July 12, 2018

Can Sonos Fend Off the Competition?

A Closer Look at Sonos' S-1

Sonos filed an S-1 on July 6, 2018, signaling the end of its 16 year run as a private company. After launching its first wireless multi-room home sound system in 2005, the company's products have entered into nearly 7 million households globally. The company plans to list on the NASDAQ under the ticker "SONO". Timing, pricing and size of the offering are still TBA.

Bottom Line -- Strong Financials, Stronger Competition

Sonos' S-1 confirms earlier reports of strong top line revenue as the company is on track to generate over $1B in revenue this coming fiscal year. The company even operated profitably in the first six months of FY 2018. However, the speaker market has been flooded with competitors, from private companies such as Bose to Tech Giants such as Amazon, Apple, and Google. Even Spotify is looking to venture into making its own hardware. We believe that this intense competition will be a primary concern for investors as Sonos heads towards its IPO.

Validation in the Public Market

Based on our initial estimate, we believe the company could be valued at ~$2.5-3.0B versus the $572M implied valuation from its last private funding round in 2012. Please note that the company completed two tender offers to shareholders in 2014 and 2016 at a premium to the latest round of financing. Our valuation estimate is based on a FTM revenue estimate of $1.26B (assuming 15% y-o-y revenue growth) and an assumed public comparables multiple of 2.0-2.5x P/S. We believe Sonos' best public comp is Danish consumer electronics company Bang & Olufsen (2.3x P/S), while the Tech Giants are much larger and diversified businesses vis-a-vis Sonos.

Sonos Valuation Analysis (000s)

Below, please see our implied valuation range build for Sonos:

Q2 2018 TTM Revenue	$1,092,843
FTM Growth Assumption	15%[1]
FTM Revenue Estimate	$1,256,769
P/S Multiple	**Implied Valuation**
1.0x	$1,256,769
1.5x	$1,885,154
2.0x	$2,513,539
2.5x	$3,141,924
3.0x	$3,770,308
3.5x	$4,398,693
4.0x	$5,027,078

Source: Form S-1 (filed July 6, 2018)
1. Sonos generated 18.1% y-o-y revenue growth in 1H 2018 and 10.1% y-o-y revenue growth at fiscal year end 2017

Sonos Public Comparables (as of July 11, 2018)
In coming up with our initial valuation estimate, we used the following public comps:

Company	Ticker	P/S
Amazon	AMZN	4.4x
Apple	AAPL	3.7x
Google	GOOG	6.9x
Samsung	KRX: 005930	1.3x
Sony	SNE	0.9x
Average		**3.4x**
Bang & Olufsen	BO.CO	2.3x[2]
Consumer Electronics	N/A	2.5x[2]

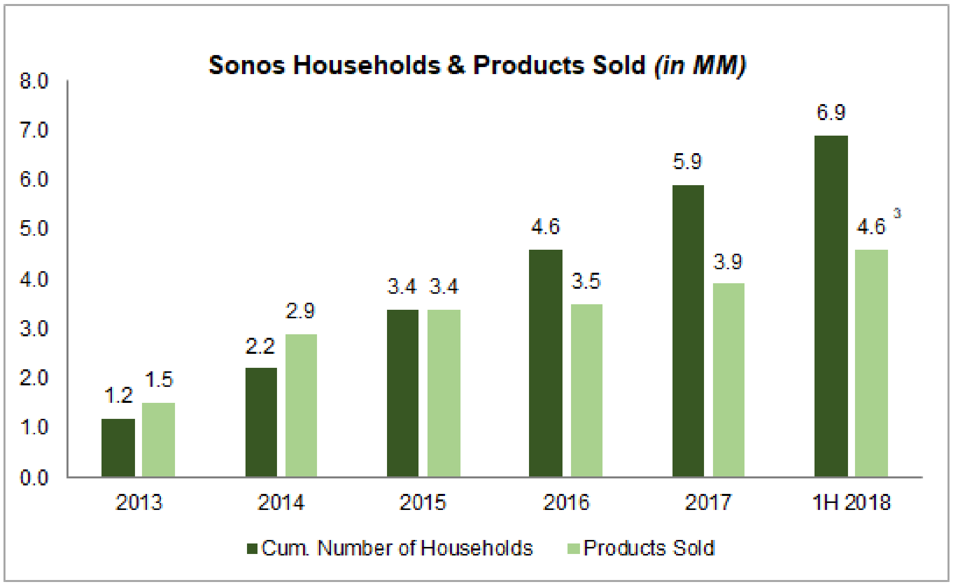
Source: Company filings; Yahoo Finance; NYU Stern; EquityZen estimates
2. Sonos' closest public comparable and an index of consumer electronics businesses yield a P/S multiples range of 2.3-2.5x

