

CASES

CASE 22

NINTENDO'S SWITCH*

Did Nintendo's Switch Have the Flair to Turn On the Gamers?

On March 3, 2017, Nintendo launched its latest gaming console called Nintendo Switch. It was their ninth-generation portable gaming platform, initially launched with 58 compatible games. Nintendo Switch came with a pair of new and innovative controllers called Joy-Con Controllers, a hybrid of an attachable game pad and a controller that could be used separately for multiplayer game play. A pair of Joy-Cons was included in the \$299.99 price tag of the Switch console. The Joy-Con came in two color options for customers to choose from, one grey and red/blue and the other grey and black. A more innovative feature in the new gaming console was that it could be transformed into a 6.2-inch high-definition on-the-go gaming screen if a user decided to move away from the TV. The new Switch console also marked the release of Nintendo Switch's very first epic game called "The Legend of Zelda: Breath of the Wild," which could be played both on Switch and Wii U consoles for a price of \$59.99. Nintendo of America's COO and president, Reggie Fils-Aime, said, "Nintendo Switch makes it easy for anyone to enjoy their games in the living room and then quickly take them on the go."¹ The new gaming console design meant that console-gaming was not only limited to one stationary TV anymore and could be experienced anywhere anytime.

The launch of Nintendo's Switch caught the attention of consumers and mostly received a positive response, but apparently the news did not impress the investors, leaving the company's stock tumbling. This may have reflected concerns regarding the battery life of the portable console, its price, and third-party support. Nevertheless, a flood of customer orders led to stock shortages in stores like GameStop and Toys R Us, among others. Addressing the stock shortage, Reggie Fils-Aime said, "Our focus is making sure that the consumer who wants to buy a Nintendo Switch can buy a Nintendo Switch." The initial plan had been to ship 2 million consoles. Nintendo decided to double the production to deal with the shortage and meet the strong demand.

To meet demand for one year out, ending April 2018, according to *The Wall Street Journal*, the company's management decided to manufacture 16 million Switch

consoles, which was double the yearly quantity of 8 million, Nintendo's traditional production target. Company management was highly optimistic about the Switch, and Nintendo believed that it could sell about 10 million units of Switch consoles within a year after the launch.²

One of the key topics of discussion in the popular press was whether or not the Switch console defined the "next generation" of gaming. This echoed similar press concerns after the launch of Nintendo's previous console, the Wii U. Prior to the launch of the Switch, its predecessor the Nintendo Wii U console had been on the market for only a short while, with the addition of innovative controls and new game titles. Then there had been uncertainty among industry experts, such as Gabrielle Shrager of Ubisoft and Mikael Haverj of Frozenbyte, as to whether or not the improved power and new controller interface justified that system's being considered a "new" generation.³

The Wii U initially was launched with 50 available games and a new controller interface, termed the GamePad. While the GamePad offered a new take on the Wii's controls, the new console was still compatible with the same motion-sensing controllers of the original Wii. However, the Wii U console was not sold with these controllers included. Instead, it came with just one of the new GamePads. Incorporating traits from tablet devices, the GamePad integrated both traditional input methods—such as buttons, dual analog sticks, and a D-pad (directional pad)—and a touchscreen. The touchscreen could be used to supplement a game by providing alternative functionality or an alternative view of a scenario in a game. With the Off TV Play function, the screen could also be used to play a game strictly on the GamePad screen, without the use of a television display at all. With the Wii U console turned on, the GamePad could be used to display the same picture on its screen as would be seen using a TV display. There were also nongaming functions, such as the ability to use the GamePad as a television remote. While Nintendo was the first of the competitors to release its new gaming console, there was no doubt that both Sony's PlayStation and Microsoft's Xbox would be close behind in releasing their own upgraded systems.

Nintendo's inability to leap ahead of its competition could be seen clearly in its financial figures. As of 2017, Nintendo's income was off from previous years (see Exhibits 1 and 2).

