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NINTENDO'S DISRUPTIVE STRATEGY: IMPLICATIONS FOR THE VIDEO GAME INDUSTRY

For some time we have believed the game industry is ready for disruption. Not just from Nintendo, but from all game developers. It is what we all need to expand our audience. It is what we all need to expand our imaginations.

- Satoru Iwata, president of Nintendo Co. Ltd¹

In the 2008 BusinessWeek–Boston Consulting Group ranking of the world's most innovative companies, Nintendo Co. Ltd (“Nintendo”) was ranked seventh, up from 39th the previous year.² This recognised Nintendo's significant transformation into an innovative design powerhouse that had challenged the prevailing business model of the video game industry.

In 2000, when Sony, Microsoft and Nintendo (the “big three” of the video game console manufacturers) released their latest products, Sony's PlayStation 2 (“PS2”) emerged as the clear winner, outselling Microsoft's Xbox and Nintendo's GameCube. In 2006, a new generation of video game consoles was introduced by these players, precipitating a new competitive battle in the industry. Microsoft and Sony continued with their previous strategies of increasing the computing power of their newest products and adding more impressive graphical interfaces. However, Satoru Iwata, president of Nintendo, believed that the video game industry had been focusing far too much on existing gamers and completely neglecting non-gamers. Armed with this insight, the company repositioned itself by developing a radically different console, the Wii (pronounced “we”). The Wii was a nifty machine that used a wand-like remote controller to detect players' hand movements, allowing them to emulate the real-life gameplay of such games as tennis, bowling and boxing.

¹ Iwata, S. (23 March 2006) “GDC Keynote Address”, *Nintendo World Report*, <http://www.nintendoworldreport.com/newsArt.cfm> (accessed 31 July 2008).

² McGregor, J. (17 April 2008) “The World's Most Innovative Companies”, *Business Week*, <http://www.businessweek.com/magazine/content/08> (accessed 10 July 2008).

Havovi Joshi and Samuel Tsang prepared this case under the supervision of Prof. Ali Farhoomand for class discussion. This case is not intended to show effective or ineffective handling of decision or business processes.

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Ref. 09/428C

The new console proved to be a runaway success. By September 2007, Nintendo had become Japan's most valuable listed company after Toyota, and its market value had tripled since the launch of the Wii. In spite of this initial success, however, it was not clear whether Nintendo had really disrupted the industry and changed the name of the game.

History of Nintendo—1889 to 2002

Nintendo's³ roots could be traced all the way back to 1889 in Kyoto, Japan, when Yamauchi, the founder of the company, started manufacturing playing cards. In 1907, the company began producing Western playing cards, and by 1951, it had become the Nintendo Playing Card Company. In 1959, it began making theme cards under a licensing agreement with Disney, and by 1963, the company had gone public and taken its current name.

During the period 1970 to 1985, Nintendo began focusing on the manufacture of electronic toys and entered the budding field of video games [see **Exhibit 1**].

Interestingly, 1991, the year when Nintendo launched the highly popular Super NES in the US, was also the year that saw Nintendo's vision become Sony's opportunity—and the creation of what could be described as Nintendo's "greatest challenge" for over a decade — the Sony PlayStation ("PS"). Nintendo had wanted to incorporate CD-ROM into their Super NES, and Sony had agreed to create the PS for this purpose. However, over the next two years, conflicts of vision between Nintendo and Sony continued, and the two finally parted ways. Nintendo went ahead with Philips technology,⁴ and Sony was left with the PS, which the company decided to continue developing. Given Sony's clout and resources, when the PS and its wide range of games were finally released in Japan in 1994, the console was an instant resounding success. In 1995, Sony released the PS in the US, totally uprooting Nintendo's established name in the industry.

For many years, Nintendo had been a dominant player in the video game industry. It had sold more than two billion games since 1985. Its top-selling series included non-violent and easy-to-play games such as Super Mario Bros and The Legend of Zelda. The huge success of its games portfolio could be attributed to its appeal to all age groups across different cultures. The title of a book published in 1993 summed up Nintendo's supremacy: "Game Over: How Nintendo Zapped an American Industry, Captured Your Dollars, and Enslaved Your Children". Now it was no longer the leader of the video game industry.

Nintendo tried various strategies to counter Sony. However, competition continued to intensify, and the PS2 quickly captured a significant portion of the video game market, taking over the dominant position in the industry. In May 2001, Microsoft too entered the video game market by introducing the Xbox console, leaving Nintendo with an even smaller piece of the pie.

