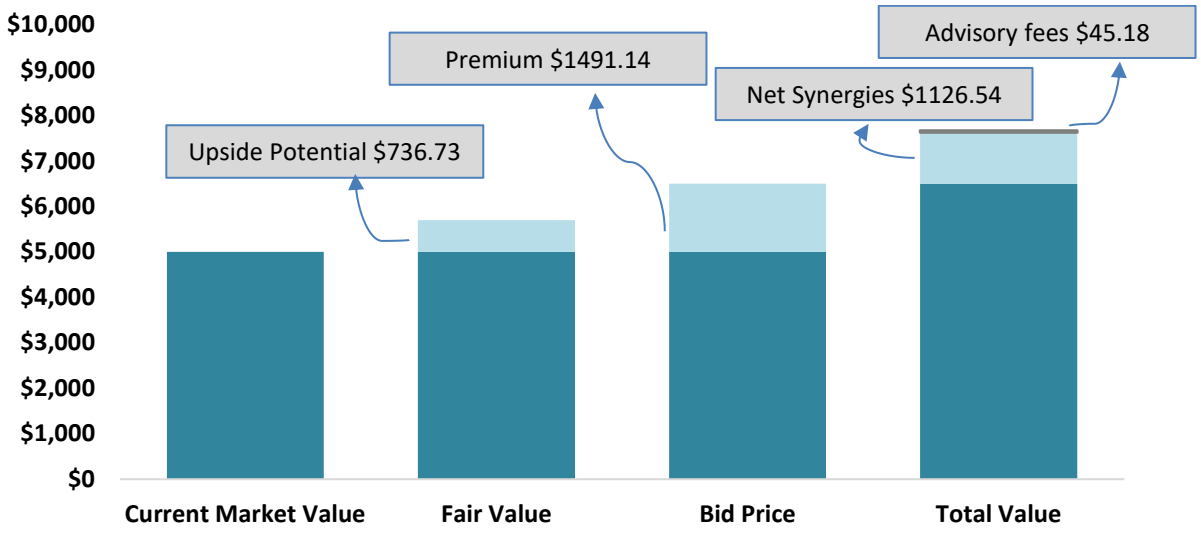


*Figure 21 - Transaction Overview; Own analysis, values in million*

## 9. Conclusion

In this dissertation, it is proposed the acquisition of Sonos by Apple, in order to establish a strong position in Smart speaker's market. This deal fits well with Apple's corporate strategy and can contribute to its goal of decrease the high dependence of its business on iPhone's sales. Moreover, Apple efforts to succeed in this market is not going well and this acquisition may be the boost that Apple needs. Sonos is a small company with only 1400 employees competing with big tech companies. Despite of this, the company has a relatively high market share, and its products are considered as one of the best in the market.

Under the DCF method, the fair equity value achieved was $5698 million with the perpetuity growth model and $6373 million with the exit multiple approach. Except for the relative valuation, the results achieved by the different valuation methods suggest a upside potential higher than 10% relative to the current stock price, indicating that, indeed, Sonos is a potential takeover target.

[23] Professional analysts define the target price of Apple at $165.12 and the current stock price is only $151.83.

With this acquisition, Sonos will benefit from $1044 million revenue synergies resulted not only from an increase in brand reputation but also from the access to new distribution channels and improvements in R&D capabilities. In terms of cost savings, Sonos will benefit from economies of scale, improvements in supply chain, and intensification of bargaining power that will generate approximately $926 million in cost savings. The acquisition should result in total synergies of $1969 million decreased by advisory fees of $41.99 million.

Finally, it is recommended that Apple should acquire Sonos at a bid price of $51.65 per share, which includes a 30% premium over the current market price (31st August 2021). The deal should be an all-cash deal, following a friendly approach.

# 10. APPENDICES

## **Appendix 1 -** Economic growth forecasts, adapted from IMF Website, March 2021

| Real GDP<br>Annual Percent Change | 2016H | 2017H | 2018H | 2019H | 2020H | 2021F | 2022F | 2023F | 2024F | 2025F | 2026F |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **World** | **3.29** | **3.76** | **3.57** | **2.76** | **-3.27** | **6.03** | **4.42** | **3.51** | **3.37** | **3.34** | **3.30** |
| **Advanced Economies** | **1.77** | **2.47** | **2.30** | **1.64** | **-4.71** | **5.14** | **3.63** | **1.78** | **1.61** | **1.54** | **1.52** |
| **United States** | **1.71** | **2.33** | **3.00** | **2.16** | **-3.51** | **6.39** | **3.52** | **1.41** | **1.48** | **1.61** | **1.61** |
| **Euro Area** | **1.86** | **2.60** | **1.88** | **1.29** | **-6.60** | **4.43** | **3.82** | **1.94** | **1.62** | **1.35** | **1.30** |
| Germany | 2.23 | 2.60 | 1.27 | 0.56 | -4.90 | 3.60 | 3.42 | 1.57 | 1.46 | 1.15 | 1.09 |
| France | 1.10 | 2.29 | 1.87 | 1.49 | -8.23 | 5.81 | 4.22 | 1.71 | 1.48 | 1.36 | 1.24 |
| Italy | 1.29 | 1.67 | 0.94 | 0.29 | -8.87 | 4.15 | 3.60 | 1.56 | 0.91 | 0.85 | 0.82 |
| Spain | 3.03 | 2.98 | 2.43 | 1.95 | -10.96 | 6.38 | 4.70 | 2.79 | 2.43 | 1.39 | 1.40 |
| **Japan** | **0.75** | **1.68** | **0.56** | **0.27** | **-4.83** | **3.25** | **2.53** | **1.14** | **0.69** | **0.57** | **0.49** |
| **United Kingdom** | **1.72** | **1.74** | **1.25** | **1.43** | **-9.92** | **5.34** | **5.07** | **2.00** | **1.76** | **1.55** | **1.45** |
| **Canada** | **1.00** | **3.04** | **2.43** | **1.86** | **-5.40** | **5.05** | **4.65** | **2.22** | **1.38** | **1.42** | **1.55** |
| **Other Advanced Economies** | **2.56** | **3.11** | **2.76** | **1.85** | **-2.10** | **4.43** | **3.44** | **2.53** | **2.38** | **2.25** | **2.27** |
| **Emerging Market and Developing Economies** | **4.50** | **4.78** | **4.55** | **3.62** | **-2.20** | **6.67** | **4.98** | **4.73** | **4.57** | **4.52** | **4.44** |
| **Emerging and Developing Asia** | **6.82** | **6.62** | **6.42** | **5.28** | **-1.03** | **8.57** | **5.97** | **5.81** | **5.65** | **5.54** | **5.38** |
| China | 6.87 | 6.95 | 6.73 | 5.82 | 2.27 | 8.44 | 5.57 | 5.44 | 5.27 | 5.12 | 4.86 |
| India | 8.26 | 6.80 | 6.53 | 4.04 | -7.97 | 12.55 | 6.93 | 6.82 | 6.69 | 6.62 | 6.54 |
| ASEAN-5 | 5.14 | 5.48 | 5.35 | 4.85 | -3.39 | 4.92 | 6.09 | 5.66 | 5.42 | 5.32 | 5.33 |
| **Emerging and Developing Europe** | **1.91** | **4.11** | **3.43** | **2.43** | **-2.04** | **4.44** | **3.89** | **3.02** | **2.78** | **2.73** | **2.68** |
| Russia | 0.19 | 1.83 | 2.81 | 2.03 | -3.06 | 3.76 | 3.75 | 2.10 | 1.80 | 1.80 | 1.80 |
| **Latin America and the Caribbean** | **-0.58** | **1.34** | **1.18** | **0.18** | **-7.01** | **4.62** | **3.10** | **2.65** | **2.37** | **2.36** | **2.36** |
| Brazil | -3.28 | 1.32 | 1.78 | 1.41 | -4.06 | 3.66 | 2.57 | 2.14 | 2.02 | 2.02 | 2.02 |
| Mexico | 2.63 | 2.11 | 2.20 | -0.06 | -8.24 | 5.00 | 3.00 | 2.13 | 2.02 | 2.01 | 2.02 |
| **Middle East and Central Asia** | **4.67** | **2.52** | **2.01** | **1.40** | **-2.86** | **3.71** | **3.80** | **3.64** | **3.51** | **3.54** | **3.63** |
| Saudi Arabia | 1.67 | -0.74 | 2.43 | 0.33 | -4.15 | 2.93 | 4.03 | 2.82 | 2.83 | 2.76 | 2.77 |
| **Sub-Saharan Africa** | **1.51** | **3.08** | **3.20** | **3.18** | **-1.93** | **3.41** | **3.97** | **4.06** | **4.08** | **4.19** | **4.03** |
| Nigeria | -1.62 | 0.81 | 1.92 | 2.21 | -1.79 | 2.53 | 2.31 | 2.30 | 2.32 | 2.24 | 2.20 |
| South Africa | 0.40 | 1.42 | 0.79 | 0.15 | -6.96 | 3.10 | 1.97 | 1.40 | 1.30 | 1.30 | 1.30 |