Background

Although Nintendo dated back to 1889 as a playing-card maker, Nintendo's first video-game systems were developed

* This case was prepared by Professor Alan B. Eisner and graduate students Saad Nazir, Eshai J. Gorshein, and Eric S. Engelson of Pace University. This case is based solely on library research and was developed for class discussion rather than to illustrate either effective or ineffective handling of an administrative situation. Copyright © 2017 Alan B. Eisner.

EXHIBIT 1 Income Statement (1 USD = 112.3095 JPY as of March 31, 2016)

	Year Ended March 31		
	Previous fiscal year (From April 1, 2014 to March 31, 2015)	Current fiscal year (From April 1, 2015 to March 31, 2016)	
	(Millions of yen)	(Millions of yen)	(Millions of dollars)
Net sales	549,780	504,459	4,464
Cost of sales	335,194	283,494	2,508
Gross profit	214,584	220,965	1,955
Selling, general and administrative expenses	189,814	188,083	1,644
Operating income	24,770	32,881	290
Non-operating income			
Interest income	4,018	4,693	41
Foreign exchange gains	34,051	–	–
Gain on redemption of securities	5,233	6,801	60
Share of profit of entities accounted for using equity method	952	1,887	16
Other	1,788	1,168	10
Total non-operating income	46,043	14,550	128
Non-operating expenses			
Sales discounts	205	106	0
Foreign exchange losses	–	18,356	162
Other	77	178	1
Total non-operating expenses	283	18,641	164
Ordinary income	70,530	28,790	254
Extraordinary income			
Gain on sales of non-current assets	47	9	0
Gain on sales of investment securities	–	398	3
Gain on sales of shares of subsidiaries	3,689	–	–
Total extraordinary income	3,737	407	3
Extraordinary losses			
Loss on disposal of non-current assets	446	351	3
Restructuring loss	1,729	1,130	10
Total extraordinary losses	2,176	1,482	13
Profit before income taxes	72,091	27,715	245
Income taxes - current	25,922	2,482	21
Income taxes - deferred	4,306	8,714	77
Total income taxes	30,228	11,197	99
Profit	41,862	16,518	146
Profit attributable to non-controlling interests	18	13	0
Profit attributable to owners of parent	41,843	16,505	146

Source: <http://financials.morningstar.com/income-statement/>.

EXHIBIT 2 Balance Sheet (1 USD = 112.3095 JPY as of March 31, 2016)

	Year Ended March 31		
	Previous fiscal year (As of March 31, 2015)	Current fiscal year (As of March 31, 2016)	
	(Millions of yen)	(Millions of yen)	(Millions of dollars)
Assets			
Current assets			
Cash and deposits	534,706	570,448	5,048
Notes and accounts receivable - trade	55,794	38,731	342
Securities	380,587	338,892	2,999
Inventories	76,897	40,433	357
Deferred tax assets	15,597	6,597	58
Other	34,466	26,401	233
Allowance for doubtful accounts	(451)	(369)	(3)
Total current assets	1,097,597	1,021,135	9,036
Non-current assets			
Property, plant and equipment			
Buildings and structures, net	42,447	39,977	353
Machinery, equipment and vehicles, net	1,330	1,120	9
Tools, furniture and fixtures, net	4,770	3,791	33
Land	42,925	42,553	376
Construction in progress	14	309	2
Total property, plant and equipment	91,488	87,752	776
Intangible assets			
Software	11,190	9,408	83
Other	1,240	568	5
Total intangible assets	12,430	9,977	88
Investments and other assets			
Investment securities	96,294	125,774	1,113
Deferred tax assets	30,558	32,195	284
Net defined benefit asset	9,174	7,092	62
Other	15,399	12,974	114
Total investments and other assets	151,426	178,037	1,575
Total non-current assets	255,346	275,766	2,440
Total assets	1,352,944	1,296,902	11,477
Liabilities			
Current liabilities			
Notes and accounts payable - trade	58,464	31,857	281
Income taxes payable	16,529	1,878	16
Provision for bonuses	2,220	2,294	20
Other	67,018	62,407	552