As you evaluate prior investment decisions or whether to buy SONO in the future, please find below several of our key investment takeaways from Sonos' S-1 filing that you may find helpful:

Investment Highlights:

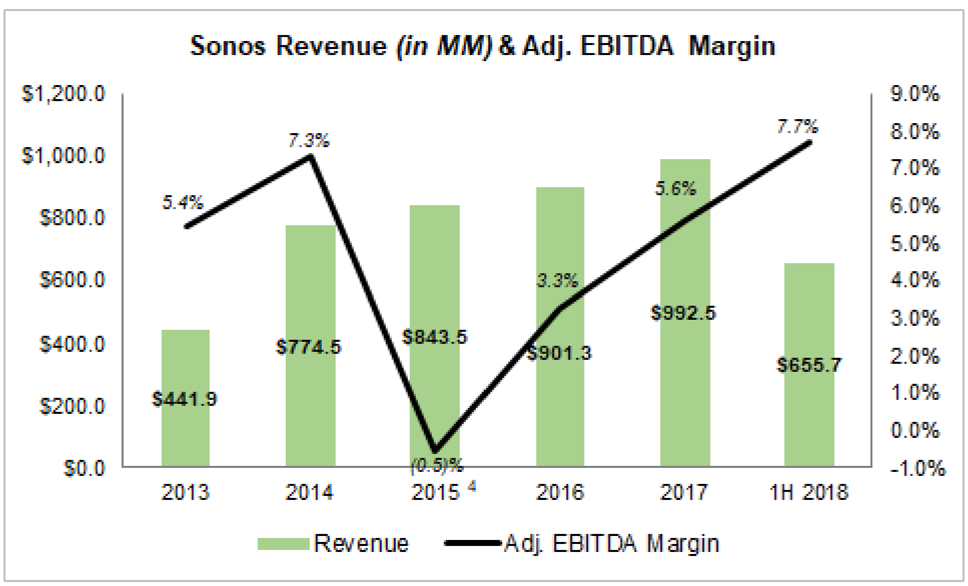
1. **Strong Customer Adoption.** To date, Sonos has sold more than 19 million products and has made its way into nearly 7 million households. Moreover, Sonos reports that its customers listen to ~70 hours of

content per month on Sonos products and to approximately 80% more music after purchasing their first Sonos product. This suggests that Sonos is quite popular among its current users and has done a good job of attracting consumers throughout the years. For reference, Sonos customers listened to 5 billion hours of audio on Sonos products in 2017, a 33% increase from 2016.



