

## How Apple Achieved 16% Revenue Growth in Services

Apple ([NASDAQ:AAPL](#)) has made history... again. In Aug '19, they achieved what was once thought to be impossible in modern corporate America - hitting the \$1 Trillion market cap milestone. Even in inflation-adjusted terms, not since Standard Oil has such a feat been achieved on US soil.

### HISTORIC HEAVYWEIGHTS

Peak value (adj. for inflation)



SOURCE: The Motley Fool, Barry Ritholtz, Sheridan Titman

visualcapitalist.com

And in Aug '20, barely 12 months after that historical fact, they did it again. This time, it was \$2 Trillion. Even after discounting the meteoric 200% YoY stock price rise, that is a sight to behold in every definition of the phrase.

Apple Inc.  
NASDAQ: AAPL

497.48 USD +24.38 (5.15%) ↑

Closed: 21 Aug, 7:59 pm GMT-4 · Disclaimer  
After hours 498.95 +1.47 (0.30%)

1 day 5 days 1 month 6 months YTD **1 year** 5 years Max



Open	477.05	Div yield	0.66%
High	499.47	Prev close	473.10
Low	477.00	52-wk high	499.47
Mkt cap	2.13T	52-wk low	201.00
P/E ratio	37.81		

So how did they do it? As most Apple analysts know, their iPhone sales have been practically flat for the past 3-4 years. That was one of the reasons why Warren Buffett and his lieutenants were able to acquire Apple shares at around 12x PE in 2016 (current: 37x PE). The incredible change in business narrative that has taken place recently can largely be attributed to the [huge growth in their Services segment](#), which as you can see below grew by about 16% YoY:

**Apple Inc.**

**CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS (Unaudited)**  
(In millions, except number of shares which are reflected in thousands and per share amounts)

	Three Months Ended		Nine Months Ended	
	June 27, 2020	June 29, 2019	June 27, 2020	June 29, 2019
Net sales:				
Products	\$ 46,529	\$ 42,354	\$ 170,598	\$ 162,354
Services	13,156	11,455	<b>39,219</b>	<b>16% 33,780</b>
Total net sales <sup>(1)</sup>	59,685	53,809	209,817	196,134

In short, the message being sent is that Apple is no longer plagued by flat growth from its Products segment going forward (of which iPhone makes up a large part), because its new Services segment is going to be the new catalyst for growth. If Apple can maintain this 16% sales growth, Services revenue can plausibly be expected to overtake iPhone revenue by the end of the next decade, delivering shareholders a new era of growth.

On top of that, Services has twice the gross margin of Products (Services: 60%, Products: 30%), so technically Services would only have to work half as hard as iPhone to match its historical performance.

So far so good.

Naturally, I was interested in how Services achieved this phenomenal rate of growth. 16% YoY sales growth is nothing to sneeze at, especially when you're the size of Apple. Did they grow organically by adding new customers? Did they make an acquisition and tacked on the revenue of the acquired firm? Did they raise the price of services leading to higher ARPU (average revenue per user)?

One thing which stood out in my search for answers, is that their overheads had barely budged relative to historical levels. As you can see below, the sum of R&D and SG&A expenses increased by 11% YoY. While this may seem justifiable at first glance for 16% Services revenue growth, don't forget that these amounts also include overheads for iPhone. So the actual overheads attributed to Services is less than that.

Operating expenses:				
Research and development	4,758	4,257	13,774	12,107
Selling, general and administrative	4,831	4,426	14,980	13,667
Total operating expenses	9,589	8,683	<b>28,754</b>	<b>11% 25,774</b>

How much less? Well, in 2Q19 the [YoY growth in overheads was also 11%](#) (vs 2Q18), long before Services had popped up on anyone's radar. Which may imply that there has been negligible YoY overhead growth attributable to Services in the current period.

What does this mean in layman's terms? Well consider the following. For a company the size of Apple, it's extremely unlikely that they achieved 16% YoY organic sales growth exclusively via a 16% increase in volume of *new* customers *without any additional investment* (e.g. if number of iCloud subscriptions increased 16%). That's because when you're one of the top 3 largest companies in your industry (by any standard metric), growth of that kind becomes harder to achieve.