continued

EXHIBIT 2 Continued

	Year Ended March 31		
	Previous fiscal year (As of March 31, 2015)	Current fiscal year (As of March 31, 2016)	
	(Millions of yen)	(Millions of yen)	(Millions of dollars)
Total current liabilities	144,232	98,437	871
Non-current liabilities			
Net defined benefit liability	25,416	23,546	208
Other	15,739	14,017	124
Total non-current liabilities	41,155	37,563	332
Total liabilities	185,387	136,001	1,203
Net assets			
Shareholders' equity			
Capital stock	10,065	10,065	89
Capital surplus	11,734	13,256	117
Retained earnings	1,409,764	1,401,359	12,401
Treasury shares	(270,986)	(250,563)	(2,217)
Total shareholders' equity	1,160,578	1,174,118	10,390
Accumulated other comprehensive income			
Valuation difference on available-for-sale securities	16,671	11,909	105
Foreign currency translation adjustment	(9,804)	(25,250)	(223)
Total accumulated other comprehensive income	6,866	(13,341)	(118)
Non-controlling interests	110	124	1
Total net assets	1,167,556	1,160,901	10,273
Total liabilities and net assets	1,352,944	1,296,902	11,477

Source: <http://financials.morningstar.com>.

in 1979 and known as TV Game 15 and TV Game 6.⁴ In 1980 Nintendo developed the first portable LCD video game with a microprocessor. In 1985 Nintendo created the Nintendo Entertainment System (NES), an 8-bit video game console. The original NES was very successful, as its graphics were superior to any home-based console available at the time. As a result, more than 60 million units were sold worldwide.⁵ The NES set the bar for subsequent consoles in platform design, as well as for accepting games that were manufactured by third-party developers.

When competitors began developing 16-bit devices, such as Sega's Genesis system and NEC's PC Engine, Nintendo responded with its own 16-bit system, the Super Nintendo Entertainment System (SNES). The Super Nintendo was released in 1991 and, when purchased, came with one game—Super Mario World. In 1996 Nintendo released Nintendo 64. The Nintendo 64 was the company's third-generation video game console and was named after the 64-bit processor. During its product lifetime, more than 30 million Nintendo 64 units were sold worldwide.⁶

The Nintendo 64, like its predecessors, used cartridges to play its games, but at the time the competing Sony and Sega systems were using CDs for game storage. Cartridges could store 64 megabytes of data, while CDs could store around 700 megabytes. Also, CDs were much cheaper to manufacture, distribute, and create; the average cost of producing a Nintendo 64 cartridge was \$25, compared to 10 cents to produce a CD. Game producers passed the higher expense to the consumer, which explained why Nintendo 64 games tended to sell for higher prices than Sony PlayStation games. While most Sony PlayStation games rarely exceeded \$50, Nintendo 64 titles could reach \$70. To increase profits and to take advantage of the programming possibilities of the larger storage space, many third-party game developers that had traditionally supported Nintendo platforms began creating games for systems that used a CD platform (such as the PlayStation).⁷

In 2001 Nintendo released its GameCube, which was part of the sixth-generation era of video game systems. These systems included Sony's PlayStation 2, Microsoft's

Xbox, and Sega's Dreamcast. Although the GameCube did not use cartridges, Nintendo began producing its games using a proprietary optical-disk technology. This technology, while similar in appearance to CDs, was actually smaller in diameter and could not be played using a standard CD player.

Genyo Takeda, general manager of Integrated Research and Development for Nintendo, explained that innovation and creativity were fostered by giving several different development teams "free rein to couple a dedicated controller or peripheral with a GameCube title and then seeing whether or not the end result was marketable. This project gave rise not only to the Donkey Kong Bongos and the Dancing Stage Mario Mix Action Pad, but also to a number of ideas and designs that would find their way into the Wii Remote."⁸

When Nintendo released the Wii video game console in 2006, it was already in the midst of a very competitive market. The previous generation of video game consoles consisted of the Sega Dreamcast, Sony PlayStation 2, Nintendo GameCube, and Microsoft Xbox. These systems were all released between 1999 and 2001 in the United States, and although the GameCube sold more systems than did the Sega Dreamcast, it fell into third place behind the PlayStation 2 and the Xbox. The PlayStation 2 sold more than 115 million units worldwide, more than twice the combined unit sales of the GameCube and Xbox (21 million and 24 million, respectively).