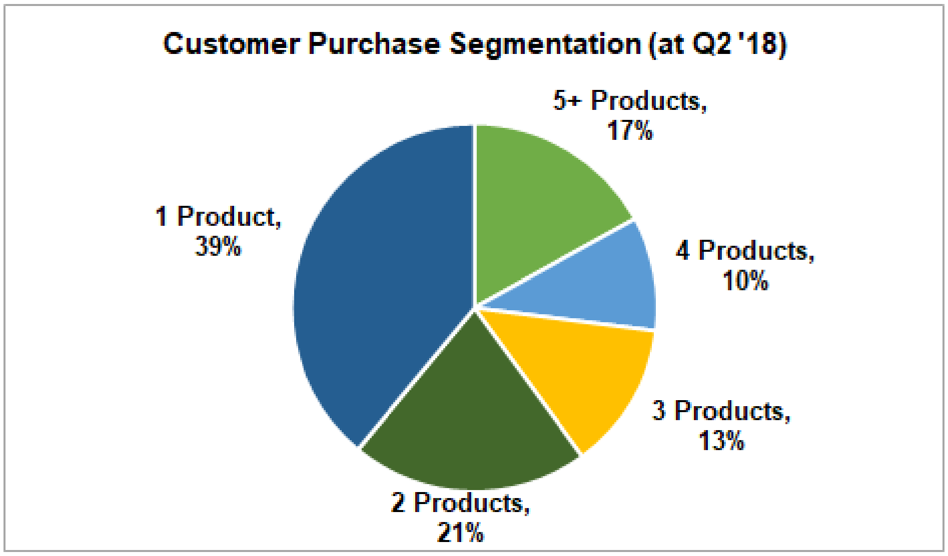
Source: [Form S-1](#) (filed July 6, 2018)
3. Represents 1H 2018 LTM numbers

2. **Solid Financial Performance.** Strong customer adoption has translated into solid revenue and EBITDA margin growth in recent years. Most recently, Sonos generated revenue of $655.7M in 1H 2018, an 18% increase from $555.4M in 1H 2017. Additionally, 1H 2018 net income was $13.1M and adjusted EBITDA was $50.5M. Please see below for a history of Sonos' topline and EBITDA margin:



Source: [Form S-1](#) (filed July 6, 2018)
4. Negative adj. EBITDA margin driven primarily by large R&D and sales & marketing expenses

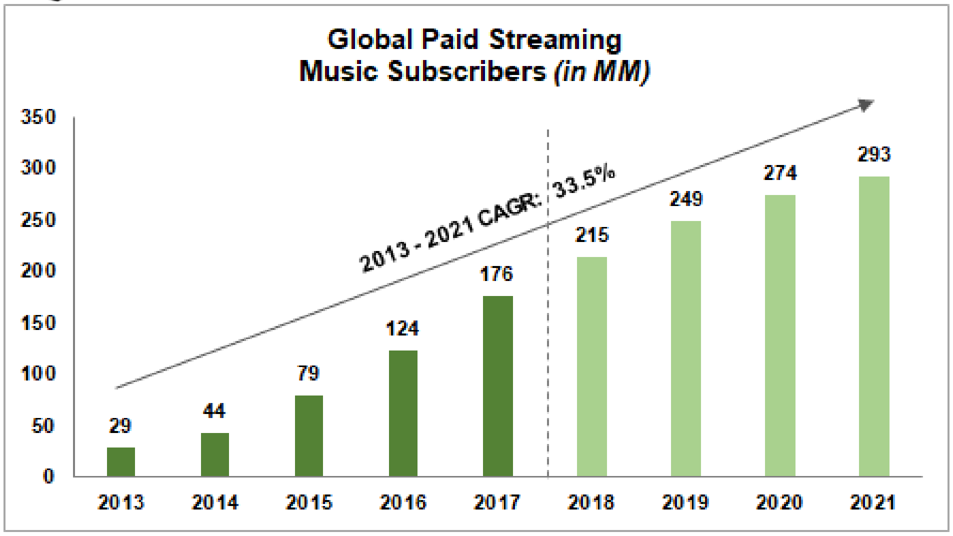
3. **Repeat & Continuous Customer Adoption.** Sonos has also inspired continuous loyalty among its existing customers, highlighting that Sonos users own 2.8 Sonos products on average and more than 60% of Sonos customers are repeat buyers. For buyers who initially purchased a single product, these buyers typically will own 2.4 Sonos products on average within 4 years of their initial purchase. For buyers who initially purchased multiple products, these buyers typically will own 4.9 Sonos products on average within 4 years of their initial purchase. In 2017, follow-on purchases accounted for 38% of Sonos' new product sales, and 93% of Sonos products registered since 2005 received a software update in the 12 months ended Q2 2018.