In 2002 Nintendo appointed Iwata⁵ as president of the company to bring a change in the company's senior leadership. It was hoped that, with his experience and deep insights into

³ "Nintendo", loosely translated from Japanese, means "leave luck to heaven".

⁴ Under this deal, Philips, one of Sony's principal rivals, would produce an add-on device for Nintendo game players allowing them to use optical compact discs with greater storage capacities than game cartridges.

⁵ Iwata joined HAL Laboratories in 1982 and shortly after became the company's co-ordinator for software production, where he helped create video games such as Kirby. In 1993, he became president of HAL, a post he held until 2000, when he joined Nintendo as head of the corporate planning division. When Yamauchi retired in 2002, Iwata became president of Nintendo.

how the market evolved, Iwata would help the company develop a brand-new vision and approach.⁶

The Video Game Industry

History

The video game industry was born in the 1970s. In the early days, notable players such as Atari from the US and Namco from Japan brought video games to teenagers in the form of arcade games found in malls and video game arcades. With the introduction of home consoles, video games began to make their way into households around the globe.

In the 1980s and early 1990s, many new players came to the market. With the increasing popularity of personal computers ("PCs"), gamers were no longer limited to playing their favourite video game titles on proprietary consoles. Although the market was impacted by the introduction of PCs, video game makers achieved steady growth.

Nevertheless, the target customer group of video game consoles was narrowly confined to teenagers. Armed with insightful targeting and positioning, image-conscious branding, and superb graphics technologies, Sony introduced the PS in the mid-1990s. The Japanese electronics giant revolutionised the perception of video game consoles and successfully captured new players, thereby helping the industry grow substantially. Video gaming suddenly became the new hype entertainment. It was especially well received by young adults, who were mostly male and in their late 20s or early 30s and had substantial disposable incomes. By the time Sony launched the PS2 in 2000, technology giant Microsoft realised that it could no longer ignore the runaway success of this product or the impact that the booming video game market may have on its traditional PC and software domains. Thus Microsoft's video game console, the Xbox, was launched in 2001.

Since the early 2000s, the convergence of information technology, telecommunications, media and entertainment had brought about dramatic social and technological changes. With the new socio-technological movement and a wider audience base, the big video game console makers such as Sony and Microsoft began to realise that there were new opportunities for their video gaming and console product offerings, which would play a far greater role in people's lives than mere entertainment.

Trends in the Industry

With the broad availability of broadband internet, increasing sophistication of high-definition ("HD") video technologies and decreasing cost of hard-drive storage, video game console manufacturers saw that their products should no longer be for gaming only. In fact, many players such as Sony and Microsoft had envisioned their game consoles as becoming all-encompassing home entertainment centres. Further, given the increasing speed achieved by broadband connections, internet users were increasingly able to access large quantities of data files, especially those containing HD audio and video. Consequently, these console producers developed and offered online libraries as a new service enabling users to download and stream a variety of movies, music and television shows through their consoles.

As top-quality video materials became more easily available through HD broadcasting and internet downloads, a new recording medium with increased storage capacity was required.

⁶ Colbert, C. (2007) "Nintendo Co. Ltd", Hoover's Company Information; Sanchanta, M. (26 September 2007) "Nintendo Market Cap Rockets", *Financial Times*; The Economist (26 October 2006) "Playing a Different Game".

Two formats, the Blu-ray format⁷ developed by a consortium led by Sony, and the HD-DVD format developed by a consortium led by Toshiba, were engaged in fierce competition in order to become the de facto standard in this area.

By offering online games based on new and existing titles, console makers could provide similar social-networking or virtual-world services to get online gamers to play, connect and form loyal communities. Such communities were expected to help create a perpetual demand for services and products created by the video game makers and their alliance partners. In fact, in-game advertising had already started and offered a new revenue stream to video game developers.

Nintendo—Innovation and the Launch of the Wii

Traditionally, Sony, Microsoft and Nintendo would go into a new cycle or a new battle every five to six years, and in 2000, Sony's PS2 had emerged as the clear winner.⁸ Since then, the focus of the industry had turned even more to the technological advancement of the console hardware, particularly in terms of faster processing speed, higher definition of video quality and increasing complexity of the games. The relentless pursuit of superior technologies became the convention that drove the industry's dynamics.