The Term *Wii*

In 2006 Nintendo released its direct successor to the GameCube, the *Wii* (pronounced "we"). There were many reasons cited as to why the name *Wii* was chosen, but perhaps the most compelling reason was that "*Wii*" sounded like "we," which emphasized that the console was for everyone. *Wii* could be remembered easily by people around the world, no matter what language they spoke. No confusion.⁹ Initially the system was known by its code name, *Revolution*, but later the name was changed to *Wii*. Nintendo stated that it wanted to make the *Wii* a system that would make anyone who tried it talk to his or her friends and neighbors about it.¹⁰

The Making of the Remote

The original *Wii* was created to establish a new standard in game control, using an innovative and unprecedented interface, the *Wii Remote*.¹¹ The *Wii Remote* was what made the *Wii* unique. The remote acted as the primary controller for the *Wii*. Its motion-sensor capabilities allowed the user to interact with and manipulate objects on the screen by moving and pointing the remote in various directions. The *Wii Remote* was the size of a traditional remote control, and it was "limited only by the game designer's imagination."¹² For example, in a game of tennis it served as the racket when the user swung his or her arm, while in a shooting game it served as the user's gun. Not only did the remote

serve as a controller, but it also had a built-in speaker and a rumble feature for even greater tactile feedback and game involvement. Exhibit 3 shows the *Wii* and *Wii Remote*.

The second part of the *Wii Remote* innovation was the *Wii Nunchuk*. The *Nunchuk* was designed to perfectly fit the user's hand, and it connected to the remote at its expansion port. The *Nunchuk* had the same motion-sensing capabilities that the remote had, but it also had an analog stick to help the user move his or her characters. The ambidextrous nature of the *Wii* controllers was something seldom seen in other game controllers; the *Wii* controllers permitted the user to hold the remote and *Nunchuk* whichever way felt most comfortable.¹³ In addition to the analog stick, the *Nunchuk* had two buttons that gave the user quick access to other game functions. Thus, the *Nunchuk* offered some of the benefits of a standard game controller coupled with the high-technology motion sensors of the remote. Users could hold a *Nunchuk* in one hand and the *Wii Remote* in the other while playing the *Wii Sports* boxing game and be transported into the boxing ring with on-screen opponents. The game controls were intuitive for jabs and punches. (However, a missed block did not hurt as much as if one were really in the boxing ring.)

While the *Wii U* was still compatible with the original *Wii* controllers, Nintendo revamped the controller usability when designing the *Wii U*. The new *GamePad* sold with the *Wii U* allowed the user to be more in touch with the game and provided more depth by offering multi-perspective capabilities on the *Pad's* screen. While using the TV display, players could now multitask within a game by using a variety of functions on their controller and could even play using solely the *GamePad*, with no TV display necessary. With the game console turned on, players had the option of using the *GamePad* as their main viewing screen, without the need for a TV monitor display (see Exhibit 4).

Nintendo Switch Features

Nintendo Switch came with a portable game console with a built-in screen, a pair of *Joy-Con* controllers, *Joy-Con*

EXHIBIT 3 *Wii* Console and Remote



©McGraw-Hill Education/Jill Braaten, photographer

EXHIBIT 4 Wii U GamePad Controller

©Robin Van Lonkhuisen/epa/Newscom

Straps, a Joy-Con grip, and a Nintendo Switch dock. The controllers' straps were detachable from the grip to be used with the portable screen to turn the Switch into a portable video game. The 6.2-inch detachable screen console came with a standard USB c plug for charging. Along with the traditional method of playing games by using buttons, the Joy-Cons could also be used for motion-sensitive games just like their predecessors. Nintendo also offered an additional controller called Nintendo Switch ProController, which could be bought separately at a price of \$69.99, had the same features as Joy-Con, but looked like a traditional gaming controller. This was not the first time Nintendo had surprised the market with such a new design. For instance, the company had done it in the past when it introduced motion-sensitive controllers. However, this time, in a way, Nintendo had combined the GamePad controller with the Wii U console to design the Switch. Gamers could play games by attaching the Nintendo Switch dock with the TV or could convert it into a portable handheld game by attaching the controller straps with the 6.2-inch high-definition screen (720p), which also included a kick-stand to be placed on a flat surface and multi-touch features for various compatible games to enhance the gaming experience. The gamers could also take a screenshot of the game they played using a capture button on the left Joy-Con, which then users could share with their friends or put on the social media. Similar to the past Nintendo controllers, both Joy-Cons included the motion controls. (See Exhibit 5.)

