



SHOULD NINTENDO KEEP MAKING CONSOLES, OR GO THIRD-PARTY?

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Table of Contents

Introduction.....	2
SWOT.....	3
• Strengths.....	4
• Weaknesses.....	5
Position Map.....	7
Market Analysis.....	8
Conclusion.....	9
Bibliography.....	10
Supporting Document 1.....	11
Supporting Document 2.....	14
Supporting Document 3.....	15
Supporting Document 4.....	21

Introduction:

Nintendo is a Japanese video company that has been around for over a century. They started making playing cards in 1889, but they've been an industry leader in the video game console market since 1983. They are credited as being the savior of the video game industry, at a time when the market was lost to consumers, with the NES.¹

But, Nintendo's consoles have sold less and less over the years. With the exception of the Wii (which sold over 100 million units globally), each home console has sold less than their last one. Even worse, their most recent (released) console (at the time of this writing), the Wii U, ended up being their worst selling console to date (only about 13 million consoles were shipped before production ended).²

Some have said Nintendo needs to adopt the same hardware approach as its competitors, while others argue that they should stop making hardware all together and focus on developing games for other platforms (otherwise known as going "third-party").³ In this paper, we will determine if Nintendo turning into a third-party developer would be beneficial through the use of a SWOT analysis, position map, and market share analysis.

¹ "Nintendo - Wikipedia." <https://en.wikipedia.org/wiki/Nintendo>

² "IR Information : Sales Data - 任天堂." <https://www.nintendo.co.jp/ir/en/sales/> (Supporting Document 3)

³ "Should Nintendo Just Stop Making Consoles? - Forbes." 29 Apr. 2016, <https://www.forbes.com/sites/davidthier/2016/04/29/nx-hardware-legend-of-zelda-should-nintendo-just-stop-making-consoles/>

SWOT:

<p>Strengths:</p> <ul style="list-style-type: none"> • Nintendo has some of the best selling game brands ever (Mario⁴, Wii⁵) • Nintendo creates some of the most popular/critically acclaimed games in the world⁶ • They have accumulated a large stockpile of capital that will keep them in business during rough financial times (like the Wii U's lifecycle)⁷ 	<p>Weaknesses:</p> <ul style="list-style-type: none"> • Hardware is generally weaker than competitors⁸ • Has lost dominance in game console industry in general over the years⁵ • Nintendo's early efforts in developing mobile games have not gone as well as expected⁹
<p>Opportunities:</p> <ul style="list-style-type: none"> • Console market could internationally expand as countries like China start to allow the sales of them¹⁰ • Game software sales are projected to boost by \$20 billion over the next three years¹¹ • Weak yen boosts profits for company, even in transition periods¹² 	<p>Threats:</p> <ul style="list-style-type: none"> • Rampant piracy faces third-party developers that create games for PC/Mac¹³ • Third-party developers are limited by the platforms they develop on⁸

⁴ "The 10 Best Selling Video Game Franchises Of All Time - Overmental." 15 Apr. 2015, <http://overmental.com/content/the-10-best-selling-video-game-franchises-of-all-time-13907/2>

⁵ "IR Information : Sales Data - 任天堂." <https://www.nintendo.co.jp/ir/en/sales/>

⁶ "Zelda: Breath of the Wild has the most perfect review scores in" 7 Mar. 2017, <http://www.vg247.com/2017/03/08/zelda-breath-of-the-wild-has-the-most-perfect-review-scores-in-metacritic-s-history/>

⁷ "Is Nintendo doomed? Not likely. Just take a look at how much money" 13 Feb. 2012, <http://www.gamesradar.com/nintendo-doomed-not-likely-just-take-look-how-much-money-its-got-bank/>

⁸ "Nintendo Switch vs PS4 and Xbox One - Trusted Reviews." 6 Mar. 2017, (Supporting Document 4) <http://www.trustedreviews.com/opinions/nintendo-switch-vs-ps4-and-xbox-one>

⁹ "Was 'Super Mario Run' A Success Or A Failure? - Forbes." 4 Jan. 2017, <https://www.forbes.com/sites/davidthier/2017/01/04/was-super-mario-run-a-success-or-a-failure/>

¹⁰ "China lifts 14-year ban on gaming consoles - Business Insider." 27 Jul. 2015, <http://www.businessinsider.com/china-lifts-14-year-ban-on-gaming-consoles-2015-7>