However, the former leader in the video game industry, Nintendo, adopted a vastly different viewpoint about the future development of the industry. Some years before the battle that began in 2006, Iwata saw the potential threats facing the industry. He observed that the video game market in Japan was shrinking. Based on various market trends and data, the key cause for this reduction appeared to be the increasing complexity of video games, which required players to invest a significant amount of their time to learn and play these games using increasingly complicated controllers with combinations of buttons and joysticks. Consequently, occasional gamers with busy lives had stopped playing. Further, for novices and non-gamers, the time required to learn and play these games was a big deterrent for potential newcomers to join the camp. Iwata also saw that the video game industry had largely ignored non-gamers and was focused on the existing ones. Armed with these insights, Iwata decided to lead Nintendo down an unorthodox path by devising a radically new strategy.

The objective of this strategy was quite simply to reach out to non-gamers in order to create a bigger market. Iwata's mandate was for simpler games to be developed, targeting all customers, irrespective of age, gender or gaming experience. These new games were to take no more than a few minutes to set up and play. In addition, they would require an easy-to-use controller. He also wanted the game scenarios to be largely based on real-life situations rather than fantasies.

In order to pilot Iwata's idea, Nintendo first developed a new handheld gaming device called the DS, which stood for "double screen" and was launched in 2004. The DS was positioned as "the machine that enriches the owner's daily life".⁹ One of the key features of this device was a touch-screen that gamers could tap or write on with a stylus. This innovative design enabled gamers to play without using complicated sets of buttons or a mini-joystick. The company then launched the Nintendo Wi-Fi Connection, an innovative service that allowed DS system players to play with other users through a wireless network. Ever since its rollout, the DS had

⁷ Blu-ray was a new DVD format derived from the blue laser, which had a short wavelength of 405nm. Blu-ray Discs could store substantially more data than the DVD format, which was derived from red-laser (650 nm) technology.

⁸ The PS2 had been updated since introduction and was available in a much smaller format than the original.

⁹ Nintendo (25 October 2007) "Consolidated Financial Statements for the six months ending 30 September 2007", <http://www.nintendo.com/corp/report/FY07FinancialResults.pdf> (accessed 1 August 2008).

been a huge success and by April 2008, Nintendo had sold more than 70 million units worldwide.¹⁰

Among the many DS game titles, the most popular was Nintendogs, particularly among female gamers. Players of Nintendogs could interact with their virtual pets through the DS's built-in microphone and "touch" them via the touch-screen. They could take these dogs for walks, teach them tricks and enter them into competitions. Another popular game was Brainage, which featured brain-training games that were basically puzzles.

Following the success of the DS, Nintendo rolled out the DS Lite in 2006. With its mature Game Boy and innovative DS systems, Nintendo remained the leader in the handheld console segment and continued to retain well over 90% of the handheld device market that it had captured since 1989.

However, the deciding factor for Nintendo's success was the video game console segment. Since 2000, Nintendo had lost control of the fixed console market to Sony's PS. With its new strategy to capture non-gamers and expand the market, coupled with the lessons learnt from the DS handheld device, Nintendo developed its new console, the Wii, which arrived about the same time as the rollout of Microsoft's Xbox 360 and Sony's PS3, and just in time for the 2006 holiday shopping season [see **Exhibit 2** for a timeline of the video game console industry].

Our goal was to come up with a machine that moms would want—easy to use, quick to start up, not a huge energy drain, and quiet while it was running. Rather than just picking new technology, we thought seriously about what a game console should be. Iwata wanted a console that would play every Nintendo game ever made.

- Shigeru Miyamoto, member of the Wii development team¹¹

The Wii was an impressive, well-designed and tiny machine controlled with a wand-like controller that resembled a TV remote control. Without an elaborate joypad and wire, gamers could navigate the system simply by moving the controller. Motion detectors would then translate the movement of the wand into on-screen action, enabling simultaion of real-life games such as tennis, bowling and even boxing. The games were sold on optical discs similar to DVDs. The Wii could also be connected to the internet for online news and weather updates and to access Nintendo's classic game catalogue (eg, the Super Mario series), which could be downloaded from the web. To do this, players could access the Virtual Console service, whereby games originally released for the SNES and N64 could be downloaded from the Wii Shop Channel and accessed from the Wii.