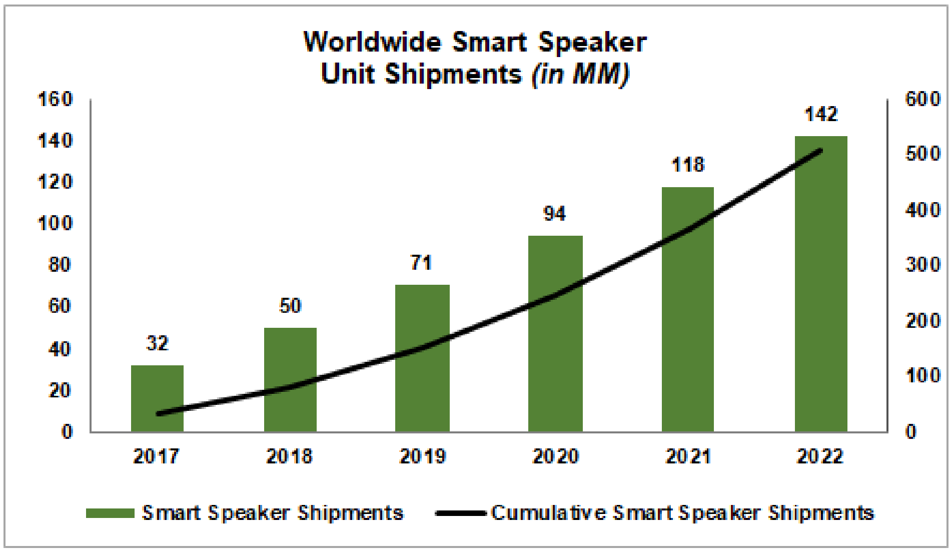


Source: Form S-1 (filed July 6, 2018)

4. **New Products & Channels.** Sonos has demonstrated an ability to consistently roll out solid, new products. Since its first speakers in 2005, Sonos has released 13 products, including the Sonos One and Sonos Beam, both of which are equipped with Amazon's assistant, Alexa. In its S-1 filing, Sonos said it plans to increase its pace of new product launches. Moreover, Sonos is making an effort to expand into additional retail channels while boosting its ecommerce presence (currently 12% of sales at Q2 2018). For example, the company is collaborating with Ikea to eventually sell a Sonos speaker that doubles as a wall-mounted shelf from Ikea, which has 400+ stores worldwide.

5. **Market Strength.** Continuing expansion of streaming services and voice assistants may drive Sonos' own sales since its products work with a wide range of such partners. Indeed, estimates indicate that the number of global paid subscribers to streaming music services grew from 29 million to 176 million from 2013-2017, and is projected to grow to 293 million by 2021. Additionally, it is estimated that worldwide shipments of smart speakers will reach 142 million by 2022, with over 500 million in global cumulative shipments since 2013. Industry reports also project that by 2022, 55% of U.S. households will have at least one voice-enabled speaker.





Source: Form S-1 (filed July 6, 2018)

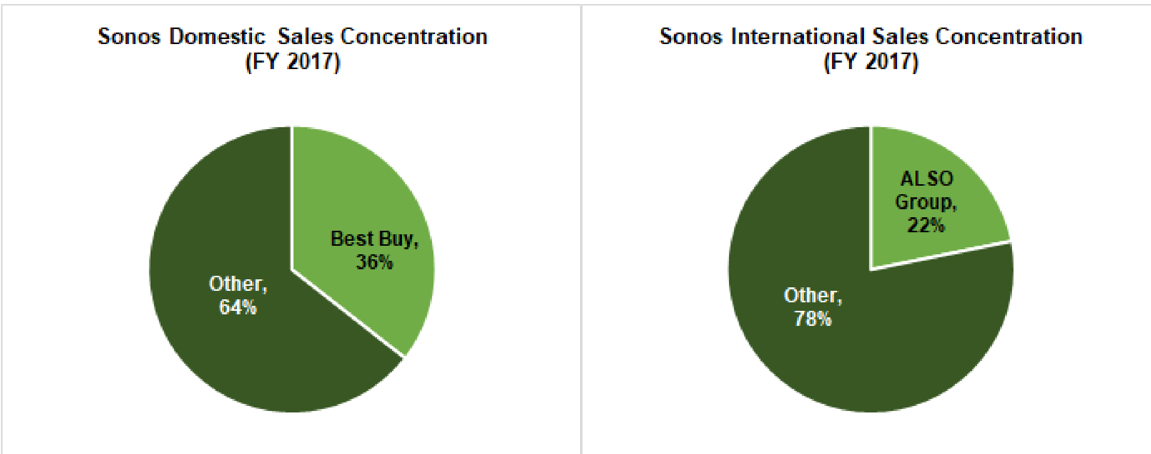
6. **Proprietary Platform & IP Advantage.** Sonos speakers are powered by the company's own software platform, which lets consumers stream Spotify and other music services directly from the internet. Sonos speakers can be grouped to synchronously play the same music throughout the home, and the company's app can be used to browse millions of songs. Moreover, the company has numerous patents for its technology and has successfully defended some in court. According to Sonos CEO Patrick Spence, the company has leveraged these IP rights in negotiations with its competitors to successfully integrate with the Google, Apple and Amazon digital assistants for Sonos' speakers. Currently, the company has 630 issued patents and 570 pending applications.