Switch supported the Nintendo eShop, an online game store that could be used to download games from different publishers and developers. Switch also supported the games by third-party publishers including Electronic Arts, Activision, and Ubisoft, among others. The user interface of the Switch software was a UI design. The home screen displayed several different icons, including icons for featured games, settings, controllers, albums (screenshots, videos), Nintendo eShop, and options. Users could make different

player profiles to sign in to maintain exclusive game progress similar to what most people do using their personal computers. The top right corner of the screen showed battery status along with the time.

Prior to Nintendo Switch, the company had introduced Amiibo figurines that depicted popular Nintendo characters, and each contained a wireless antenna and flash memory. They allowed consumers to include digital versions of their favorite characters in compatible video games. The "toys to life" segment had been created in 2011 when Activision Blizzard launched the hugely successful Skylanders line of games and figures. (Disney subsequently jumped into the ring by launching a competing product, Disney Infinity, in August 2013.) Nintendo's first round of Amiibo characters were Mario, Peach, Yoshi, Donkey Kong, Link, Fox, Samus, Wii Fit Trainer, Villager, Pikachu, Kirby, and Marth. Accompanying the launch of Nintendo Switch on March 3, 2017, the company introduced a new game called "The Legend of Zelda: Breath of the Wild" that hosted Nintendo's most popular character Zelda.

In the past, Nintendo had hoped to penetrate the segment and boost sales of its Wii U console and 3DS handheld in the process. However, in 2017, the company combined both Wii U console and 3DS into a single gaming platform that was Nintendo Switch.

Demographics

According to Nintendo, one of the key differences between the Switch and competitors' systems was the broad audience that the Switch targeted. Many of the Switch games could be played by people of all ages and experience, and the Switch's Joy-Cons were easier to use than the complicated controllers of the Sony PlayStation 4 or Microsoft Xbox One. Nintendo's TV commercials for the Switch showed people playing the Switch at home by connecting the game console to TV and outdoors by connecting the Joy-Cons with the portable screen. The Switch offered something for

EXHIBIT 5 Switch Console and Joy-Con Controller

©Dmitry Loshkin/123RF

both the advanced gamer and the person who had never played a video game before, according to the company. The advanced gamer would enjoy the remote's unique features, whereas the novice gamer could use the remote as his or her hand and wouldn't need elaborate instructions on how to play a new game straight out of the box.

Although the Nintendo games were easily played by a greater range of ages and featured improved graphics, the company's competitors Xbox and Sony were offering 4K resolutions, best in the market at the time. While Nintendo hoped to target people of all ages, it had long been seen as a system that made video games for children, as evident from its Mario, Zelda, and Donkey Kong series. However, despite the limitation of this reputation, the innovation and uniqueness of its game play were enough to lure the masses, and sales were excellent.

Success, of course, bred competition. Upon seeing the success of the movement-sensing Switch, Microsoft and Sony moved quickly to release competing systems. Microsoft released its Kinect for the Xbox, while Sony released the Move for the PlayStation. Both the Move and Kinect used camera systems for their motion detectors, but in different ways. Move's camera sensed the movement of the light-up Move controller, whereas Microsoft's Kinect sensor tracked skeletal motion, eliminating the need for a controller.¹⁴ While it was inevitable that gamers would have their favorite of the bunch, the relevant point was that it didn't take long for Microsoft and Sony to catch up to Nintendo. They moved forward to the new generation(s) of gaming quickly, maintaining an even playing field among competitors for gamer interaction and motion detection.