Nintendo positioned the Wii as "a machine that puts smiles on surrounding people's faces", encouraging communication among family members as each of them found something personally relevant and were motivated to turn on the console every day in order to enjoy "the new life with Wii".¹² To promote the Wii, Nintendo adopted the same word-of-mouth strategy that had proved successful in promoting the DS. The company "recruited a handful of carefully chosen suburban housewives to spread the word among their friends that the Wii

¹⁰ Data sourced from VGChartz.com (week ending 5 April 2008) "Hardware Table", www.vgchartz.com (accessed 1 August 2008).

¹¹ Hall, K. (16 November 2006) "The Big Ideas behind Nintendo's Wii", *Business Week*, <http://www.businessweek.com/technology/content/nov2006> (accessed 25 June 2008).

¹² Nintendo (25 October 2007) "Consolidated Financial Statements for the six months ending 30 September 2007", <http://www.nintendo.com/corp/report/FY07FinancialResults.pdf> (accessed 1 August 2008).

was a gaming console the whole family could enjoy together”¹³. The Wii was also featured in the gamers’ self made video, which was then shared through YouTube and social networking sites. This once experimental approach had proven to be more effective than the traditional advertising or mass-media campaigns used by Sony and Microsoft.

In addition to becoming the home gaming system for the family, Wii also helped expand “exergaming”, which was the combination of on-screen action with physical exercise. The origins of exergaming could be traced back to 1989, when Nintendo released the Power Pad and Power Glove, two accessories for its gaming console. The Power Pad was a “large plastic platform that plugged into the console and contained pressure sensors on which gamers could step or jump to play sports games”¹⁴. The Power Glove was a “glove-like controller that translated various gestures into on-screen movements”¹⁵. However, these two accessories had not sold well. Now, with the introduction of the Wii into millions of households, boxing, tennis, bowling, golf and baseball games would require players to act out the physical movements involved in these sports. Consequently, it was predicted that the Wii would spawn a whole new generation of exergaming that would go far beyond the existing games that used dance mats or video cameras to detect players’ actions, as the Wii’s controller could detect more subtle movements and could be used to record and analyse these movements through intelligent software to determine the players’ physical fitness levels.¹⁶

The Wii proved to be a runaway success and, by September 2007, Nintendo became Japan’s most valuable listed company after Toyota, having zipped past US\$72 billion in market value and almost tripling in value since the launch of the Wii the previous year [see **Exhibit 3** and **Exhibit 4**].¹⁷

Key Players in the Video Game Industry

Video Game Hardware

Other than Nintendo, the video game hardware industry (essentially comprising the manufacture of consoles and devices) was dominated by Sony with its PS family and Microsoft with the Xbox 360.

Sony¹⁸

For decades, Sony had defined the leading edge in gadgetry, producing transistor radios in the 1950s, Trinitron TVs in the 1960s and the revolutionary Walkman in the 1970s.¹⁹

Similarly, when the company introduced the PS in Japan in March 1994 and in the US in 1995, it brought the technology of video gaming to a whole new level [see **Exhibit 5**]. With Sony’s strategy of attracting late teens and young adults (who had significantly more disposable income) by offering more sophisticated and often more violent games, the PS dominated the market.

¹³ The Economist (7 April 2007) “Building Buzz: Marketing” 383(8525), pp. 64.

¹⁴ http://www.wordspy.com/words/exergaming.asp?r=16.9423217396108&svr=9&lang=en_us& (accessed 1 August 2008)

¹⁵ Ibid

¹⁶ Colbert, C. (2007) “Nintendo Co. Ltd”, Hoover’s Company Information; The Economist (8 March 2007) “Let’s Get Physical”.

¹⁷ Takenaka, K. (25 September 2007) “Nintendo Becomes Japan’s Second Most Valuable Company”, *Reuters*, www.reuters.com/article/technology-media-telco (accessed 1 August 2008).

¹⁸ This chapter contains excerpts from: Farhoomand, A. and Tsang, S. (2006) “Microsoft’s Diversification Strategy”, Asia Case Research Centre, The University of Hong Kong.

¹⁹ Stahl, L. (8 January 2006) “Sir Howard Stringer: Sony’s Savior”, *CBS News 60 Minutes*, http://www.cbsnews.com/stories/2006/01/06/60minutes/main1183023_page3.shtml (accessed 25 June 2008).