Investment Risks & Considerations:

1. **Trade War Risk.** Sonos' S-1 filing lists trade disputes between the US and China as a potential downward pressure on its business. The S-1's release coincided with the first day of US tariffs taking effect on $34B worth of Chinese imports, with a second wave of tariffs totaling $200B announced yesterday. On the import side, Sonos' speakers and components are vulnerable to tariffs given they are made by China-based Inventec. Sonos admitted that it may have to raise prices in the event of trade

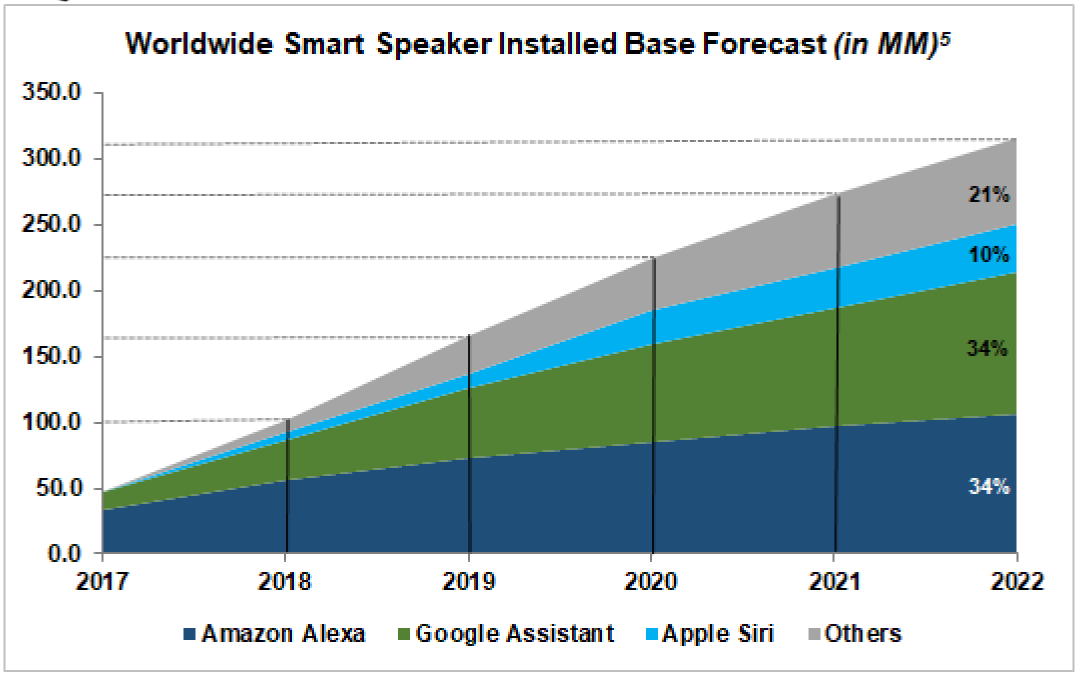
war, hurting competitiveness. On the export side, any retaliatory tariffs imposed on US-made speakers would the make cost of selling Sonos products internationally less competitive. Currently, 55% of Sonos' sales are international.