Gaining the Interest of Game Developers

As evident from the history of game consoles, game developers had tried to make games more and more complex with each new generation of systems. This meant that more money was invested in the production of each subsequent generation of games. Because game developers were spending more money on developing games, they were at great financial risk if games did not succeed. Thus, many developers felt more secure in simply creating sequels to existing games, which restrained innovation. The Switch's innovative controller, the Joy-Cons, now required a rethinking and reengineering of the human interface by game developers and programmers. Another issue with developing games for the Switch was that its graphics were not quite as good as those of the PlayStation 4 and Xbox One, and therefore game developers had to be more creative and develop special Switch editions of their games.

Many game developers used virtual-machine software in developing new games. It was believed that game developers could develop games for the Switch and then make them for other platforms on the basis of the same programming, thereby reducing production costs. However, while

the Joy-Con distinguished itself from its competitors, it created a hurdle for developers. When developers created a game for the PlayStation, they could create the same game for the Xbox and vice versa. When developers created a game for the Switch, however, it required significant rework to deploy the title for the other platforms. Converting a title from the Xbox or PlayStation also required significant work to modify the game to incorporate code for the Joy-Con's special features.

While this uniqueness had served Nintendo well in the past, the Joy-Con's incompatibility with the likes of Microsoft and Sony limited the selection of games immediately available to the Nintendo Switch's audience. The selection of games had to be fulfilling enough to keep Nintendo's audience happy, without leaving them feeling that they were missing out on games available only on the other platforms.

The Competition

If the launch of Nintendo's Switch was a foray into the fierce competition among such existing models as Xbox One and PS4, Switch's competitors were offering many features that Nintendo didn't offer. The price of \$299 for the basic Switch included a portable game console with a built-in screen, a pair of Joy-Con controllers, Joy-Con Straps, a Joy-Con grip, and a Nintendo Switch dock. The price of the PlayStation 4 was also \$299 (500 GB edition), and the new Xbox One was \$229, as well. At a base price of \$299 the Switch was intended to compete with the upper echelon of the next generation of gaming consoles—unlike the low-cost position of the original Wii. Apart from pricing, there were many differences among the performance specifications of Switch in comparison to its fiercest competitors (for examples, see Exhibits 6 and 7).

Xbox One

The Xbox One by Microsoft was released in November 2013. While the configurations were changed several times, the Xbox One was available at two different prices: \$299 for the 500-GB model and \$349 for the 1-TB model, as of 2017. However, although its higher-end model was pricier than the Switch, Microsoft was in fact losing money on every Xbox sale, due to costs of production and manufacturing.

One of the important features of the Xbox One was Xbox Live. This feature allowed individuals to play online against other users around the world. Thus, Microsoft had created a community of individuals who were able to communicate with one another by voice chats and play against each other in a video game. Another service offered by Xbox Live was the Xbox Live Marketplace, which enabled users to download movies, game trailers, game demos, and arcade games. It was estimated that more than 70 percent of connected Xbox users were downloading content from the Xbox Live Marketplace, totaling more than 8 million

EXHIBIT 6 Game Systems Comparison, 2017

Features	Switch	Xbox One	P54
CPU: Cores	4x ARM Cortex A57	8x AMD Jaguar	8x AMD Jaguar
CPU: Clock speed	1,020MHz	1,750MHz	1,600MHz
CPU: Cores	256 Nvidia CUDA	768x AMD Shaders	1152 AMD shaders
CPU: Docked speed	768MHz	853MHz	800MHz
CPU: 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

Source: Trusted Reviews, <http://www.trustedreviews.com/opinions/nintendo-switch-vs-ps4-and-xbox-one>.