In 2000, the PS2 was released and completely won over the video game market. The PS2 was not only backward-compatible with the PS, but could also be used to play CDs and DVDs. For most people who bought the PS2, it was their first DVD player. By July 2008, Sony had announced that worldwide PS2 console sales had exceeded 140 million.²⁰ This would make the PS2 the best-selling console in history.

In order to compete against Nintendo, the ruler of the handheld video game market, Sony introduced the PlayStation Portable ("PSP") in 2004.

In the meantime, Sony continued to release other electronics: such as Sony Connect, an online music service, Vaio Pocket, a portable music player designed to compete with Apple's iPod, and Network Walkman, which was its first Walkman with a hard drive.

Although the PS product line dominated the market, the sales of Sony's other electronics (eg, DVD recorders, TVs and computers) and music products dropped significantly. The consumer demand remained weak, there was a battle over prices, Apple's iPod undermined the sales of Sony's CD- and MiniDisc Walkmans, as well as their TV products. These challenges, in addition to the costs incurred in streamlining operations, had significantly decreased Sony's market value and, in 2004, the company reported a loss. Sony, once acknowledged globally for its cutting-edge technological innovations, was coming to be perceived as a bureaucratic conglomerate.

In order to rectify the situation, in 2005, Sony brought in Sir Howard Stringer to replace Nobuyuki Idei as chairman and chief executive. Stringer was the first non-Japanese chief of the company and, prior to this post, had been the head of the company's US and electronics divisions. After taking over, Stringer announced Project Nippon, a corporate restructuring plan designed to revamp Sony's electronics business and foster better collaboration between the company's divisions. His plan called for eliminating 10,000 jobs (the company had 150,000 employees) and closing 11 of Sony's 65 factories. Stringer also revealed plans to for a concrete research-and-development ("R&D") scheme with a focus on consumer demand, aiming to re-establish Sony's leading presence in Japan. Sony's emphasis became HD products for consumers and broadcasters and semiconductors that aimed to improve performance in the company's products.

As one of the major weapons in Sir Stringer's grand plan, Sony planned to introduce and leverage the PS3 to regain its position in the electronics industry. The PS3 was designed to be a multimedia entertainment hub. Thus, people would buy the PS3 to watch movies in addition to playing games. Its computing power would also allow users to chat online, listen to music and view high-quality animations. The machine would also be backward-compatible with games designed for previous PSs. Sony hoped that it would be able to utilize the Cell computer chip, jointly developed with IBM and Toshiba, in other products too, such as selling home servers broadband and high-definition television ("HDTV") systems. This powerful chip would power the new PS3, whose games would also be the first mass utilisation of the Blu-ray format.²¹

In November 2006, after several delays, Sony's PS3 was released nearly a year after Microsoft's Xbox 360 and within a week of the debut of Nintendo's Wii. However, the results were largely disappointing. Supply problems and the high price tag of the PS3 resulted in Sony losing its dominant position in the console market to Nintendo. To boost sales, the

²⁰ Nutall, C. (20 July 2008) "Sony Sets 150m Sales Target for PS3", Financial Times, <http://www.ft.com/cms/s/0/1c46ad2e-5678> (accessed 14 August 2008).

²¹ Sony had joined Matsushita and Samsung, plus a few other companies, to jointly develop the Blu-ray Disc. The alliance formed in 2004 aimed to establish the new DVD format for optical storage media. In late 2004, Disney agreed to use the Blu-ray format.

company slashed the price of the PS3 in mid-2007. Around the same time, due to continuous setbacks in terms of delays and inability to ramp up production, Sony fired the chief architect of the PS product line, Ken Kutaragi.

In July 2008, 20 months after the release of the PS3, the console had barely achieved 10% of its target. Sales by the end of Sony's fiscal year in March 2008 were 12.85 million, and the company expected to sell just about 10 million in the fiscal year ending March 2009.²² Sony's more pressing need was to steer the PS3 to profitability, which was only estimated to happen by 2009 [see Exhibit 6 and Exhibit 7]. Given the shaky situation, Sony had no plans to cease development of games for the older PS2 system and planned to continue rolling out titles specifically for it.²³

Microsoft

Entering the video game business in 2001 was one of Microsoft's diversification moves when the company recognised the remarkable success of Sony's PS2 and the potential threat the video game market was posing to its stronghold in the PC market. The Xbox was the company's first foray into the industry and was launched to compete directly with Sony's PS2 and Nintendo's GameCube. In November 2002, the company launched Xbox Live, allowing subscribers to play online Xbox games with other subscribers around the world. By mid-2005, the service had attracted about two million subscribers worldwide.