**Appendix 2 -** Smart Speaker Total Shipments Worldwide Estimated between 2014 and 2025; Adapted from Statista

| Smart Speaker Data by Geography | 2018H | 2019E | 2020E | 2021E | 2022E | 2023E | 2024E | 2025E |
|---|---|---|---|---|---|---|---|---|
| ***Million Units*** | | | | | | | | |
| **US Households** | **128.3** | **129.6** | **130.9** | **132.2** | **133.6** | **134.9** | **136.2** | **137.6** |
| Smart Speaker Penetration (%) | 28% | 35% | 40% | 50% | 60% | 65% | 70% | 75% |
| **(1) US Smart Speaker Penetration** | **35.9** | **45.4** | **52.4** | **66.1** | **80.1** | **87.7** | **95.4** | **103.2** |
| Growth (%) | 126.2% | 26.3% | 15.4% | 26.3% | 21.2% | 9.4% | 8.8% | 8.2% |
| Mkt Share | 90% | 80% | 70% | 65% | 63% | 60% | 58% | 55% |
| **(2) International Smart Speaker Penetration** | **4** | **11.3** | **22.4** | **35.6** | **48.1** | **58.5** | **70.5** | **84.4** |
| Growth (%) | 377.6% | 184.1% | 97.9% | 58.6% | 35.1% | 21.6% | 20.6% | 19.8% |
| Mkt Share (%) | 10% | 20% | 30% | 35% | 38% | 40% | 43% | 45% |
| **Smart Speaker Per Home** | **1.4** | **1.5** | **1.6** | **1.7** | **1.8** | **1.9** | **2** | **2.1** |
| **Total Shipments (1) + (2)** | **55.9** | **85.1** | **119.7** | **172.9** | **230.8** | **277.7** | **331.7** | **394.1** |
| Growth (%) | 157.2% | 52.2% | 40.7% | 44.5% | 33.5% | 20.3% | 19.5% | 18.8% |

**Appendix 3 -** Sonos' Products, adapted from company´s annual report 2020

| ***Sonos speakers*** | | | |
|---|---|---|---|
| **Product** | **Launch Date** | **Smart speaker?** | **Description** (Obtained from Sonos' Annual Report 2020) |
| **Arc** | June 2020 | Yes | "Premium smart soundbar for TV, movies, music, gaming, and more"; |
| **Five** | June 2020 | No | "High fidelity speaker for superior sound"; |
| **Sub (Gen 3)** | June 2020 | No | "Wireless subwoofer for deep bass"; |
| **Move** | September 2019 | Yes | "Durable, battery powered smart speaker for outdoor and indoor listening"; |
| **One SL** | September 2019 | No | "Powerful microphone-free speaker for music and more"; |
| **Beam** | June 2018 | Yes | "Smart, compact soundbar for TV, music, and more"; |
| **One** | October 2017 | Yes | "Powerful smart speaker with voice control built in"; |
| ***Sonos System Products*** | | | |
| **Product** | **Launch Date** | **Description** (Obtained from Sonos' Annual Report 2020) | |
| **Port** | September 2019 | "Versatile streaming component for stereos or receivers"; | |
| **Amp** | February 2019 | "Versatile amplifier powering all our customers' entertainment"; | |
| **Boost** | August 2014 | "Simple Wi-Fi extension for uninterrupted listening"; | |
| ***Partner Products and Other Revenue*** | | | |
| **Product** | **Description** (Obtained from Sonos' Annual Report 2020) | | |
| **IKEA module units** | "Hardware and embedded software integrated into final products manufactured and sold by IKEA. Current IKEA products include SYMFONISK bookshelf speaker and lamp"; | | |
| **Sonos' Architectural by Sonance** | "Speakers use designed and optimized for Amp in partnership with Sonance, including in-ceiling, in-wall, and outdoor speakers"; | | |
| **Accessories** | "Stands, mounts, shelves, cables, chargers, and more". | | |

# **Appendix 4 -** Sonos' Historical Financial Statements

## Income Statement

| Values in $ thousand | 2018H | 2019H | 2020H |
|---|---|---|---|
| **Revenues** | **1,137,008** | **1,260,823** | **1,326,328** |
| COGS | (647,700) | (733,480) | (754,372) |
| **Gross Margin** | **489,308** | **527,343** | **571,956** |
| *GM (%)* | *43.0%* | *41.8%* | *43.1%* |
| R&D costs | (142,109) | (171,174) | (214,672) |
| Sales and Marketing costs | (231,511) | (211,184) | (227,113) |
| General and Administrative Costs | (85,205) | (102,871) | (120,978) |
| Total Opex | (458,825) | (485,229) | (562,763) |
| **EBITDA** | **30,483** | **42,114** | **9,193** |
| *Ebitda (%)* | *2.7%* | *3.3%* | *0.7%* |
| Depreciation | (39,358) | (36,415) | (36,426) |
| **EBIT** | **(8,875)** | **5,699** | **(27,233)** |
| interest Income | 731 | 4,349 | 1,998 |
| Interest Expense | (5,242) | (2,499) | (1,487) |
| Others | (1,162) | (8,625) | 6,639 |
| **EBT** | **(14,548)** | **(1,076)** | **(20,083)** |
| Taxes | (1,056) | (3,690) | (32) |
| **Net income** | **(15,604)** | **(4,766)** | **(20,115)** |

## Balance Sheet

| Values in $ thousand | 2018H | 2019H | 2020H |
|---|---|---|---|
| **Non-current assets** | | | |
| Property and equipment, net | 85,371 | 78,139 | 60,784 |
| Operating Lease Right-of-Use Assets | - | - | 42,342 |
| Goodwill | - | 1,005 | 15,545 |
| Intangible assets, net | - | 13 | 26,394 |
| Deferred tax assets | 941 | 1,154 | 1,800 |
| Others | 3,586 | 2,185 | 8,809 |
| **Current assets** | | | |
| Inventories | 193,193 | 219,784 | 180,830 |
| Accounts receivable | 73,214 | 102,743 | 54,935 |
| Prepaid and Other Current Assets | 10,073 | 17,762 | 17,321 |
| Restricted cash | 190 | 179 | 191 |
| Cash and cash equivalents | 220,930 | 338,641 | 407,100 |
| **Total Assets** | **587,498** | **761,605** | **816,051** |
| **Equity** | | | |
| Common stock | 101 | 110 | 114 |
| Treasury stock | (11,072) | (13,498) | (20,886) |
| Redeemable convertible preferred stock | - | - | - |
| Additional paid-in capital | 424,617 | 502,757 | 548,993 |
| Accumulated deficit | (203,611) | (208,377) | (228,492) |
| Accumulated other comprehensive loss | (1,677) | (64) | (1,890) |
| **Total Equity** | **208,358** | **280,928** | **297,839** |