¹¹ "Video game software sales estimated to hit \$98 billion by 2020" 19 Oct. 2016, <http://venturebeat.com/2016/10/19/video-game-software-sales-estimated-to-hit-98-billion-by-2020/>

¹² "Nintendo profit rises, buoyed by weak yen - MarketWatch." 31 Jan. 2017, <http://www.marketwatch.com/story/nintendo-profit-rises-buoyed-by-weak-yen-2017-01-31>

¹³ "The state of PC piracy in 2016 | PC Gamer." 10 Aug. 2016, <http://www.pcgamer.com/the-state-of-pc-piracy-in-2016/>

Strengths:

Nintendo's most important asset is its brand recognition. Considering the "Wii" sold just over 100 million units, it is understandable to assume that they'd like to stay in the console market to appeal to the millions of people who bought that system. But, the "Wii" brand seems to be losing its appeal. Nintendo tried to recreate the success of the "Wii" by naming their next console after it, the "Wii U", but it ended up being a financial failure. It is widely accepted that this is because the reuse of the "Wii" name with their new console made it sound like it was just an accessory for the "Wii" rather than a separate system. Still, their best selling game of all time is "Wii Sports" with 82.79 million copies sold. So, instead of naming consoles after the "Wii", they should make more "Wii" branded software. That way, they could recapture the audience that loved "Wii Sports" without confusing them about the hardware that runs those games. In fact, 8 out of the top 10 best selling games on the "Wii" also included the word "Wii" in the title, further proving that the "Wii" brand sells.¹⁴

On the flip side, Nintendo owns the single best-selling franchise in the world: "Mario". Over the last 34 years, the "Mario" franchise has sold a combined 297.88 million copies for \$25,450,000,000 in revenue.¹⁵ Because "Mario" is such a world renowned franchise, it means that their systems will have an unbeatable exclusive to sell their consoles. In fact, there is proof that "Mario" games have been system sellers in the past. With the exception of the Wii and 3DS, a "Mario" title has been the best selling game on every Nintendo console since the DS in 2005. And even though "Wii Sports" was the best selling game on the Wii and "Pokemon X/Pokemon Y" was on the 3DS, a "Mario" title still was the second best selling title on both consoles ("Mario

¹⁴ "IR Information : Sales Data - 任天堂." <https://www.nintendo.co.jp/ir/en/sales/> (Supporting Document 3)

¹⁵ "The 10 Best Selling Video Game Franchises Of All Time - Overmental." 15 Apr. 2015, <http://overmental.com/content/the-10-best-selling-video-game-franchises-of-all-time-13907/2>

Kart Wii” on the Wii and “Mario Kart 7” on the 3DS). If Nintendo were to keep releasing new “Mario” titles with each new console, consumers would be more apt to purchase their consoles, even with lackluster third-party support.¹⁶

Weaknesses:

Nintendo’s big franchises may not be enough to keep console sales up. According to Nintendo Japan’s website, sales of home consoles have decreased by about 10 million units for each new generation.¹⁶ This can be attributed to the rise of mobile gaming. Since people always have their phones on them, it is much more convenient to play on that, rather than having to bring around a separate gaming device or to sit down and play in one spot. If Nintendo were to take a third party approach to this issue, they could make just as much money by creating mobile games instead of trying to create consoles and games for them.

But, Nintendo’s early attempts to make games for other platforms has not bode well for the company. In December of 2016, Nintendo released their first ever mobile game on Apple’s iOS platform: “Super Mario Run”. Initially, the game seemed to be doing very well. It was downloaded over 90 million times over the course of a few weeks. But, while the game was free to download and start, users had to pay an additional \$10 to unlock all the levels. Furthermore, only 3% of users purchased the full game, a dismal purchase rate.¹⁷ While the game was projected to earn \$71 million by the end of its first month, it only raked in about \$30 million.¹⁸ In an oversaturated mobile market, there just doesn’t seem to be enough room to accommodate yet another game publisher. At least when Nintendo makes games for their own platform, they

¹⁶ "IR Information : Sales Data - 任天堂." <https://www.nintendo.co.jp/ir/en/sales/> (Supporting Document 3)

¹⁷ "Was 'Super Mario Run' A Success Or A Failure? - Forbes." 4 Jan. 2017, <https://www.forbes.com/sites/davidthier/2017/01/04/was-super-mario-run-a-success-or-a-failure/>

¹⁸ "Why did Nintendo's share price fall when "Super Mario Run" was" 16 Dec. 2016, <http://qz.com/865143/why-did-nintendos-share-price-fall-when-super-mario-run-was-released/>

control the games made for it, both by themselves and third-parties. This way, they can always ensure that their games will not be overshadowed by too much competition. While many think Nintendo should go third-party, their few attempts to do so have proved that they might be better off developing for their own systems.