So if they didn't achieve 16% *organic* volume growth via new customers, how else could they have done it? Well, they could have done it through an increase in spending by *existing* customers. In techspeak, we call this NRR (Net Recurring Revenue), which means revenue growth from existing customers (i.e. SSSG in retail).

How could they increase NRR? Well, they can either upsell/cross-sell related services, or they can increase ARPU by raising prices. The former is unlikely because cross-selling is not a major part of Apple's business DNA (most of their revenue is from one product), while the latter is unlikely because Apple hasn't raised its prices on any of its services by 16% over the last year.

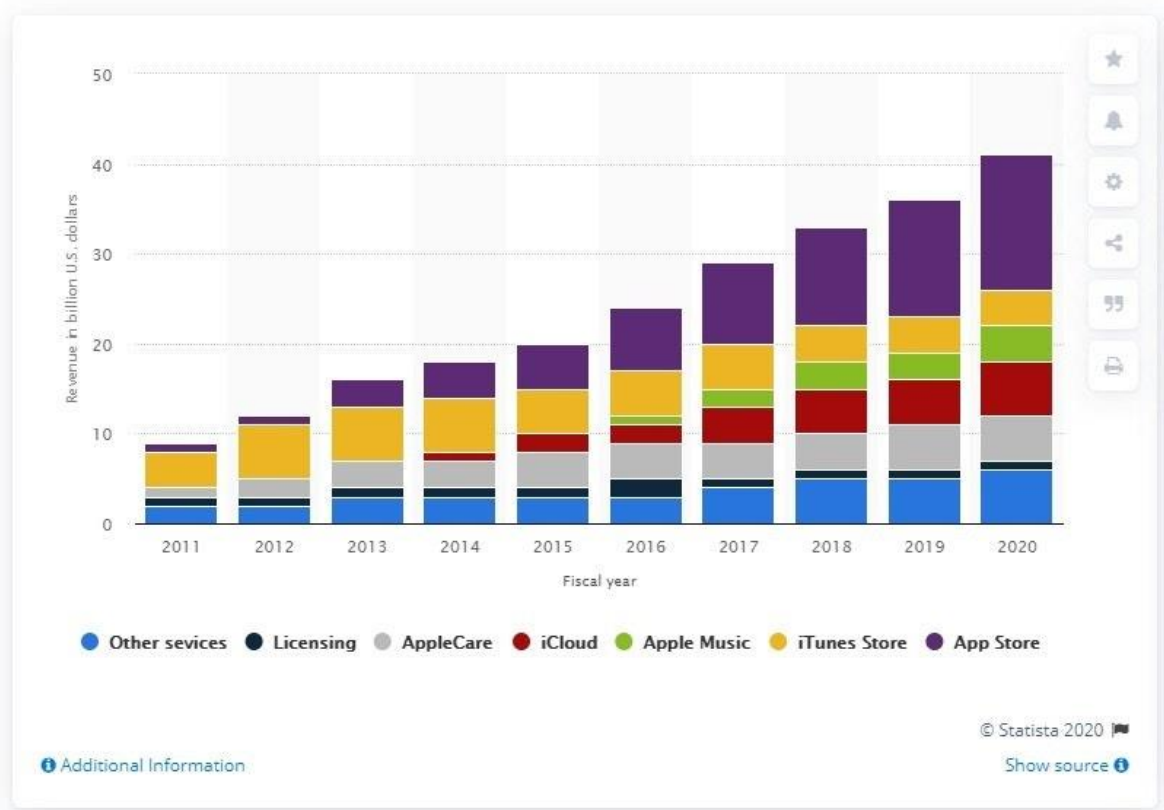
So if they didn't achieve that 16% YoY growth organically, that only leaves growth by additional investment. Basically, this means that Apple could have invested 16% more capital at the same rate of return to obtain 16% sales growth. In the context of Services, this could mean among other things signing on new artists to Apple Music, signing on new cable channels to Apple TV, or adding more banks to the Apple Pay network - all of which should lead to higher adoption of those services by customers.