| Values in $ thousand | 2018H | 2019H | 2020H |
|---|---|---|---|
| **Non-current liabilities** | | | |
| Long Term Debt | 33,097 | 24,840 | 18,251 |
| Non-Current Operating Lease Liabilities | - | - | 50,360 |
| Non-Current Deferred tax liabilities | - | - | 2,434 |
| Deferred Revenue | 39,352 | 42,795 | 47,085 |
| Other non-current liabilities | 10,334 | 10,568 | 7,067 |
| **Current liabilities** | | | |
| Short Term Debt | 6,667 | 8,333 | 6,667 |
| Accounts Payable | 195,159 | 251,941 | 250,328 |
| Accrued Expenses | 38,687 | 69,856 | 45,049 |
| Accrued Compensation | 33,371 | 41,142 | 44,517 |
| Deferred Revenues | 11,615 | 13,654 | 15,304 |
| Other current liabilities | 10,858 | 17,548 | 31,150 |
| **Total Liabilities** | **379,140** | **480,677** | **518,212** |
| **Total Shareholders' Equity & Liabilities** | **587,498** | **761,605** | **816,051** |

## Cash Flow Statement

| Values in $ thousands | 2018H | 2019H | 2020H |
|---|---|---|---|
| **Cash Flows from Operating Activities** | | | |
| Net Loss | (15,604) | (4,766) | (20,115) |
| **Adjustments** | | | |
| Depreciation | 39,358 | 36,415 | 36,426 |
| Impairment and abandonment charges | - | - | 14,174 |
| Stock based compensation expense | 38,645 | 46,575 | 57,610 |
| Others | 1,676 | 2,713 | 5,710 |
| Deferred income taxes | 152 | (268) | (567) |
| Foreign currency transaction (gain) loss | 941 | 4,035 | (4,143) |
| **Changes in operating assets and liabilities** | | | |
| Accounts receivable, net | (26,505) | (32,078) | 49,593 |
| Inventories, net | (80,107) | (31,796) | 38,010 |
| Other assets | (2,140) | (7,605) | (5,749) |
| Accounts payable and accrued expenses | 66,473 | 85,878 | (24,440) |
| Accrued compensation | 1,625 | 8,231 | 1,088 |
| Deferred revenue | 5,566 | 6,165 | 4,754 |
| Other liabilities | 490 | 7,137 | 9,635 |
| Net Cash Provided by Operating Activities | 30,570 | 120,636 | 161,986 |
| **Cash Flows from Investing Activities** | | | |
| Purchases of property and equipment | (35,747) | (23,222) | (33,035) |
| Cash paid for acquisition, net of acquired cash | - | - | (36,289) |
| Net Cash Used in Investing Activities | (35,747) | (23,222) | (69,324) |

| Values in $ thousands | 2018H | 2019H | 2020H |
|---|---|---|---|
| **Cash Flows from Financing Activities** | | | |
| Proceeds from IPO, net of underwriting discounts and commissions | 90,562 | - | - |
| Payments of offering costs | (3,950) | (585) | - |
| Proceeds from issuance of common stock, net of issuance costs | - | - | - |
| Proceeds from exercise of stock options | 9,345 | 31,574 | 42,286 |
| Payments for repurchase of common stock | (911) | (2,426) | (50,015) |
| Payments for repurchase of common stock related to shares withheld for tax | - | - | (11,029) |
| Proceeds from borrowings, net of borrowing costs | 69,748 | - | - |
| Repayments of borrowings | (70,000) | (6,667) | (8,333) |
| Payments for debt extinguishment costs | (420) | - | - |
| Net Cash Provided by Financing Activities | 94,374 | 21,896 | (27,091) |
| Effect of exchange rate changes on cash and cash equivalents | 1,135 | (1,610) | 2,900 |
| **Net increase (decrease) in cash and cash equivalents** | **90,332** | **117,700** | **68,471** |
| **Cash and cash equivalents** | | | |
| Beginning of period | **130,788** | **221,120** | **338,820** |
| **End of period** | **221,120** | **338,820** | **407,291** |

## **Appendix 5** - Restructuring and Related Charges, adapted from Sonos´ annual report 2020

| Values in $ thousands | 2019H | 2020H |
|---|---|---|
| Research and Development Costs (GAAP) | 171,174 | 214,672 |
| Restructuring and related charges | - | 5,074 |
| **Adjusted Research and Development (Non-GAAP)** | **171,174** | **209,598** |
| **% of revenue** | **13.58%** | **16.62%** |
| Sales and Marketing Costs (GAAP) | 211,184 | 227,113 |
| Restructuring and related charges | - | 19,788 |
| **Adjusted Sales and Marketing (Non-GAAP)** | **211,184** | **207,325** |
| **% of revenue** | **16.75%** | **18.01%** |
| General and Administrative Costs (GAAP) | 102,871 | 120,978 |
| Restructuring and related charges | - | 1,423.0 |
| **Adjusted General and Administrative (Non-GAAP)** | **102,871** | **119,555** |
| **% of revenue** | **8.16%** | **9.48%** |
| Total Operating Expenses Costs (GAAP) | 485,229 | 562,763 |
| Restructuring and related charges | - | - |
| **Adjusted Operating Expenses (Non-GAAP)** | **485,229** | **562,763** |
| **% of revenue** | **38.49%** | **44.63%** |
| **Total Restructuring Costs** | **-** | **26,285** |

## **Appendix 6 -** The 10 largest M&A deals of Apple

| Date | Acquired Company | Business | Country | Deal Value ($ million) |
|---|---|---|---|---|
| August 2014 | Beats Electronics | Headphones, music streaming (Beats Music) | United States | 3,000 |
| July 2019 | Intel's smartphone modem business | Smartphone modems | United Kingdom | 1,000 |
| October 2018 | Dialog Semiconductor | Chip development | United Kingdom | 600 |
| December 2011 | Anobit | Flash memory | Israel | 500 |
| May 2018 | Next Issue Media (Texture) | Digital publishing company | United States | 485 |
| February 1997 | NeXT | Unix-like hardware and software platform | United States | 404 |
| December 2017 | Shazam | Music and Image recognition | United Kingdom | 402 |
| November 2013 | PrimeSense | Structured-light 3D scanners | Israel | 350 |
| July 2012 | AuthenTec | PC and mobile security products | United States | 355 |
| April 2008 | P.A. Semi | Semiconductors | United States | 278 |

## **Appendix 7 -** Apple's Historical Financial Statements

### Income Statement

| Values in $ million | 2017H | 2018H | 2019H | 2020H |
|---|---|---|---|---|
| **Revenues** | **229,234** | **265,595** | **260,174** | **274,515** |
| COGS | (141,048) | (163,756) | (161,782) | (169,559) |
| **Gross Margin** | **88,186** | **101,839** | **98,392** | **104,956** |
| *GM (%)* | *38.5%* | *38.3%* | *37.8%* | *38.2%* |
| R&D costs | (11,581) | (14,236) | (16,217) | (18,752) |
| Selling, General and Administrative | (15,261) | (16,705) | (18,245) | (19,916) |
| Total Opex | (26,842) | (30,941) | (34,462) | (38,668) |
| **EBIT** | **61,344** | **70,898** | **63,930** | **66,288** |
| Other Income (Expense) | 2,745 | 2,005 | 1,807 | 803 |
| **EBT** | **64,089** | **72,903** | **65,737** | **67,091** |
| Taxes | (15,738) | (13,372) | (10,481) | (9,680) |
| **Net income** | **48,351** | **59,531** | **55,256** | **57,411** |