However, by May 2005, the software giant had sold only 21.3 million Xbox units, which put the company in a distant second place behind Sony's PS2 (which had sold 83.5 million units) and slightly ahead of Nintendo's GameCube (with sales of 18.3 million units).²⁴ By August 2005, Microsoft's Xbox division had cost the company US\$4 billion.²⁵ Soon after, production of the Xbox ceased in favour of the Xbox 360.

Microsoft was determined to capture the top spot in the market with the launch of the Xbox 360 in November 2005, several months ahead of its rivals (Sony's PS3 appeared in the market in late 2006, about a week after Nintendo's Wii). Some believed that the previous success of Sony's PS2 was partly due to its advantage in reaching the market earlier than its rivals; thus, Microsoft had copied this marketing strategy by becoming the first game console in the new business cycle. Further, having learnt a hard lesson from the flop of the original Xbox in Japan, Microsoft had worked closely with the producers of Japanese games, hoping to neutralise the traditional advantages of its two main rivals. The company had also abandoned its previous approach of using off-the-shelf parts provided by Intel and Nvidia to build its consoles because, while such an approach was efficient, it lacked the flexibility that Microsoft's rivals had enjoyed in reducing costs and increasing profit margins during a console's lifetime.²⁶ (For instance, Sony had gradually reduced the number of chips required by its PS2 without sacrificing its performance in its lifetime.) Subsequently, Microsoft adopted a new design for its Xbox 360, in the hope that this would achieve a new degree of

²² Nutall, C. (20 July 2008) "Sony Sets 150m Sales Target for PS3", *Financial Times*, <http://www.ft.com/cms/s/0/1c46ad2e-5678> (accessed 14 August 2008).

²³ Colbert, C. (2007) "Nintendo Co. Ltd", Hoover's Company Information.

²⁴ Data sourced from VGChartz.com (28 May 2005) "Hardware Table", www.vgchartz.com (accessed 30 July 2008).

²⁵ Murphy, V. (13 September 2005) "Microsoft's Midlife Crisis", *Forbes*, www.forbes.com/2005/09/12 (accessed 1 August 2008).

²⁶ Lifetime refers to the complete stages of the product's life cycle: from conception, through design and production, to its service and finally disposal.

manufacturing flexibility that could help integrate various components and increase profitability in the future [see **Exhibit 8**].²⁷

Video Game Software

The computer game industry, one of the biggest money-spinners in the global entertainment industry, routinely spent amounts ranging from US\$12 million to US\$20 millions in developing each game. As the consoles became more expensive, the cost of developing games for them also increased. However, Nintendo turned its lower-cost hardware into another competitive advantage. By focusing on characters rather than special effects, developing Wii games cost the company about half what its competition was expending on Xbox and PS games, and thus the expense could be recouped at much lower volumes of sales. Nintendo had also thrown in five simple but highly addictive games, Wii Sports, with each console so that the buyer was getting a 'complete' product at a great price. Sony and Microsoft, on the other hand, incurred losses on the consoles they sold, despite their high price tags. To compensate for these losses, they sold their games with high licensing royalties. As of July 2008, six of the 10 most popular games worldwide were for Nintendo consoles [see **Exhibit 9**].

Nintendo also focused on developing first-party titles. Nintendo had placed its top software designers at the helm of hardware design. Thus, while Sony and Microsoft relied heavily on third parties to develop titles, Nintendo's consoles were designed to suit the concepts of the games that would run on them, allowing the creation of early first-party titles that really showcased the hardware, including low-profit and offbeat games like Brainage. Such games would have been impossible on another company's hardware.²⁸

The sales of hardware consoles, such as Wii, Xbox and PS, were seen to be highly correlated to the launch and sale of the video games that could be played on them. For instance, in March 2008, Nintendo launched its exclusive hit game Super Smash Bros Brawl for the Wii and, in that month, along with selling 2.7 million copies of the game, the company sold more video game consoles in the US than Sony and Microsoft combined.²⁹

The Battle Had Begun

Until the launch of the Wii at the end of 2006, competition in the video game market had been straightforward. The leader was the company that introduced a wider array of games with high-quality graphics and increasingly complex gameplay. Then Microsoft introduced the Xbox 360 in November 2005, and Nintendo and Sony followed about a year later with the Wii and PS3. It was apparent that the rules of the game had changed.