However, such kinds of investments would usually leave a paper trail. If Apple had spent on advertising to get more people onto Apple Pay, the incremental marketing expense would show up under SG&A. If Apple had signed a new recording contract with Sony Music, the related expenses would appear as a Licensing asset under Intangible Assets - which would mean a like increase in depreciation/amortization. In other words, any incremental investment should lead to higher overheads.

But as we've seen above, the implied overhead growth from Services is practically nil. Which means that it's highly unlikely that the 16% YoY sales growth came from the capital-hungry Apple Music/TV/Pay businesses.

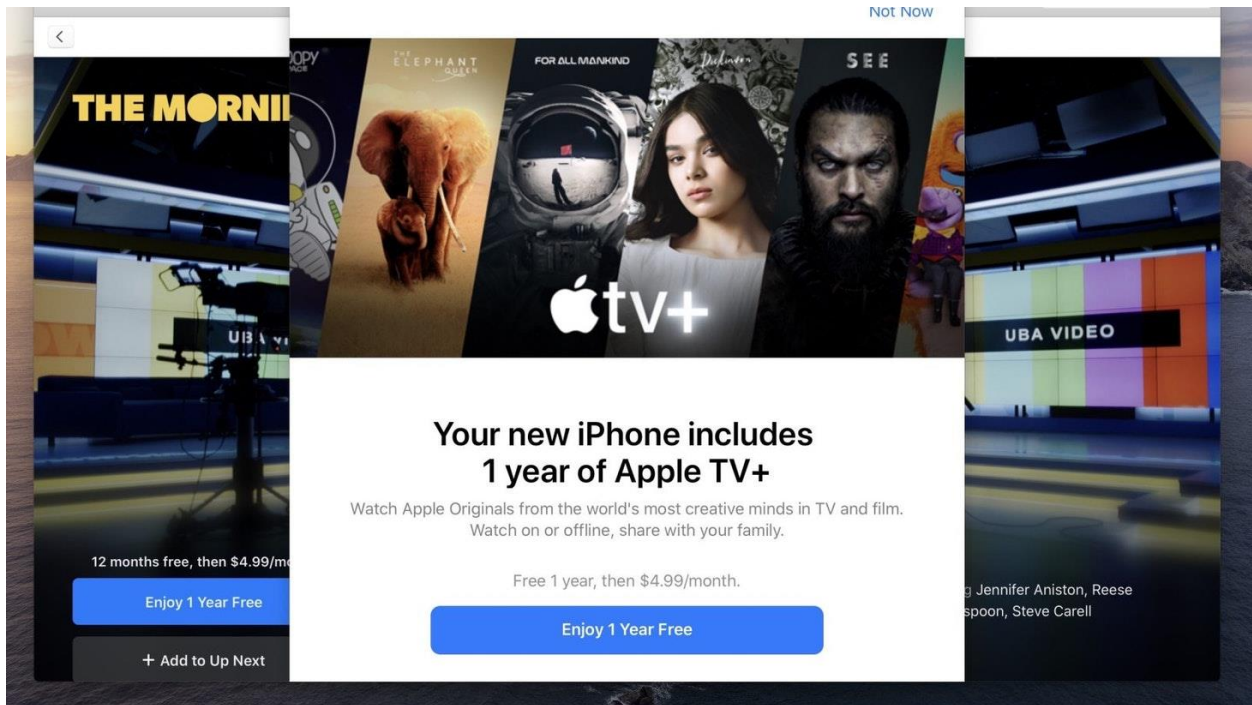
That leaves iCloud and App Store as the two remaining behemoths of the Services segment. Given all the above considerations, any significant revenue growth in Services *has* to come from these two businesses.

## Apple's services revenue by product category from 2011 to 2020\* (in billion U.S. dollars)



However, as we can see from this chart, estimated iCloud 2019 revenue was in the territory of \$5B, while estimated App Store 2019 revenue was at best \$15B. So once again, it's highly unlikely that these two combined could have contributed to the \$5.4B increase in Services revenue (i.e. 16% YoY growth).