Possibly one of Nintendo's biggest problems is its hardware design. For their upcoming home console, the Switch, they decided to use an ARM A57 processor with a mobile Nvidia Tegra graphics chip. Compared to its rivals (PS4/Xbox One), these chips are not up to par. The Switch's processor has 4 cores that run at 1,024 mhz, while the competition both run at 8 cores with 1,600 mhz or more.¹⁹ That's more than double the speed of the Switch. As a result, games made for it will have power limitations and may not be able to run as well as other versions. If Nintendo made games for other consoles, all these overhead issues would be eliminated. But, there is an alternative that will both satisfy Nintendo's hardware ambitions while creating something that will appeal to consumers that already own competing consoles. If Nintendo were to create a device that simply played their games, then they could sell it for much cheaper and utilize the hardware to its full potential. Instead of putting money and effort into making sure developers could port to the console, they would just have to teach their internal teams how to use the hardware. That way, they can produce a cheaper product for the consumer while delivering the experiences that they want with their hardware.²⁰

¹⁹ "Nintendo Switch vs PS4 and Xbox One - Trusted Reviews." 6 Mar. 2017, <http://www.trustedreviews.com/opinions/nintendo-switch-vs-ps4-and-xbox-one> (Supporting Document 4)

²⁰ "Article Should Nintendo Make a Console Entirely Devoted to ... - Lifewire." 19 Oct. 2016, <https://www.lifewire.com/proposed-the-nintendo-only-box-2498664> (Supporting Document 1)

Position Map:



21

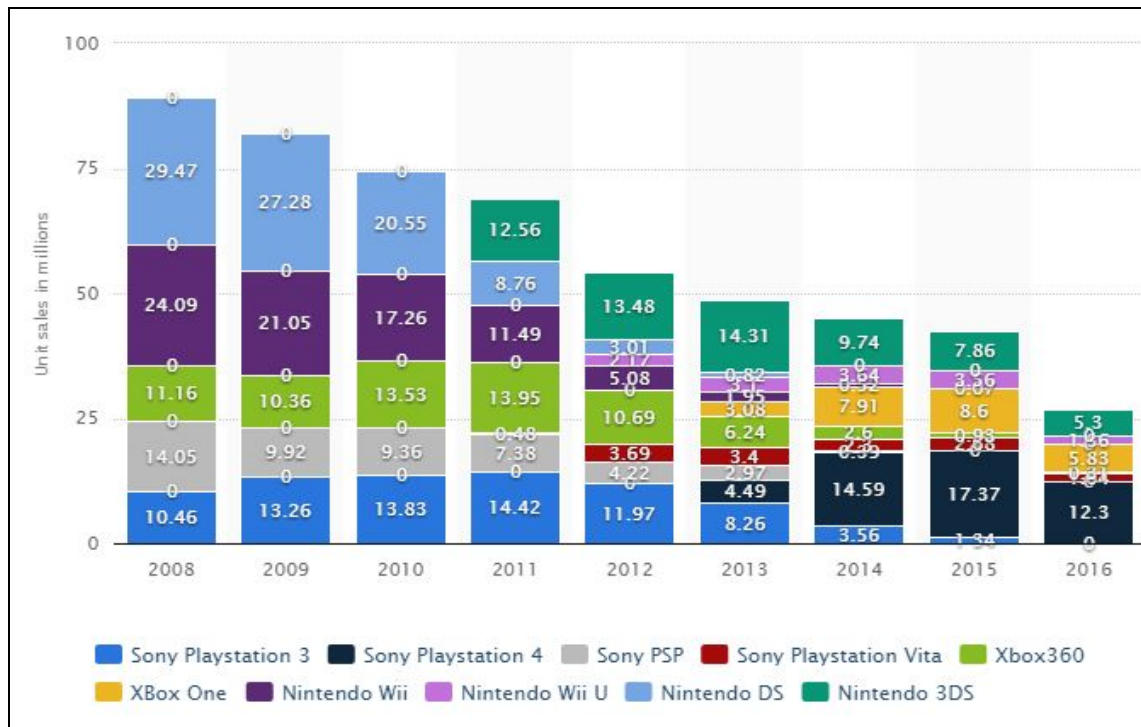
The definition of quality in this position map is how powerful the system is and the quality of each system overall (premium materials, how smoothly it runs, etc.). Value is determined by the amount of exclusives each system has, overall user impressions of each system, features, and so on. As noted before, Nintendo's newest console is underpowered, but cheaper than the competition.²¹ Nintendo is generally a budget-friendly company.²² With the Switch coming in below the competition in price (\$299), the trade off in terms of quality is worth it. Being able to take games that are almost the same quality as their Xbox/Playstation counterparts on-the-go is