## Balance Sheet

| Values in $ million | 2017H | 2018H | 2019H | 2020H |
|---|---|---|---|---|
| **Non-current assets** | | | | |
| Property and equipment, net | 33,783 | 41,304 | 37,378 | 36,766 |
| Marketable securities | 194,714 | 170,799 | 105,341 | 100,887 |
| Others | 18,177 | 22,283 | 32,978 | 42,522 |
| **Current assets** | | | | |
| Inventories | 4,855 | 3,956 | 4,106 | 4,061 |
| Accounts receivable | 17,874 | 23,186 | 22,926 | 16,120 |
| Vendor non-trade receivables | 17,799 | 25,809 | 22,878 | 21,325 |
| Marketable securities | 53,892 | 40,388 | 51,713 | 52,927 |
| Cash and cash equivalents | 20,289 | 25,913 | 48,844 | 38,016 |
| Other | 13,936 | 12,087 | 12,352 | 11,264 |
| **Total Assets** | **375,319** | **365,725** | **338,516** | **323,888** |
| **Equity** | | | | |
| Common stock | 35,867 | 40,201 | 45,174 | 50,779 |
| Retained earnings | 98,330 | 70,400 | 45,898 | 14,966 |
| Accumulated other comprehensive income/(loss) | (150) | (3,454) | (584) | (406) |
| **Total Equity** | **134,047** | **107,147** | **90,488** | **65,339** |
| **Non-current liabilities** | | | | |
| Long Term Debt | 97,207 | 93,735 | 91,807 | 98,667 |
| Other non-current liabilities | 43,251 | 48,914 | 50,503 | 54,490 |
| **Current liabilities** | | | | |
| Short Term Debt | 6,496 | 8,784 | 10,260 | 8,773 |
| Accounts Payable | 49,049 | 55,888 | 46,236 | 42,296 |
| Commercial paper | 11,977 | 11,964 | 5,980 | 4,996 |
| Deferred Revenues | 7,548 | 5,966 | 5,522 | 6,643 |
| Other current liabilities | 25,744 | 33,327 | 37,720 | 42,684 |
| **Total Liabilities** | **241,272** | **258,578** | **248,028** | **258,549** |
| **Total Shareholders' equity & Liabilities** | **375,319** | **365,725** | **338,516** | **323,888** |

## Cash Flow Statement

| Values in $ million | 2017H | 2018H | 2019H | 2020H |
|---|---|---|---|---|
| **Cash Flows from Operating Activities** | | | | |
| Net Income | 48,351 | 59,531 | 55,256 | 57,411 |
| **Adjustments** | | | | |
| Depreciation and Amortization | 10,157 | 10,903 | 12,547 | 11,056 |
| Stock based compensation expense | 4,840 | 5,340 | 6,068 | 6,829 |
| Others | (166) | (444) | (652) | (97) |
| Deferred income taxes | 5,966 | (32,590) | (340) | (215) |
| **Changes in operating assets and liabilities** | | | | |
| Accounts receivable, net | (2,093) | (5,322) | 245 | 6,917 |
| Inventories | (2,723) | 828 | (289) | (127) |
| Vendor non-trade receivables | (4,254) | (8,010) | 2,931 | 1,553 |
| Other assets | (5,318) | \ | 873 | (9,588) |
| Accounts payable and accrued expenses | 8,966 | 9,175 | (1,923) | (4,062) |
| Accrued compensation | (593) | (3) | (625) | 2,081 |
| Other liabilities | 1,092 | 38,449 | (4,700) | 8,916 |
| Net Cash Provided by Operating Activities | 64,225 | 77,857 | 69,391 | 80,674 |

| Values in $ million | 2017H | 2018H | 2019H | 2020H |
|---|---|---|---|---|
| **Cash Flows from Investing Activities** | | | | |
| Purchases of marketable securities | (159,486) | (71,356) | (39,630) | (114,938) |
| Proceeds from maturities of marketable securities | 31,775 | 55,881 | 40,102 | 69,918 |
| Proceeds from sales of marketable securities | 94,564 | 47,838 | 56,988 | 50,473 |
| Purchases of property and equipment | (12,451) | (13,313) | (10,495) | (7,309) |
| Cash paid for acquisition, net of acquired cash | (329) | (721) | (624) | (1,524) |
| Purchases of non-marketable securities | (521) | (1,871) | (1,001) | (210) |
| Proceeds from non-marketable securities | 126 | 353 | 1,634 | 92 |
| Other | (124) | (745) | (1,078) | (791) |
| Net Cash Used in Investing Activities | (46,446) | 16,066 | 45,896 | (4,289) |
| **Cash Flows from Financing Activities** | | | | |
| Proceeds from issuance of common stock | 555 | 669 | 781 | 880 |
| Payments for taxes related to net share settlement of equity awards | (1,874) | (2,527) | (2,817) | (3,634) |
| Payments for dividends and dividend equivalents | (12,769) | (13,712) | (14,119) | (14,081) |
| Payments for repurchase of common stock | (32,900) | (72,738) | (66,897) | (72,358) |
| Proceeds from issuance of term debt, net | 28,662 | 6,969 | 6,963 | 16,091 |
| Repayments of term debt | (3,500) | (6,500) | (8,805) | (12,629) |
| Repayments of commercial paper, net | 3,852 | (37) | (5,977) | (963) |
| Other | - | - | (105) | (126) |
| Net Cash Provided by Financing Activities | (17,974) | (87,876) | (90,976) | (86,820) |
| **Net increase (decrease) in cash and cash equivalents** | **(195)** | **6,047** | **24,311** | **(10,435)** |
| **Cash and cash equivalents** | | | | |
| Beginning of period | **20,484** | **20,289** | **25,913** | **50,224** |
| **End of period** | **20,289** | **26,336** | **50,224** | **39,789** |

## **Appendix 8** - Sonos Revenue Forecast

In order to forecast the revenues of Sonos in the first five years, it was created the following model.

**Own Model: Revenue Forecast in the first five years (2021-2025)*, own analysis and calculation**

| Revenue Forecast<br>Own Model<br>(Values in $ thousands) | 2018H | 2019H | 2020H | 2021F | 2022F | 2023F | 2024F | 2025F |
|---|---|---|---|---|---|---|---|---|
| **Revenue** | **1,137,008** | **1,260,823** | **1,326,328** | **1,699,908** | **1,853,023** | **2,054,236** | **2,359,067** | **2,569,737** |
| *Growth (%)* | *14.56%* | *10.89%* | *5.20%* | *28.17%* | *9.01%* | *10.86%* | *14.84%* | *8.93%* |
| **Sonos speakers** | **965,066** | **1,008,422** | **1,034,813** | **1,378,336** | **1,498,281** | **1,662,888** | **1,927,318** | **2,093,399** |
| *Growth (%)* | 16.29% | 4.49% | 2.62% | 33.20% | 8.70% | 10.99% | 15.90% | 8.62% |
| Smart Speakers | 386,026 | 504,211 | 620,888 | 827,002 | 1,048,797 | 1,164,021 | 1,349,123 | 1,465,379 |
| % of Sonos speakers revenue | 40% | 50% | 60% | 60% | 70% | 70% | 70% | 70% |
| Other Speakers (traditional) | 579,040 | 504,211 | 413,925 | 551,334 | 449,484 | 498,866 | 578,196 | 628,020 |
| % of Sonos speakers revenue | 60% | 50% | 40% | 40% | 30% | 30% | 30% | 30% |
| **Sonos system products** | **156,583** | **187,172** | **218,788** | **240,485** | **264,334** | **290,548** | **319,362** | **351,033** |
| *Growth (%)* | 3.04% | 19.54% | 16.89% | 9.92% | 9.92% | 9.92% | 9.92% | 9.92% |
| **Partner products and other revenue** | **15,359** | **65,229** | **72,727** | 81,087 | 90,408 | 100,800 | 112,387 | 125,306 |
| *Growth (%)* | 43.74% | 324.70% | 11.49% | 11.49% | 11.49% | 11.49% | 11.49% | 11.49% |
| **Products Sold (Units´000)** | **5,078** | **6,132** | **5,806** | **7,461** | **8,156** | **9,066** | **10,439** | **11,402** |
| **Sonos speakers** | **4,310** | **4,904** | **4,530** | **6,050** | **6,594** | **7,339** | **8,529** | **9,289** |
| Smart Speakers | 1,724 | 2,452 | 2,718 | 3,630 | 4,616 | 5,137 | 5,970 | 6,502 |
| % Smart Speakers Market | 3.08% | 2.88% | 2.27% | **2.10%** | **2.00%** | **1.85%** | **1.80%** | **1.65%** |
| Other Speakers | 2,586 | 2,452 | 1,812 | 2,420 | 1,978 | 2,202 | 2,559 | 2,787 |
| **Sonos system products** | **699** | **910** | **958** | **1,056** | **1,163** | **1,282** | **1,413** | **1,558** |
| **Partner products and other revenue** | **69** | **317** | **318** | **356** | **398** | **445** | **497** | **556** |
| **Average Price of Products Sold** (Unit Price) | **$ 223.91** | **$ 205.61** | **$ 228.44** | **$ 227.82** | **$ 227.21** | **$ 226.60** | **$ 225.98** | **$ 225.37** |
| **Inflation** | **-0.03%** | **-0.51%** | **3.85%** | **-0.27%** | **-0.27%** | **-0.27%** | **-0.27%** | **-0.27%** |