2. **Sales Concentration.** Despite Sonos' use of 10,000 third-party retail stores to sell its products, the company faces significant sales concentration risk, with Best Buy consisting of 16% of total sales in 2017 (36% of domestic sales) and ALSO Group, Sonos' distributor in Germany, Sweden, Denmark and Norway, accounting for 12% of revenue in 2017 (22% of international sales). Meanwhile, sales on its website www.sonos.com represented only 10% of 2017 revenue.



Source: Form S-1 (filed July 6, 2018)

3. **Stiff Competition.** A key theme in Sonos' S-1 is the competition it faces from the Tech Giants like Google, Amazon, and Apple, as well as a number of other competitors like Samsung, Bose, Bang & Olufsen, and Sony. Notably, even Spotify has filed dozens of patents in recent months for hardware, presumably to enter the smart speaker fray. Most of these competitors have greater financial, technical and marketing resources available to them than those available to Sonos, and Sonos may not be able to successfully manage frequent new product introductions and transitions to compete with the Tech Giants or more pure play competitors. For reference, Amazon has sold over 30 million Echo speakers since its debut only 3 years ago. Further details on the Tech Giants' dominance is below:



Source: Canalys estimates and forecasts, "Smart Speaker Analysis, May 2018"
5. Figures not exact due to rounding and lack of detailed data

4. **Voice Assistant Disadvantage.** Sonos has notably negotiated integrations with the most prominent digital assistants in the market--namely, Apple's AirPlay2, the Google Assistant and Amazon's Alexa. Investors should be concerned, however, with contractual weaknesses in these arrangements; for example, Amazon could disable its Alexa voice assistant on Sonos speakers with "limited notice," or could begin charging licensing fees. While there is currently no indication that Sonos is developing its own digital assistant or streaming platform, Sonos management may want to consider future sources of recurring revenue. Sonos already has a free, proprietary software platform for its products and may find merit in developing "premium," subscription services in order to compete with its larger rivals.

5. **Supplier & Manufacturer Concentration Risk.** Sonos is squarely dependent on a single contract manufacturer and also on a limited number of suppliers, logistics providers and distributors, some of which are single-source or single-supplier. Its single manufacturer, Inventec Appliances Corporation, manufactures Sonos' products on a non-exclusive basis and can terminate its agreement with Sonos for any reason with 180 days' notice. Recently, Sonos has also experienced shortages of random-access memory that is integral to manufacturing its products. Additionally, the global supply of multilayer ceramic capacitors, which are components used across all of Sonos' products, is experiencing shortages due to an imbalance of global demand and supply capacity, resulting in related price increases that Sonos expects will negatively impact its gross margin through CY 2019.

Summary -- A Philosophical Choice. In our view, the above evaluation of SONO as an investment boils down to whether or not you believe speakers are a commodity and that the future lies in ever-sophisticating digital assistants and other tech enablements on speakers.

Sonos' position is that the Tech Giants have created discrete devices that are not optimized for sound throughout the home and often constrain consumers to a specific partner ecosystem. Instead, these companies are attempting to capitalize on the expansion of voice control to drive consumers towards their web services, such as e-commerce and search, or other products and services. In response, Sonos believes there remains an opportunity to provide a seamless sound experience that brings connectivity, freedom of content choice, and high-fidelity sound to the connected home.

As a counterpoint, Sonos' competitors have greater financial and technical means available to them and may simply out-spend, out-innovate, and out-market Sonos in its quest for the highest quality, premium speakers. The Tech Giants may also be driven to sell (in reality, continue to sell) their speaker products at a significant discount to Sonos' products, subsidizing these lower prices by seeking to monetize their customers through the sale of additional services rather than the speakers themselves. Finally, consumers may simply not care about high-fidelity sound--if the Tech Giants drop their partnerships with Sonos, consumers may prefer having a sophisticated digital assistant on an inferior speaker rather than shelling out for a Sonos product. Sonos may have to enter the digital assistant software business to stay relevant.