EXHIBIT 7 Game Controllers Comparison, 2017

Feature	Joy-Con pair	Switch Pro	Xbox One	P54	P54 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	~7h	~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

Source: Trusted Reviews, <http://www.trustedreviews.com/opinions/nintendo-switch-vs-ps4-and-xbox-one>.

members. According to Microsoft, there were more than 12 million downloads in less than a year, and because of this popularity, major publishers and other independent gamers had submitted more than 1,000 Xbox Live games.¹⁵

Kinect for Xbox One

In October 2014 Microsoft introduced Kinect for Xbox One, which was based around a webcam-style add-on peripheral for the Xbox One console. It enabled users to control and interact with the Xbox One using gestures and spoken commands, without the need to touch a game controller. Kinect allowed the Xbox One to “see” the user and act according to the user’s motions and gestures. This took the concept of the Wii and pursued it to its natural culmination, making the user the game controller. Kinect used software technology that enabled advanced gesture recognition, facial recognition, and voice recognition. Some critics believed that the concept used by Kinect had potential far beyond games and might even become a new way of controlling computers of all kinds. It automatically identified who one player was and paused when the player left its vicinity, so it was not hard to imagine this ingenuity controlling all kinds of devices, such as a PC, smartphone, or tablet.¹⁶ Microsoft also released Xbox One S following the release of Xbox One. The Xbox One S was more compact in design, lighter in weight, had slight performance and graphic improvement, and supported better HDMI connectivity options. However, these changes were not so significant that critics would count Xbox One S as a next generation Xbox.

Sony PlayStation 4

Sony PlayStation 4 was released in November 2013. It was available at two different prices in two variations: PlayStation 4 Pro was priced at \$400 with 4K resolution, and PlayStation 4 was priced at \$300 with Blu-ray video quality. The PS4 included 8 GB of GDDR5 memory, which enabled rapid performance. Also, a player could use the loading power of this memory to power down the PS4 mid-game and then later turn it back on and within seconds be playing again right where he or she left off. The PS4 supported Blu-ray discs, DVDs, and HDMI output, as well as analog and optical digital output. The included controller was the DualShock 4 pad. Its design and function were similar to that of the PS3 controller, but it offered upgraded vibrations, enhanced motion sensors, and a Vita-like touchpad. PS4 also launched with the ability to stream games directly to the PS Vita, Sony’s handheld gaming device. As with the Switch, this allowed users to play on the tablet controller through a wireless connection, without the use of a TV display. A number of games were released for the PS4 including *Horizon Zero Dawn*, *Uncharted 4: A Thief’s End*, *Over Watch*, *Mass Effect: Endormeda*, and *Battlefield One*, among others. Part of the PlayStation Network’s success was the ability to play games online. This allowed

individuals to play with other players located in other parts of the world. The PlayStation Network allowed users to download games, view movie and game trailers, send text messages, and chat with friends, and these capabilities were sure to continue. As of February 19, 2017, Sony had sold about 53.4 million units of PS4 worldwide, which evidently made PS4 the most successful video game console in the gaming industry.¹⁷

PlayStation Move

In September 2010, Sony released the PlayStation Move, which basically copied the Wii’s wand-like controller but with more accuracy. As with the Wii, users could wave the Move’s controller around and swing it like a bat and hit the ball on the screen. The PlayStation Move combined a video camera with a physical controller packed with motion-sensing electronics, making it a technological cross between the Kinect and the Nintendo Wii. The Move Motion Controller, or “wand,” combined a gyroscope, accelerometer, and magnetic sensor to track the controller in three dimensions, while the glowing ball at the end gave the PlayStation Eye camera a visual reference for handling aiming, cursor movement, and other motion.¹⁸ While Switch’s graphics were of low resolution and inferior detail, PS4 was a high-definition powerhouse. Moreover, the PS4 played Blu-ray movie discs and could display 3-D images, two things the Switch could not do. Also, the PS4 had a full lineup of great traditional games. Sony had shipped 4.1 million units of PlayStation Move worldwide in the first two months after its release. Although Sony was criticized for merely imitating Wii’s technology, it turned out to be a successful imitation.¹⁹ However, Nintendo’s new controllers, Joy-Cons, priced at \$80 were still less pricey as compared to PS4’s Move priced at \$100. The least expensive version of the PlayStation 4, which did not include Move, cost \$300. Thus, Nintendo and Sony offered comparable controllers rigged to machines with very different technical power and with fairly close prices. Move was a successful product offering for Sony. While the 4 Eye was introduced with the PS4 soon after, Sony still intended to include and utilize the Move as well, but to what degree was uncertain.