**Note: This color identifies assumptions**

**Consumer Price Index for All Urban Consumers: Durable in U.S. City Average,** adapted from Federal Reserve Bank of St. Louis' database (FRED)

| Year | CPI - Durable Goods |
|---|---|
| 2010 | -0.40% |
| 2011 | 1.76% |
| 2012 | -0.53% |
| 2013 | -0.68% |
| 2014 | -1.95% |
| 2015 | -0.83% |
| 2016 | -2.15% |
| 2017 | -1.44% |
| 2018 | -0.03% |
| 2019 | -0.51% |
| 2020 | 3.85% |
| **Median** | -0.53% |
| **Average** | **-0.27%** |

## **Appendix 9 -** Business Plan Forecast

| Business Plan | 2018H | 2019H | 2020H | 2021F | 2022F | 2023F | 2024F | 2025F | 2026F | 2027F | 2028F | 2029F | 2030F |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Revenues** | **1,137,008** | **1,260,823** | **1,326,328** | **1,704,013** | **1,855,994** | **2,058,389** | **2,349,089** | **2,604,219** | **2,742,000** | **2,961,000** | **3,110,000** | **3,265,000** | **3,362,950** |
| *Growth (%)* | *14.56%* | *10.89%* | *5.20%* | ***28.48%*** | ***8.92%*** | ***10.90%*** | ***14.12%*** | ***10.86%*** | ***5.29%*** | ***7.99%*** | ***5.03%*** | ***4.98%*** | ***3.00%*** |
| **COGS** | **647,700** | **733,480** | **754,372** | **937,207** | **1,002,237** | **1,101,238** | **1,245,017** | **1,380,236** | **1,439,550** | **1,554,525** | **1,617,200** | **1,697,800** | **1,731,919** |
| *% of revenues* | *56.97%* | *58.17%* | *56.88%* | *55.0%* | *54.0%* | *53.5%* | *53.0%* | *53.0%* | *52.5%* | *52.5%* | *52.0%* | *52.0%* | *51.5%* |
| **Total OPEX** | **458,825** | **485,229** | **562,763** | **585,078** | **630,745** | **676,104** | **763,452** | **840,112** | **858,599** | **922,573** | **948,993** | **986,889** | **1,006,360** |
| *% of revenues* | *40.35%* | *38.49%* | *42.43%* | *34.3%* | *34.0%* | *32.8%* | *32.5%* | *32.3%* | *31.3%* | *31.2%* | *30.5%* | *30.2%* | *29.9%* |
| **R&D Costs** | **142,109** | **171,174** | **214,672** | **236,347** | **255,336** | **280,624** | **316,945** | **348,823** | **352,479** | **378,759** | **388,864** | **407,077** | **410,178** |
| Restructuring and related charges | - | - | 5,074 | - | - | - | - | - | - | - | - | - | - |
| Stock-Based Compensation Expense | 13,960 | 17,643 | 23,439 | 23,439 | 23,439 | 23,439 | 23,439 | 23,439 | 23,439 | 23,439 | 23,439 | 23,439 | 23,439 |
| Adjusted Research and | 128,149 | 153,531 | 186,159 | 212,908 | 231,897 | 257,185 | 293,506 | 325,384 | 329,040 | 355,320 | 365,425 | 383,638 | 386,739 |
| *% of revenues* | *11.27%* | *12.18%* | *14.04%* | *12.5%* | *12.5%* | *12.5%* | *12.5%* | *12.5%* | *12.0%* | *12.0%* | *11.8%* | *11.8%* | *11.5%* |
| **Sales and Marketing Costs** | **231,511** | **211,184** | **227,113** | **224,654** | **243,410** | **268,388** | **304,264** | **335,750** | **343,399** | **369,679** | **378,229** | **389,834** | **401,098** |
| Restructuring and related charges | - | - | 19,788 | - | - | - | - | - | - | - | - | - | - |
| Stock-Based Compensation Expense | 15,885 | 12,965 | 14,359 | 14,359 | 14,359 | 14,359 | 14,359 | 14,359 | 14,359 | 14,359 | 14,359 | 14,359 | 14,359 |
| Adjusted Sales and Marketing | 215,626 | 198,219 | 192,966 | 210,295 | 229,051 | 254,029 | 289,905 | 321,391 | 329,040 | 355,320 | 363,870 | 375,475 | 386,739 |
| *% of revenues* | *18.96%* | *15.72%* | *14.55%* | *12.3%* | *12.3%* | *12.3%* | *12.3%* | *12.3%* | *12.0%* | *12.0%* | *11.7%* | *11.5%* | *11.5%* |
| *Difference % of revenues* | | *-3.24%* | *-1.17%* | *-2.2%* | | | | | | | | | |
| **General and Administrative Costs** | **85,205** | **102,871** | **120,978** | **124,077** | **131,999** | **127,092** | **142,243** | **155,540** | **162,721** | **174,135** | **181,900** | **189,979** | **195,084** |
| Restructuring and related charges | - | - | 1,423 | - | - | - | - | - | - | - | - | - | - |
| Legal and Transaction Related Costs | - | - | 15,455 | 15,455 | 15,455 | - | - | - | - | - | - | - | - |
| Stock-Based Compensation Expense | 8,800 | 15,967 | 19,812 | 19,812 | 19,812 | 19,812 | 19,812 | 19,812 | 19,812 | 19,812 | 19,812 | 19,812 | 19,812 |
| Adjusted Sales and Marketing | 76,405 | 86,904 | 84,288 | 88,810 | 96,732 | 107,280 | 122,431 | 135,728 | 142,909 | 154,323 | 162,088 | 170,167 | 175,272 |
| *Growth (%)* | | *13.74%* | *-3.01%* | *5.37%* | *8.92%* | *10.90%* | *14.12%* | *10.86%* | *5.29%* | *7.99%* | *5.03%* | *4.98%* | *3.00%* |
| *% of revenues* | *6.72%* | *6.89%* | *6.35%* | *5.21%* | *5.21%* | *5.21%* | *5.21%* | *5.21%* | *5.21%* | *5.21%* | *5.21%* | *5.21%* | *5.21%* |
| **EBITDA as reported** | **30,483** | **42,114** | **9,193** | **181,728** | **223,013** | **281,047** | **340,620** | **383,870** | **443,851** | **483,902** | **543,807** | **580,311** | **624,671** |
| **Adjusted EBITDA** | **30,483** | **88,689** | **108,543** | **254,793** | **296,078** | **338,657** | **398,230** | **441,480** | **501,461** | **541,512** | **601,417** | **637,921** | **682,281** |