Sony continued to claim success in selling the ageing PS2 console. Given its long history in the market, the PS2 had outsold both the Xbox 360 and the Wii. Microsoft too remained confident about its Xbox 360. As of May 2008, Microsoft announced its Xbox 360 game machine had beaten the Wii and PS3 to reach 10 million units in US sales.³⁰ The head start of several months in selling the Xbox 360 had given Microsoft an edge over Sony's PS3 and

²⁷ This paragraph has been taken from: Farhoomand, A. and Tsang S. (2006) "Microsoft's Diversification Strategy", Asia Case Research Centre, The University of Hong Kong.

²⁸ Ehrenberg, R. (3 May 2007) "Game Console Wars II: Nintendo Shaves Off Profits, Leaving Competition Scruffy", *Seeking Alpha*, <http://seekingalpha.com/article/34357-game-console-wars-ii-nintendo-shaves-off-profits-leaving-competition-scruffy> (accessed 14 August 2008).

²⁹ McDougall, P. (18 April 2008) "Nintendo Wii Sales Tounce Xbox 360, Playstation 3", *Information Week*, www.informationweek.com/news/hardware/ (accessed 15 July 2008).

³⁰ Wakabayashi, D. (15 May 2008) "Xbox 360 Sales Surpass Wii, PS3", *Reuters*, <http://www.reuters.com/article/technologyNews> (accessed 25 June 2008).

Nintendo's Wii. The lead time had also helped Microsoft and its partners build a vast library of games, which was a major factor for consideration when gamers chose a particular console.

However, within a month of Microsoft's announcement of being the leader in the US console war, the June 2008 figures were released and it was evident that the Wii had usurped the Xbox 360 as the leader. A total of 10.9 million Wiis had sold in the US since its launch in November 2006, whereas a total of 10.4 million Xbox 360s had sold since its launch an entire year earlier.³¹ The PS3 came in a distant third with 4.8 million units sold. In the US, which was Nintendo's largest market,³² the Wii had taken off the fastest by selling 600,000 units in the first eight days, generating US\$190 million in sales.³³ In fact, because of its high demand and market buzz, many consumers found it difficult to get their hands on the machine even months after the launch [see **Exhibit 10**]. The same story was being repeated in different parts of the world where the Wii had been launched, and it was Nintendo, the erstwhile third-ranker in the gaming industry, which had emerged as the clear month-on-month leader with the outstanding success of its new console [see **Exhibit 11**].

In terms of profitability, Nintendo was in an enviable position of making a profit on each Wii console sold from the first day [see **Exhibit 12**]. Sony, on the other hand, had already slashed the price of the PS3 by US\$100 to US\$499 to help boost sales of the console. This was still US\$20 more than Microsoft's most expensive version of the Xbox 360 and about twice the price of Nintendo's Wii.³⁴

It was becoming clear that, in this latest battle between the Xbox 360, PS3 and Wii, the Wii was the clear winner of the game.

Nintendo's Disruptive Strategy

It was not just the video game industry that had felt the impact of the innovative Wii. With the December 2007 release of Wii Fit (an extension of the Wii for exercise activities utilising the Wii Balance Board peripheral), the potential for capturing yet another class of non-gamers was significantly increased. Wii Fit aimed to integrate health and entertainment and featured approximately 40 different activities, including yoga, push-ups and other exercises. It was described as a way to help get families to exercise together. Within six months of being released, the product had sold two million copies in Japan and had long queues waiting for its delivery in many parts of the world. Its impact on the health industry was already evident in these few months, with doctors and therapists recommending it for various purposes, such as body balance, strength training, keeping patients interested in performing repetitive and tedious exercises, and for the elderly to enjoy expanding their range of motion.

Nintendo's business model was also exciting for small, independent software producers. In a strategic move in May 2008, Nintendo loosened its traditional tight control over content and WiiWare, an online channel for distributing downloadable games, was launched in the US and Europe. With WiiWare, users could download new games by independent developers..

³¹ Ricker, T. (18 July 2008) "NPD: Wii Usurps Xbox as Best Selling US Game Console, Pulling Away", *Engadget*, www.engadget.com/2008/07/18/npd-wii-usurps-xbox-360-as-best-selling-us-game-console (accessed 11 August 2008).

³² The US comprised 36% of Nintendo's total sales for the year ending March 2007, followed by Japan with 34%.