²¹ "Nintendo Switch vs PS4 and Xbox One - Trusted Reviews." 6 Mar. 2017, <http://www.trustedreviews.com/opinions/nintendo-switch-vs-ps4-and-xbox-one> (Supporting Document 4)

²² "Article Should Nintendo Make a Console Entirely Devoted to ... - Lifewire." 19 Oct. 2016, <https://www.lifewire.com/proposed-the-nintendo-only-box-2498664> (Supporting Document 1)

a huge unique selling point. The quality of its exclusive games makes it enticing to consumers because the games that are there have variety in game types and they are games that can be enjoyed by any type of player, rather than the hardcore exclusives offered by the competition for passionate, avid gamers.

Market Analysis:



23

Year over year, the amount of consoles sold (in total) are decreasing due to the rising popularity of gaming on smart devices (like phones). Nintendo should consider this shrinking console market when deciding if they want to continue producing systems. The Wii U (purple)

²³ "Global unit sales of current generation video game consoles ... - Statista."
<https://www.statista.com/statistics/276768/global-unit-sales-of-video-game-consoles/> (Supporting Document 2)

has been performing extremely poorly, while the 3DS has done moderately well (turquoise). By the end of 2016, with 1.86 Wii U systems and 5.3 million 3DS units sold that year, they only made up about 26% of all consoles sold that year. Compared to the Wii/DS era, that is abysmal. Some argue that this can be attributed to how bad the Wii U was to develop for or its poor marketing, but either way, it's clear that Nintendo isn't the dominant company it used to be in the home console industry.²⁴

Conclusion:

Nintendo should pull out of the console market immediately. Even though they have made some of the best selling consoles in history, the market (as a whole) is declining rapidly. With such powerful game series as "Mario" and "Pokemon", they are guaranteed to see healthy software sales on almost any platform given the prestige of these brands. Even though the few third-party titles they've made haven't met expectations, if they want to continue to profit, they'll adapt to a new business model in a market that is growing to avoid inevitable losses in a market that is quickly fading.

²⁴ "Global unit sales of current generation video game consoles ... - Statista."
<https://www.statista.com/statistics/276768/global-unit-sales-of-video-game-consoles/> (Supporting Document 2)

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5. "Zelda: Breath of the Wild has the most perfect review scores in" 7 Mar. 2017, <http://www.vg247.com/2017/03/08/zelda-breath-of-the-wild-has-the-most-perfect-review-scores-in-metacritics-history/>
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12. "The state of PC piracy in 2016 | PC Gamer." 10 Aug. 2016, <http://www.pcgamer.com/the-state-of-pc-piracy-in-2016/>
13. "Global unit sales of current generation video game consoles ... - Statista." <https://www.statista.com/statistics/276768/global-unit-sales-of-video-game-consoles/>
14. "Article Should Nintendo Make a Console Entirely Devoted to ... - Lifewire." 19 Oct. 2016, <https://www.lifewire.com/proposed-the-nintendo-only-box-2498664>

Supporting Document 1:

Proposed: The Nintendo-Only Box

If Nintendo Consoles are All About Nintendo IPs, Why Have Anything Else?

Sales for the Wii U were slow from the beginning, and third party support soon evaporated. And yet, after some bad years Nintendo clawed their way back to profitability. How? They used their arsenal of hugely successful IPs, giving the world things like *Super Mario Maker*, *Donkey Kong Country Tropical Freeze*, and . They also partnered with developers to create other exclusives like *Xenoblade Chronicles X* and .

The Wii U would have sold better if it had also offered a chance to play hit games like *Grand Theft Auto V*, and *Metal Gear Solid V: The Phantom Pain*, but Nintendo's own wares were enough to keep the console afloat.