**Note: This color identifies assumptions**

# **Appendix 10 -** Capex, D&A and NWC Forecasts

## Capital Expenditures (Capex) and D&A

| Fixed Assets | 2018H | 2019H | 2020H | 2021F | 2022F | 2023F | 2024F | 2025F | 2026F | 2027F | 2028F | 2029F | 2030F | Assumptions/Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Total Net Capex** | 29,599 | 29,196 | 45,452 | 60,139 | 94,528 | 78,459 | 93,464 | 99,203 | 95,854 | 108,124 | 108,241 | 113,542 | 103,357 | |
| **Tangible Assets** | | | | | | | | | | | | | | |
| **Capex** | 29,599 | 29,183 | 17,546 | 56,387 | 91,673 | 75,132 | 89,384 | 94,998 | 92,048 | 103,680 | 103,958 | 109,052 | 99,603 | |
| **Net Fixed Assets** | 85,371 | 78,139 | 60,784 | 78,093 | 113,146 | 125,484 | 143,206 | 158,760 | 167,159 | 180,510 | 189,593 | 199,042 | 199,042 | |
| *% of revenues* | 7.51% | 6.20% | 4.58% | *4.58%* | *6.1%* | *6.1%* | *6.1%* | *6.1%* | *6.10%* | *6.1%* | *6.1%* | *6.1%* | *5.9%* | *2021=2020* ***(a)*** *2022-2029= 3Y average over sales* |
| Yearly depreciation | 39,358 | 36,415 | 34,901 | 39,078 | 56,619 | 62,794 | 71,662 | 79,445 | 83,648 | 90,329 | 94,874 | 99,603 | 99,603 | |
| *Depreciation in % of tangible assets* | 46.10% | 46.60% | 57.42% | *50.0%* | *50.0%* | *50.0%* | *50.0%* | *50.0%* | *50.0%* | *50.0%* | *50.0%* | *50.0%* | *50.0%* | *Last 3Y average over net tangible assets* |
| **Intangible Assets** | | | | | | | | | | | | | | |
| **Capex** | - | 13 | 27,906 | 3,752 | 2,855 | 3,327 | 4,080 | 4,205 | 3,807 | 4,444 | 4,283 | 4,490 | 3,754 | |
| **Net Intangible Assets (1) + (2)** | - | 13 | 26,394 | 28,186 | 28,907 | 29,868 | 31,247 | 32,458 | 33,112 | 34,151 | 34,858 | 35,594 | 35,594 | |
| **(1) Net Finite-Lived Intangible Assets** | - | | 6,294 | 8,086 | 8,807 | 9,768 | 11,147 | 12,358 | 13,012 | 14,051 | 14,758 | 15,494 | 15,494 | |
| *% of revenues* | - | - | 0.47% | *0.47%* | *0.47%* | *0.47%* | *0.47%* | *0.47%* | *0.47%* | *0.47%* | *0.47%* | *0.47%* | *0.46%* | |
| Yearly amortization | - | - | 1,525 | 1,959 | 2,134 | 2,367 | 2,701 | 2,994 | 3,153 | 3,405 | 3,576 | 3,754 | 3,754 | |
| *Amortization in % of Finite-Lived Intangible Assets* | - | - | 24.23% | *24.2%* | *24.2%* | *24.2%* | *24.2%* | *24.2%* | *24.2%* | *24.2%* | *24.2%* | *24.2%* | *24.2%* | Maintain the amortization level |
| **(2) In-process R&D and other intangible assets*** | - | 13 | 20,100 | 20,100 | 20,100 | 20,100 | 20,100 | 20,100 | 20,100 | 20,100 | 20,100 | 20,100 | 20,100 | |

*not subject to amortization

**Note: This color identifies assumptions**

(a) In 2021. it is expected that Sonos will maintain the same percentage over sale that experienced in 2020. In the last year Sonos underwent a restructuring to prevent and better answer to the problems that could appear from Covid, hence it is not expected that this percentage increase. After 2021, it is expected that company increases its investment in order to obtain a sustainable growth.

| D&A | 2018H | 2019H | 2020H | 2021F | 2022F | 2023F | 2024F | 2025F | 2026F | 2027F | 2028F | 2029F | 2030F |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **D&A** | 39,358 | 36,415 | 36,426 | 41,038 | 58,753 | 65,160 | 74,363 | 82,439 | 86,801 | 93,734 | 98,450 | 103,357 | 103,357 |
| **Depreciation** | 39,358 | 36,415 | 34,901 | 39,078 | 56,619 | 62,794 | 71,662 | 79,445 | 83,648 | 90,329 | 94,874 | 99,603 | 99,603 |
| **Amortization** | - | - | 1,525 | 1,959 | 2,134 | 2,367 | 2,701 | 2,994 | 3,153 | 3,405 | 3,576 | 3,754 | 3,754 |

## Net Working Capital (NWC)

| Working Capital | 2018H | 2019H | 2020H | 2021F | 2022F | 2023F | 2024F | 2025F | 2026F | 2027F | 2028F | 2029F | 2030F | Assumption |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Net Working Capital** | **(13,210)** | **(53,852)** | **(133,262)** | **(233,967)** | **(272,189)** | **(306,945)** | **(360,355)** | **(398,055)** | **(449,215)** | **(484,037)** | **(536,120)** | **(566,989)** | **(606,872)** | |
| **Investment (+)/Divestment (-)** | | **(40,642)** | **(79,410)** | **(100,705)** | **(38,222)** | **(34,756)** | **(53,410)** | **(37,700)** | **(51,160)** | **(34,821)** | **(52,083)** | **(30,870)** | **(39,883)** | |
| Accounts receivable | 73,214 | 102,743 | 54,935 | 106,387 | 115,876 | 128,512 | 146,661 | 162,590 | 171,192 | 184,865 | 194,167 | 203,844 | 209,960 | Historical |
| *Days, Revenue* | 23.5 | 29.7 | 15.1 | 22.8 | 22.8 | 22.8 | 22.8 | 22.8 | 22.8 | 22.8 | 22.8 | 22.8 | 22.8 | 3Y Average |
| Inventories | 193,193 | 219,784 | 180,830 | 261,678 | 279,835 | 307,477 | 347,621 | 385,376 | 401,937 | 434,039 | 451,539 | 474,043 | 483,569 | Historical |
| *Days, CoGS* | 109 | 109 | 87 | 101.9 | 101.9 | 101.9 | 101.9 | 101.9 | 101.9 | 101.9 | 101.9 | 101.9 | 101.9 | 3Y Average |
| Accounts payable | 195,159 | 251,941 | 250,328 | 349,643 | 375,068 | 408,226 | 461,312 | 509,977 | 527,846 | 568,948 | 589,411 | 616,628 | 628,937 | Historical |
| *Days, CoGS* | 63 | 73 | 69 | 68.2 | 68.2 | 68.2 | 68.2 | 68.2 | 68.2 | 68.2 | 68.2 | 68.2 | 68.2 | 3Y Average |
| Accruals; Deferrals | 83,673 | 124,652 | 104,870 | 246,171 | 286,059 | 327,197 | 384,754 | 426,541 | 484,492 | 523,188 | 581,065 | 616,334 | 659,193 | Historical |
| *% of Adjusted EBITDA* | 274% | 141% | 97% | 97% | 97% | 97% | 97% | 97% | 97% | 97% | 97% | 97% | 97% | 3Y Average |
| Other current assets | 10,073 | 17,762 | 17,321 | 20,452 | 22,276 | 24,705 | 28,194 | 31,256 | 32,910 | 35,538 | 37,326 | 39,187 | 40,362 | Historical |
| *% of Revenue* | 0.9% | 1.4% | 1.3% | 1.2% | 1.2% | 1.2% | 1.2% | 1.2% | 1.2% | 1.2% | 1.2% | 1.2% | 1.2% | 3Y Average |
| Other current liabilities | 10,858 | 17,548 | 31,150 | 26,670 | 29,048 | 32,216 | 36,766 | 40,759 | 42,915 | 46,343 | 48,675 | 51,101 | 52,634 | Historical |
| *% of Revenue* | 1.0% | 1.4% | 2.3% | 1.6% | 1.6% | 1.6% | 1.6% | 1.6% | 1.6% | 1.6% | 1.6% | 1.6% | 1.6% | 3Y Average |