PlayStation 4 Eye

This device was a newly developed camera system that was introduced for the first time with the release of the PlayStation 4 in 2013. It utilized two high-sensitivity cameras equipped with wide-angle lenses and 85-degree diagonal angle views. Sony claimed that the cameras could cut out the image of a player from the background or differentiate between players in the background and foreground, enhancing game play. In 2016, PS4 released an upgraded version of PS4 Eye that had better resolution and performance.

PlayStation VR

In October 2016, Sony launched the PlayStation Virtual Reality headset that was developed by Sony Interactive Entertainment. Although PlayStation VR had a price tag of \$400, it was the one of its kind at the time of release, hence the company was able to charge the high price. It was a step up in gaming technology as PlayStation VR could be used with PS4 console that could mirror the television screen in a virtual reality view for the user. PlayStation VR could be used with PS4 DualShock controllers as well as with the PlayStation Move. PlayStation VR had an OLED panel that supported a 5.7-inch display with a full high-definition resolution of 1080p. As of February 19, 2017, PlayStation had sold about 915,000 units of PlayStation VR.²⁰

Mobile Gaming

Recently, another form of competition in the gaming industry had become widely available. Mobile devices such as smartphones and tablets allowed casual gamers to have the ability to download and play a wide variety of free or low-priced games. The games could be seamlessly downloaded to the handheld device. While the interactivity on these devices was limited by a lack of controls and features, the convenience and price were something that console makers were starting to notice. Convenience made mobile gaming a \$100 billion industry by 2016, a trend which is expected to increase steadily in coming years.²¹

Mobile gaming companies like Super Cell and Machine Zone have crossed the billion-dollar threshold in annual revenues. Although these companies charge little per purchase, the huge number of worldwide users enables them to collect enormous total revenues. The number of smartphone users has grown dramatically during last decade, which automatically grows the potential users for mobile gaming companies, without having to sell game consoles. Just having a smartphone opens the option of thousands of games for mobile gamers at a single platform for a minimal price. The growing trend and popularity of mobile gaming is definitely posing competition for gaming companies like Nintendo, among others.

The Future of Switch

While Sony and Microsoft envision long-term profits on software sales for PlayStation 4 and Xbox One, both companies experience losses producing their consoles. Among the three rivals, Nintendo is the only one earning a significant profit margin on each Switch unit sold. According to David Gibson at Macquarie Securities and *Bloomberg's* Yuji Nakamura, Nintendo Switch has sold at a profit from day one.²² Sony's and Microsoft's gaming consoles are commonly thought of as superior to Nintendo's, perhaps the Switch's smaller processing unit and hardware, but simplicity and family-friendly appeal, have assisted it to

become profitable. These traits attract not only end users but game developers as well, allowing the Nintendo to have the largest selection of games compared with its competitors. Although there was not enough data about the number of games for Switch at the time of writing this case, historically, the number of its games indicated that Switch's predecessor Wii was obviously a successful system—one that has drawn a good amount of interest from game developers and gamers around the world.

Microsoft and Sony have started to invade the casual family-user market, a key market for Nintendo, expanding beyond their former customer base of mainly hard-core gamers. The Xbox and PS4 are becoming more like entertainment hubs for families. Now, with the Switch on the market, and introductions from ninth-generation competitors expected soon, the competition seems to be better positioned to combat Nintendo. As motion-sensing gaming—the undisputed “next best thing” to come out of the gaming industry—is a capability that all competitors now possess, it is a matter of whose system is most desirable to the gaming population, and whether or not sales volume solely will determine which system comes out on top. With similar technology being widespread across the industry, it may prove to be more difficult for Nintendo to set itself apart and portray itself as the “family favorite,” as it did in its early days of the Wii.

To keep winning over the gaming population, will Nintendo rely on its price and its quantity of games, or will it have to find a new leg to stand on? With both of its competitors yet to release their next-generation consoles, perhaps the Switch will keep its lead simply by having been first to the market. Could the new Amiibo figures be the key to Nintendo's regaining its position as the pre-eminent player in the interactive gaming industry?

ENDNOTES

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