Many analysts say that Nintendo is not really competing against Microsoft and Sony, that they have their own game space. That it hardly matters if the Wii U doesn't get many third party titles, because Nintendo's own IPs are all that really matters; those that want third party titles will probably buy another console anyway.

Of course, that last idea rests on the common belief among game journalists that gamers buy lots of consoles. The idea that some gamers cannot actually afford multiple consoles rarely seems to be part of the equation.

But not every gamer can afford multiple consoles, and when they have to choose between *Mario* and *Donkey Kong* or *Final Fantasy* and *Grand Theft Auto*, they will not all choose *Mario*.

While many analysts want to remove the conflict by turning Nintendo into a third-party publisher, it might make more sense for them to simply make a cheap-as-dirt console that even the most frugal gamer could afford to place next to their next-gen system, a console so cheap it's worth buying for just the dozen games that come out yearly for it.

Stripped Down and Ready for Mario

If Nintendo's home consoles are only important for Nintendo games, and Nintendo isn't even in competition with Microsoft and Sony, then all they need is, say, a Game Cube HD that sells for \$100. The graphical demands of Nintendo's commonly cartoony IPs are slight – *Mario* will never need detailed cities, realistic human motion and intricate facial movements – so if Nintendo ignores third parties they can ignore the graphics war to an even greater extent than they already have. Yet by keeping their own console they keep their options open for the future, keep the cachet that comes with being a console maker, and retain the ability to create peripherals like the Balance Board.

The Game Cube HD would admittedly be antithetical to what Nintendo has been doing, which is to create innovative ways to play games. For me personally, the innovations of the Wii and the Wii U and the DS are what make Nintendo interesting, but a lot of Nintendophiles feel otherwise. I thought the use of motion gaming in *The Legend of Zelda: Skyward Sword* was brilliant, yet tons of *Zelda* fans complained that they just wanted to play the game on a normal controller. I was instantly intrigued by the Wii U gamepad, but many gamers immediately rushed out to buy the more conventional Wii U Pro Controller, and then proceeded to complain about every game that didn't support it.

In other words, Nintendophiles wind up with the most technically innovative game consoles not because they want the most technically innovative game consoles, but because they want to play *Mario*, *Zelda*, and *Smash Bros*. Some do love the innovations, but many just put up with them as they dream of going back to the Game Cube controller.

Even Nintendo doesn't always seem enamored of its own innovations; many Nintendo games offer no special use for the gamepad's touchscreen. Many of the games that most strongly embraced the gamepad, like *ZombiU*, *Rayman Legends*, and *Fatal Frame: Maidens of Blackwater*, have come from third parties.

Another Choice: Go for the Gold

On the other hand, Nintendo could go the opposite route and decide to compete full out against Sony and Microsoft. This is a trickier proposition. While many claim Nintendo's difficulties come from releasing a console much less powerful than those of the other

guys, the last time Nintendo tried the power-parity strategy was with the Game Cube, which still wound up with lower sales and less third party support.

It's unlikely that Nintendo will try to outdo their competitors at console power, nor is it likely that they will create a cheap Nintendo-only machine worth buying for the dozen games they'll put out for it each year. Neither approach seems in keeping with the company's philosophy. Instead, they will instead continue to make ingenious, innovative consoles that are often dismissed by the wider gaming community and then use their fantastically popular IPs to sell them. Rightly or wrongly, that's the Nintendo way.

Supporting Document 2:



Supporting Document 3:

- Management Policy
- Financial Highlights
- Sales Data
 - Hardware and Software Sales Units
 - Top Selling Software Sales Units
- Stock Information
- IR Library
- IR Calendar
- FAQ

Hardware and Software Sales Units

» Japanese/日本語

(As of December 31, 2016)



Wii U

Hardware: **13.56** million units
Software: **96.52** million units



Nintendo 3DS

Hardware: **65.30** million units
Software: **320.96** million units



Wii

Hardware: **101.63** million units
Software: **917.34** million units



Nintendo DS

Hardware: **154.02** million units
Software: **948.51** million units



Game Boy Advance

Hardware: **81.51** million units
Software: **377.42** million units



Game Boy

Hardware: **118.69** million units
Software: **501.11** million units



Nintendo GameCube

Hardware: **21.74** million units
Software: **208.57** million units



Nintendo 64

Hardware: **32.93** million units
Software: **224.97** million units



Super Family Computer /SNES

Hardware: **49.10** million units
Software: **379.06** million units



Family Computer /NES

Hardware: **61.91** million units
Software: **500.01** million units

- ▶ Management Policy
- ▶ Financial Highlights
- ▶ Sales Data
 - ▣ Hardware and Software Sales Units
 - ▣ **Top Selling Software Sales Units**
- ▶ Stock Information
- ▶ IR Library
- ▶ IR Calendar
- ▶ FAQ