**Note: This color identifies assumptions**

***Appendix 11*** – Discounted Free Cash Flow to the Firm

| Valuation @ 31 Aug 2021<br>Values in thousands, except share price | 2021F Q4 | 2022F | 2023F | 2024F | 2025F | 2026F | 2027F | 2028F | 2029F | 2030F | TV |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **EBIT** | | **164,259** | **215,886** | **266,257** | **301,431** | **357,050** | **390,169** | **445,356** | **476,954** | **521,314** | |
| **NOPAT** | | **119,909** | **157,597** | **194,367** | **220,045** | **260,647** | **284,823** | **325,110** | **348,176** | **380,559** | |
| D&A | | 58,753 | 65,160 | 74,363 | 82,439 | 86,801 | 93,734 | 98,450 | 103,357 | 103,357 | |
| Δ Working capital | | (38,222) | (34,756) | (53,410) | (37,700) | (51,160) | (34,821) | (52,083) | (30,870) | (39,883) | |
| Capex | | (94,528) | (78,459) | (93,464) | (99,203) | (95,854) | (108,124) | (108,241) | (113,542) | (103,357) | |
| **FCFF** | **37,511** | **122,357** | **179,054** | **228,676** | **240,981** | **302,754** | **305,255** | **367,402** | **368,861** | **420,442** | **7,482,388** |
| *Timing factor* | *0.0822* | *1.0822* | *2.0822* | *3.0822* | *4.0822* | *5.0822* | *6.0822* | *7.0822* | *8.0822* | *9.0822* | *10.0822* |
| Discount factor | 0.994 | 0.926 | 0.862 | 0.802 | 0.747 | 0.695 | 0.647 | 0.603 | 0.561 | 0.522 | 0.486 |
| **Discounted Cash flow** | **37,291** | **113,243** | **154,278** | **183,433** | **179,960** | **210,484** | **197,574** | **221,383** | **206,920** | **219,575** | **3,637,922** |

| | |
|---|---|
| **Enterprise Value @ 31 Aug 2021** | **5,362,063** |
| (+/-) Net Cash / Net Debt | 382,373 |
| (+/-) Other assets and liabilities | (45,977) |
| **Equity Value @ 31 Aug 2021** | **5,698,459** |
| **DCF - Share Price** | *$ 45.31* |
| **Share Price on Market** | *$ 39.73* |
| **Upside Potential** | *14.04%* |

**Auxiliary Calculations:**

| FCFF Calculation | 2021F |
|---|---|
| **EBIT** | **140,690** |
| **NOPAT** | **102,704** |
| D&A | 41,038 |
| Δ Working capital | (100,705) |
| Capex | (60,139) |
| **FCFF** | **184,308** |

| | 2021H Q1 | 2021H Q2 | 2021H Q3 | 2021F Q4 | 2021F |
|---|---|---|---|---|---|
| Revenue | 645,584 | 332,949 | 378,672 | 346,808 | 1,704,013 |
| *% Total Revenue of 2021* | *37.9%* | *19.5%* | *22.2%* | *20.4%* | *100.0%* |
| FCFF Computation | 69,827 | 36,012 | 40,958 | 37,511 | 184,308 |

To compute the FCFF to the last quarter of the fiscal year, it was computed the FCFF to the year 2021 and then this value was imputed to each quarter based on revenue. Revenue values for Q1,Q2 and Q3 were obtained in Sonos' quarterly reports.

**Appendix 12 -** Peers' Selection and Relative Valuation

## Peers Selection

Selecting an appropriate set of comparable public companies is the first and most important step to comparable company analysis. The main challenge of this selection is the choice of companies that are most similar to the company that will be valued. The factors most used by professional analysts to choose peer group that better fit with their companies are: Industry classification, size, geography, growth rate, profitability and capital structure.

In order to select Sonos' peer group, it was defined criterias and filters. The next table presents an own model created to select peers.

| Criteria | Proxy | Data Source | Sonos Data | Filters |
|---|---|---|---|---|
| Industry | GICS (Sub-Industry) | Thomson Reuters | Consumer Electronics | Consumer Electronics |
| Geographic Presence | Revenues by Region | Thomson Reuters | Worldwide | Worldwide |
| Size | Market Capitalization | Thomson Reuters | $4.53 billion | 0.5 < Mkt Cap ($billion) < 10.5 |
| Profitability | EBITDA Margin **(1)** | Thomson Reuters | 3.43% | 0% < EBITDA Margin < 5% |
| Growth | "Smart Estimate" provided by TR **(2)** | Thomson Reuters | 15.94% | 10% < Revenue Growth < 20% |
| Business | Own analysis | Thomson Reuters | Speakers and/or Smart Home related | Speakers and/or Smart Home related |

**(1)** EBITDA Margin average of the last 3 years
**(2)** Average of revenue growth rates estimated for the next 3 years. Thomson Reuters provides revenue growth estimates based on a set of professional analysts' forecasts.

Filtering by the above criteria, it was only found one peer, Bang & Olufsen.

| Company Name | GICS Sub-Industry Name | Geographic Presence | Market Cap (in billion $) | Average EBITDA (2018-2020) | Average Revenue Growth (2021-2023) | Business |
|---|---|---|---|---|---|---|
| **Sonos Inc** | **Consumer Electronics** | **Worldwide** | 4.36 | **3.4%** | **15.94%** | **Speaker & Smart speakers** |
| Bang & Olufsen A/S | Consumer Electronics | Worldwide | 0.64 | 5.3% | 18.2% | Audio and Video Equipment |

Ideally, the set of comparable should contain between 5 and 10 companies. Then, it was decided to add the major players of smart speakers' market to the peer group. They are big tech companies that also invest large amounts of money in R&D and share some risks related with technology adoption. However, these companies are much bigger than Sonos and all of them operate in other different segments. For these reasons, Bang and Olufsen was assigned with a higher weight (55%) and the remaining weight was distributed equally by the other peers. The table below contains all peers selected.

| Identifier | Company Name | Country of Headquarters | Business Geography | Weight |
|---|---|---|---|---|
| BO.CO | Bang & Olufsen | Denmark | Worldwide | 55% |
| AMZN.O | Amazon | US | Worldwide | 7.50% |
| GOOGL.O | Alphabet | US | Worldwide | 7.50% |
| 1810.HK | Xiaomi | China | Worldwide | 7.50% |
| BIDU.O | Baidu | China | Worldwide | 7.50% |
| BABA.K | Alibaba | China | Worldwide | 7.50% |
| AAPL.O | Apple | US | Worldwide | 7.50% |

## **Appendix 13 -** WACC

### Peers' Data

| Identifier | Company Name | Debt* | Equity* | D/(D+E) | D/E | B Levered | B Unlevered | Rating | Spread | Weight |
|---|---|---|---|---|---|---|---|---|---|---|
| BO.CO | Bang & Olufsen | 0.04 | 0.61 | 0.06 | 0.06 | 1.18 | 1.13 | BBB | 1.71% | 62.5% |
| AMZN.O | Amazon | 51.03 | 1643.62 | 0.03 | 0.03 | 0.87 | 0.85 | A+ | 1.07% | 7.50% |
| GOOGL.O | Alphabet | 15.03 | 1598.46 | 0.01 | 0.01 | 0.98 | 0.97 | AA+ | 0.85% | 7.50% |
| 1810.HK | Xiaomi | 2.83 | 91.41 | 0.03 | 0.03 | 0.75 | ND | BBB | 1.71% | 0.00% |
| BIDU.O | Baidu | 11.58 | 68.16 | 0.15 | 0.17 | 1.03 | 0.92 | A- | 1.33% | 7.50% |
| BABA.K | Alibaba | 22.77 | 572.40 | 0.04 | 0.04 | 0.85 | 0.83 | A+ | 1.07% | 7.50% |
| AAPL.O | Apple | 113.10 | 2117.66 | 0.05 | 0.05 | 1.031 | 0.99 | AA+ | 1.07% | 7.50% |