So now that we've exhausted all the major drivers of Services revenue growth, i.e. Apple Music/TV/Pay or iCloud/App Store, what's left that could have possibly yielded the massive 16% YoY Services growth? The answer, at least at first glance, is absolutely nothing. Other than the above businesses, Apple has no other businesses under Services that could possibly drive that narrative.



However, one thing that Apple did do in the last 12 months in the context of Services revenue growth, was that they offered a [free one-year subscription of Apple TV+](#) with every new iOS device purchased (i.e. iPhone, iPad, Apple TV, Mac or iPod touch) from Sep 10, 2019 to Jan 31, 2020. Essentially, this means that if you had bought an iOS device during that period, you were eligible for a \$4.99/month promotion involving a year's worth of Apple TV+ subscription, totaling \$60/year.

Now on the surface, there's absolutely nothing wrong with this. Apple is just doing a promotion to get more iPhones out the door, right? Perfectly normal marketing strategy, and it may also lead to persistently higher conversion rates on Apple TV+.

Here's where my tinfoil hat conspiracy theory comes in.

One year's worth of Apple TV+ is \$60/year, which is about 6% of the average \$1,000 sticker price of an iPhone. In normal business terms, you'd expect that they'd record \$1,000 of hardware revenue for every iPhone sold, and \$0 in services revenue for the free Apple TV+ subscription they're giving away.

However as far as accounting is concerned, Apple could technically reallocate the \$1,000 sticker price of the iPhone however they want. Accounting rules allow you to pretend that instead of selling an iPhone for \$1,000 and giving away Apple TV+ for free, you can pretend that part of the iPhone's price is actually consideration paid for a full year's worth of Apple TV+ - as if you had sold an iPhone at a 6% discount, and also legitimately sold one year's worth of Apple TV+ at the same time. So in this example, for every \$1,000 iPhone sold, you'd record \$940 of iPhone revenue and \$60 of Services revenue.

(1) Net sales by category:					2%
iPhone	\$ 26,418	\$ 25,986	\$ 111,337	\$ 109,019	
Mac	7,079	5,820	19,590	18,749	
iPad	6,582	5,023	16,927	16,624	
Wearables, Home and Accessories	6,450	5,525	22,744	17,962	
Services	13,156	11,455	39,219	33,780	
Total net sales	\$ 59,685	\$ 53,809	\$ 209,817	\$ 196,134	

Obviously at this point this is just a conspiracy theory, so let's test its validity. iPhone sales in the previous corresponding quarter was \$109B. The free Apple TV+ promotion with every iPhone sold ran from Sep 10-Jan 31, or just shy of 5 months. And one year's worth of Apple TV+ equals to \$60 in consideration, or 6% of the average price of an iPhone of \$1,000.

So if we take  $\$109B * 5/12 * 6% = \$2.7B$ , we get \$ 2.7B in additional Services revenue purely attributed to the free Apple TV+ promotion - or about half of the \$5.4B related to the 16% YoY growth in Services revenue. If this conspiracy theory were true, that might go a long way to explaining how Apple might have achieved such objectively dazzling YoY revenue growth from Services.

(Keep in mind that the free 1-year Apple TV+ promotion applied not just to iPhone, but also to Mac, iPad, Apple TV and iPod touch. So technically this figure should be higher. But I'm also unsure about the average prices of the other Products, so I just ignored them to keep things simple.)

Hence, if we were to invest conservatively and assume the worst-case scenario materializing, then Apple's Services segment has only experienced approximately 8% YoY revenue growth on a like-for-like basis in the latest quarter. Which is not much better than Products' YoY growth of 5%. This would plausibly decimate the Services growth story, and certainly make it much harder to justify the breathtaking \$2 Trillion valuation.

Obviously everything here is purely anecdotal, and there is not a shred of empirical evidence to support this theory. I'll admit upfront that I could be totally wrong. But as far as professional skepticism goes, I think this is a pretty decent rationale for AAPL being overvalued.

Aaron

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