Top Selling Software Sales Units

>> Japanese/日本語

(As of December 31, 2016)

Wii U Nintendo 3DS Wii Nintendo DS INDEX



Wii U™

Wii U Software

Mario Kart 8
8.26 million pcs.



New Super Mario Bros. U
5.62 million pcs.



Super Mario 3D World
5.47 million pcs.



Nintendo Land
5.16 million pcs.



[Management Policy](#)[Financial Highlights](#)[Sales Data](#)[Hardware and Software Sales Units](#)**[Top Selling Software Sales Units](#)**[Stock Information](#)[IR Library](#)[IR Calendar](#)[FAQ](#)

Top Selling Software Sales Units

[Japanese/日本語](#)

(As of December 31, 2016)

Wii U **Nintendo 3DS** Wii Nintendo DS INDEX**NINTENDO 3DS.**

Nintendo 3DS Software

Pokémon X/Pokémon Y
16.06 million pcs.**Mario Kart 7**
14.82 million pcs.**Pokémon Sun/
Pokémon Moon**
14.69 million pcs.**Pokémon Omega Ruby/
Pokémon Alpha Sapphire**
13.68 million pcs.**SUPER MARIO 3D LAND**
11.17 million pcs.

- ▶ Management Policy
- ▶ Financial Highlights
- ▶ Sales Data
 - ▢ Hardware and Software Sales Units
 - ▣ Top Selling Software Sales Units
- ▶ Stock Information
- ▶ IR Library
- ▶ IR Calendar
- ▶ FAQ

Top Selling Software Sales Units

>> Japanese / 日本語

(As of September 30, 2016)

- Wii U
- Nintendo 3DS
- Wii
- Nintendo DS**
- INDEX



NINTENDO DS.

Nintendo DS Software

New Super Mario Bros.
 30.80 million pcs.



nintendogs
 23.96 million pcs.



Mario Kart DS
 23.60 million pcs.



**Brain Age:
 Train Your Brain
 in Minutes a Day**
 19.01 million pcs.



**Pokémon
 Diamond Version/
 Pearl Version**
 17.64 million pcs.



- > Management Policy
- > Financial Highlights
- > Sales Data
 - Hardware and Software Sales Units
 - Top Selling Software Sales Units**
- > Stock Information
- > IR Library
- > IR Calendar
- > FAQ

Top Selling Software Sales Units

>> Japanese/日本語

(As of September 30, 2016)

- Wii U
- Nintendo 3DS
- Wii**
- Nintendo DS
- INDEX



Wii Software

Wii Sports
82.79 million pcs.



Mario Kart Wii
36.83 million pcs.










Wii Sports Resort
32.99 million pcs.



New Super Mario Bros. Wii



<p>New Super Mario Bros. Wii 29.90 million pcs.</p>	
<p>Wii Play 28.02 million pcs.</p>	
<p>Wii Fit 22.67 million pcs.</p>	
<p>Wii Fit Plus 21.12 million pcs.</p>	
<p>Super Smash Bros. Brawl 13.15 million pcs.</p>	
<p>Super Mario Galaxy 12.72 million pcs.</p>	
<p>Wii Party 9.24 million pcs.</p>	

*The numbers shown above are worldwide consolidated sales in units life-to-date.

*Software units include the quantity bundled with hardware.

*Package images shown above are for Japanese market.

Supporting Document 4:

Nintendo Switch vs PS4 and Xbox One: An in-depth look at this year's three big consoles

by Michael Passingham

06 March 2017

Nintendo Switch vs PS4 and Xbox One: How does Nintendo's all-new console stack up against those of Sony and Microsoft? We compare all the specs, controllers, hardware, features and games to find out.

The [Nintendo Switch](#) is out right now, and it's unlike any console we've seen before. Taking HD gaming and putting it into your pocket, there are some serious technical achievements. But how does it compare to the established forces in the console market, and what can you expect in terms of performance? Here, we look at the Switch in the context of the [PS4](#) and [Xbox One](#).