* Values in Billion $

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Weighted Average** | 16.04 | 450.40 | 0.056 | 0.061 | 1.09 | 1.05 | --- | 1.47% |
| **Average** | 30.91 | 870.33 | 0.052 | 0.056 | 0.96 | 0.95 | --- | 1.26% |
| **Median** | 15.03 | 572.40 | 0.038 | 0.040 | 0.98 | 0.95 | --- | 1.07% |
| **Minimum** | 113.10 | 2117.66 | 0.145 | 0.170 | 1.18 | 1.13 | --- | 1.71% |
| **Maximum** | 0.04 | 0.61 | 0.009 | 0.009 | 0.75 | 0.83 | --- | 0.85% |

Information about peers' selection is presented in Appendix 10.

The data about peers were obtained from Thomson Reuters and Bloomberg Terminal. The column "Equity" corresponds to the market capitalization of each peer. The market value of debt is typically difficult to calculate, therefore, it was obtained book values. Betas (5Y weekly) were obtained from Bloomberg terminal. Xiaomi' IPO only occurred in 2018, hence it does not have sufficient data available to compute 5Y weekly beta. For this reason, the Xiaomi' weight was re-allocated to Bang & Olufsen, which is the most similar peer of Sonos[24].

[24] The only peer obtained with the model used to select peers.

| Sonos Inc. | | Comments/Assumptions | Source |
|---|---|---|---|
| **Cost of Equity** | | | |
| Risk free | 1.65% | US 10Y Government Bond | Thomson Reuters |
| Debt (D) | 0.00 | Excess Cash - Negative Net Debt | |
| Equity (E) | 4.22 | Market Value - Market Cap | Thomson Reuters |
| D/(D+E) | 0.00 | - | - |
| D/E | 0.00 | - | - |
| Beta Levered | - | - | - |
| Beta Unlevered | 1.05 | Peers' Weighted Average | Bloomberg/Own calculation |
| Beta Relevered | 1.05 | - | Own calculation |
| Tax | 27.00% | US Tax Rate | KPMG Website |
| Market Premium | 5.50% | 10Y Historical Average | Damodaran's database |
| **Ke** | **7.41%** | | |

| Sonos Inc. | | Comments/Assumptions | Source |
|---|---|---|---|
| **Cost of Debt** | | | |
| Risk Free | 1.65% | US 10Y Government Bond | Thomson Reuters |
| Spread | 1.33% | Reuters implied rating "A+"/Default Spread Rate | Reuters/Damodaran Database |
| Tax | 27.00% | US Tax Rate | KPMG Website |
| **Kd (1-t)** | **2.18%** | | |
| **WACC** | **7.41%** | | |

Like Xiaomi, Sonos only went public in 2018, therefore, beta 5Y weekly cannot be obtained because it has a price history shorter than 3 years. For this reason, it was computed the weighted average beta unlevered of Sonos' peers to compute cost of equity with CAPM formula. A WACC of 7.41% was used to discount cash flows and synergies in this dissertation.

## **Appendix 14 -** Synergies

**Base Case / PV Synergies = 1969 million USD**

| Synergies | 2022F | 2023F | 2024F | 2025F | 2026F | 2027F | 2028F | 2029F | 2030F | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| Revenue Enhancements | 0.00% | 1.05% | 2.10% | 3.00% | 3.00% | 3.00% | 3.00% | 3.00% | 3.00% | Revenue Growth |
| COGS Savings | 0.00% | (0.26%) | (0.53%) | (0.75%) | (0.75%) | (0.75%) | (0.75%) | (0.75%) | (0.75%) | % of revenue |
| R&D Savings | 0.00% | (0.35%) | (0.70%) | (1.00%) | (1.00%) | (1.00%) | (1.00%) | (1.00%) | (1.00%) | % of revenue |
| Sales and Marketing Savings | 0.00% | (0.18%) | (0.35%) | (0.50%) | (0.50%) | (0.50%) | (0.50%) | (0.50%) | (0.50%) | % of revenue |
| G&A Savings | 0.00% | (0.26%) | (0.53%) | (0.75%) | (0.75%) | (0.75%) | (0.75%) | (0.75%) | (0.75%) | % of revenue |
| Synergy Realization | 0% | 35% | 70% | 100% | 100% | 100% | 100% | 100% | 100% | |

**Optimistic Scenario / PV Synergies = 3132 million USD**

| Synergies | 2022F | 2023F | 2024F | 2025F | 2026F | 2027F | 2028F | 2029F | 2030F | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| Revenue Enhancements | 0.00% | 1.75% | 3.50% | 5.00% | 5.00% | 5.00% | 5.00% | 5.00% | 5.00% | Revenue Growth |
| COGS Savings | 0.00% | (0.35%) | (0.70%) | (1.00%) | (1.00%) | (1.00%) | (1.00%) | (1.00%) | (1.00%) | % of revenue |
| R&D Savings | 0.00% | (0.53%) | (1.05%) | (1.50%) | (1.50%) | (1.50%) | (1.50%) | (1.50%) | (1.50%) | % of revenue |
| Sales and Marketing Savings | 0.00% | (0.25%) | (0.49%) | (0.70%) | (0.70%) | (0.70%) | (0.70%) | (0.70%) | (0.70%) | % of revenue |
| G&A Savings | 0.00% | (0.35%) | (0.70%) | (1.00%) | (1.00%) | (1.00%) | (1.00%) | (1.00%) | (1.00%) | % of revenue |
| Synergy Realization | 0% | 35% | 70% | 100% | 100% | 100% | 100% | 100% | 100% | |

**Pessimistic Scenario / PV Synergies = 808 million USD**

| Synergies | 2022F | 2023F | 2024F | 2025F | 2026F | 2027F | 2028F | 2029F | 2030F | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| Revenue Enhancements | 0.00% | 0.35% | 0.70% | 1.00% | 1.00% | 1.00% | 1.00% | 1.00% | 1.00% | Revenue Growth |
| COGS Savings | 0.00% | (0.18%) | (0.35%) | (0.50%) | (0.50%) | (0.50%) | (0.50%) | (0.50%) | (0.50%) | % of revenue |
| R&D Savings | 0.00% | (0.18%) | (0.35%) | (0.50%) | (0.50%) | (0.50%) | (0.50%) | (0.50%) | (0.50%) | % of revenue |
| Sales and Marketing Savings | 0.00% | (0.11%) | (0.21%) | (0.30%) | (0.30%) | (0.30%) | (0.30%) | (0.30%) | (0.30%) | % of revenue |
| G&A Savings | 0.00% | (0.18%) | (0.35%) | (0.50%) | (0.50%) | (0.50%) | (0.50%) | (0.50%) | (0.50%) | % of revenue |
| Synergy Realization | 0% | 35% | 70% | 100% | 100% | 100% | 100% | 100% | 100% | |

## **Appendix 15 -** Fees Forecast

| Fees (values in $ million) | 2022H | 2023F | 2024H |
|---|---|---|---|
| Transaction fees | 26.81 | - | - |
| Integration fees | 13.41 | 8.04 | 5.36 |
| *Fees Distribution (%)* | 50% | 30% | 20% |
| **Total fees** | 40.22 | 8.04 | 5.36 |
| **PV of total fees** | 34.65 | 6.45 | 4.00 |

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