Before we get started, it's worth pointing out that this article is not intended to help decide which is better, but instead explain how the Switch differs from the static consoles we know and like. With that established, let's get started.

HOW THE NINTENDO SWITCH WORKS

To make sure we're all on the same page, it's worth taking a moment to explain how the Switch works. You can read more details in our [Switch review diary](#), but here's its main functionality in a few bullet points:

- Main console is a 6.2-inch 1,280 x 720-pixel touchscreen unit, controlled by two detachable Joy-Con controllers that dock to either side
- Between 2.5 and 6 hours of battery life when gaming
- Console can be docked, outputting games to your TV. Joy-Cons instead connect to Joy-Con Grip for wireless play
- Joy-Cons can also be used separately by two players for simpler games or games that use multiplayer motion controls
- More traditional "Pro" controller sold separately
- Up to eight consoles can connect wirelessly for local multiplayer

Now we're up to speed, let's head to the comparisons.

NINTENDO SWITCH VS PS4 AND XBOX ONE – CONTROLLERS

Nintendo has made the controllers on the Switch unlike anything we've seen before.

Let's take a look at how a pair of Joy-Con controllers and the Pro controller compare to Sony and Microsoft's offerings.

Feature	Joy-Con pair	Switch Pro	Xbox One	PS4	PS4 Move pair
Control buttons	18 touchscreen	18	17	17 touch	18
Analogue sticks	2	2	2	2	2
Vibration	Yes	Yes	Yes	Yes	Yes
Wireless	Yes	Yes	Yes	Yes	Yes

Battery capacity	525mAh (each)	1300mAh	N/A	1000mAh	1520mAh (each)
Battery life	20h (official)	40h (official)	Variable	~7 h	~10h
Motion controls	Yes	Yes	No	Yes	Yes
IR camera	Yes	No	No	No	No
Removable batteries***	No	No	Yes	No	No
Play and charge	Yes*	Yes	Yes**	Yes	Yes
Headphone jack	No	No	Yes	Yes	No

* With optional Charge Grip

** Play-and-charge kit available

*** Without voiding warranty

A table can't explain all the differences between the controllers. For example, the rumble feedback in the Joy-Con controllers is described as "HD", with extremely precise motors that let you feel very subtle movements.

This will come in handy in motion-controlled games and the rumoured VR headset.

The way the Joy-Cons charge is much more confusing than simply connecting over USB. Connected to the screen, the controllers are powered so don't need to use their own battery. To charge them properly, you'll need to dock the console and attach the controllers to it. That way, the console and controllers all charge at the same time.

Considering the Joy-Con can go 20+ hours between charges, this shouldn't be a big problem. If you think it will be, you can pick up a Charge Grip for £24.99. You'll be able

to trail a cable from your console (or a wall plug) and charge the Joy-Con while still playing.

It's important not to forget PlayStation Move controllers here, which is why we've included them in the comparison table. The Move is technically quite different; it needs to be within view of a sensor in order to deliver spatially accurate motion controls. The Switch doesn't work like this, and therefore doesn't have the same spatially accurate movements.

The right-side Joy-Con also includes an infrared sensor for detecting objects and motion, and also includes an NFC chip for detecting Amiibo characters.

NINTENDO SWITCH VS PS4 AND XBOX ONE – SPECS AND GRAPHICS

Here's the bit the techies were waiting for. Let's run down the raw specifications of the three consoles.

Feature	Switch*	Xbox One**	PS4**
CPU: Cores	4x ARM Cortex A57	8x AMD Jaguar	8x AMD Jaguar
CPU: Clock speed	1020MHz	1,750MHz	1,600MHz
GPU: Cores	256 Nvidia CUDA	768x AMD Shaders	1152 AMD shaders
GPU: Docked speed	768MHz	853MHz	800MHz
GPU: Undocked speed	307.2MHz	N/A	N/A
HDR	No?	Yes (One S)	Yes

Memory	4GB	8GB	8GB
Storage	32GB flash (microSD-expandable)	500GB HDD	500GB HDD
Physical game formats	Game Card	Disc	Disc
USB ports	2x USB2, 1x USB3.0	3x USB 3.0	2x USB 3.1 (gen1)
Video output	HDMI	HDMI	HDMI (HDR supported)
Audio ports	None	Optical	Optical
Networking ports	None	Gigabit Ethernet	Gigabit Ethernet
Power consumption	Unknown	~125W	~140W

* CPU and GPU specs are non-official, based on reports including those from [Digital Foundry](#)

** For simplicity, these are Original PS4 and Xbox One rather than updated PS4 Pro/Slim and Xbox One S

Let's look at the top five rows first. It's not surprising to see that the Switch has a considerably lower processor speed, fewer processor cores, fewer GPU shaders and a lower GPU clock speed. This is a tiny machine, after all.

To the uninitiated, these numbers will be confusing and make the Switch look like a piddly little machine. Rest assured that the Nvidia tech that powers this is genuinely remarkable. Consider this: the CPU and GPU in the Switch, which is based on the Nvidia Tegra X1 found in the Nvidia Shield console, will likely have a maximum power consumption of 15W (not taking the screen or other components into account).

Compare that to the original PS4 and Xbox One and you're looking at multiple times more.

Is it not a bit fruitless to compare a portable console to the giant slabs that sit under our TVs? Not completely. After all, the the Switch is as much a home console as it is a portable one, and if it can't do justice to your big, expensive TV then you might feel short-changed.

The Switch will output at a maximum of Full HD (1080p), so if you have a 4K television, it'll need to do some work to upscale the footage. This compares to both the Xbox One and PS4, which also output at a native Full HD resolution. However, what resolution the Switch is actually drawing is unclear. We don't know if some games will be drawn in something like 900p, then upscaled to Full HD before being sent to your TV, which will look worse than proper Full HD.

It doesn't look like the console will support HDR either, which is something all PS4s support (with a software update), as does the new Xbox One S.

When undocked, the Switch has a 720p screen. This resolution consists of 921,600 pixels, where Full HD is 2,073,600 pixels. If you spotted that the Switch has a much slower GPU clock speed when undocked, this is the reason why. There's a lot less work to do at 720p, so this will save on battery life.

It looks like different games will have different performance specs depending on whether they're docked or not. For example, *Zelda: Breath of the Wild* is aiming for 1080p performance at 60fps. Right now, it's at just 900p/30fps when docked, which isn't brilliant. Expect news stories about every single Switch game launch relating to docked/undocked performance discrepancies. Oh, the joy.

Storage is another concern. With just 32GB of on-board storage compared to the up to 2TB you can get on Sony and Microsoft's consoles, there's not much room for media or game downloads. Nintendo's online subscription service will include free game

downloads every month, so you'll need to keep an eye on your console to make sure you have enough room for the games.

You can expand the Switch's storage with a microSD card, and you'll be able to install games onto it.

You'll probably buy most of your games physically. These will come on Nintendo Game Cards, a format with a capacity of around 16GB. This is significantly smaller than the massive 50GB games you can get on the bigger consoles, but since these games will be much more stylised (less detailed) than those, it's no surprise.

In terms of audio, there's no high-quality optical S/PDIF port on the Switch. This isn't an enormous problem, but is worth bearing in mind if you're setting up the Switch as part of a high-end home cinema system.

NINTENDO SWITCH VS PS4 AND XBOX ONE – EXCLUSIVE TITLES

After all the technical discussion above, ultimately whether you buy a Switch will be down to the games you want to play. Nintendo exclusives remain strong, including Zelda and Mario titles as well as Splatoon and dozens more besides.

Similarly, there are phenomenal exclusives on Xbox One and PS4 that might take your fancy.

NINTENDO SWITCH VS PS4 AND XBOX ONE – FINAL THOUGHTS

The Nintendo Switch is a technically fascinating console with loads of features that might take time to fulfil their potential. At £280, it will be a harder sell than the known entities of the PS4 and Xbox One, but those machines can't do gaming on the move – a huge, huge deal for many people.

Ultimately, the Switch isn't really designed as a straight-up rival to the PlayStation and Xbox, if only because you probably already own one of those systems. To our mind, the most compelling argument for the Switch is as a complementary console, one which **adds unique functionality and a handful of tempting exclusives** – namely [The Legend of Zelda: Breath of the Wild](#) – to your gaming arsenal.

For hardcore gamers, die-hard Nintendo fans, and those with long commutes, buying the Switch may be something of a no-brainer. But for the rest of us, nigh on **£300** is a steep asking price for something that, in all likelihood, will live its life as a secondary system.