³³ Colbert, C. (2007) "Nintendo Co. Ltd", Hoover's Company Information.

³⁴ CNN (9 July 2007) "Sony Slashes PS3 Price Tag by About \$100", www.cnn.com/2007/TECH/fun.games/07/09/sony.prie.reut/index (accessed 11 August 2008).

Independent developers armed with small budgets and big ideas will be able to get their original games into the marketplace to see if we can find the next smash hit. WiiWare brings new levels of creativity and value to the ever-growing population of Wii owners.

- Reggie Fils-Aime, president of Nintendo of America ³⁵

While it was still too early to predict which way the competitors were headed, it seemed that Nintendo's Wii had revolutionised and changed the name of the game, and interestingly, not just in the video-game industry alone. Would this disruptive transformation of the video game industry leave the competitors in the cold? What course of action was available to them?

³⁵ Mokey, N. (27 June 2007) "Nintendo Launches WiiWare Channel", *Digital Trends*, <http://news.digitaltrends.com/news-article/13401/nintendo-launches-wiiware-channel> (accessed 4 August 2008).

APPENDIX

Disruptive Technology

The term “disruptive technology” was coined by Clayton M. Christensen, a professor at the Harvard Business School. Christensen believed that leading companies, despite having followed all the right practices (ie, keeping a close watch on competition, listening to their customers and investing aggressively in new technologies), still lost their top positions when confronted with disruptive changes in technology and market structure. He suggested that, while keeping close to customers was critical for current success, it was paradoxically also the cause for companies’ failure to meet the technological demands of customers in the future.

To remain at the top of their industries, managers must first be able to spot disruptive technologies. To pursue these technologies, managers must protect them from the processes and incentives that are geared to serving mainstream customers. And the only way to do that is to create organizations that are completely independent of the mainstream business.³⁶

Disruptive technology was described as an innovation that used a ‘disruptive strategy’ rather than a ‘sustaining’ strategy (one which improved the performance of an established product) or a ‘revolutionary’ strategy (one which introduced products with dramatically improved features). Christensen argued that following good business practices could ultimately weaken a great company; it had been observed that truly important and breakthrough technologies had been invariably rejected by mainstream customers because they could not immediately use them. Companies with a strong customer focus would thus reject those strategically important innovations. As a result, it was left to the more nimble, entrepreneurial companies to pursue those disruptive opportunities, which might result in worse product performance in the short term, but in the long run were of strategic importance in creating new markets and finding new customers for future products.

³⁶ Bower, J.L. and Christensen, C. (1 January 1995) “Disruptive Technologies: Catching the Wave” *Harvard Business Review*, www.hbsp.harvard.edu/b01/en/common/item_detail.jhtml (accessed 11 August 2008).

EXHIBIT 1: THE HISTORY OF NINTENDO – 1889 TO 2002

1889	Fusajiro Yamauchi, the founder of the company, began manufacturing and selling Japanese playing cards.
1902	The company began producing Western playing cards.
1951	It was named the Nintendo Playing Card Company Ltd.
1959	Nintendo began making theme cards under a licensing agreement with Disney.
1962-63	The company went public and took its current name.
1970	Nintendo began focusing on the manufacture of electronic toys and entered the budding field of video games by licensing Magnavox's Pong technology.
1977	Nintendo developed its first home video game machines, TV Game 15 and TV Game 6.
1980	Nintendo established its US subsidiary, Nintendo of America. Developed and started selling the first portable LCD video games with a microprocessor.
1981	One of Nintendo's most famous coin-operated games, Donkey Kong, appeared and was an instant hit in both the US and Japan.
1983	Nintendo decided to expand its product range from games and arcade machines to home consoles, and the company released Famicom, a technologically advanced home video game system, in Japan. With its high-quality sound and graphics, Famicom was a huge hit, dominating the Japanese market.
1985	Nintendo successfully launched Famicom in the US as the Nintendo Entertainment System ("NES"). The company then marketed a follow-up version of Super Mario Bros for the NES, and this classic game helped the NES become a resounding success.
1989	Nintendo released a new console, the Game Boy. The Game Boy was the first major product in the handheld game console industry and became immensely popular on account of its portability and accessibility.
1990-92	In 1990, Nintendo launched the Super Family Computer game system in Japan, which also did very well. A year later, the same product was launched as the Super NES in the US. In 1992, Super NES was released in Europe.
1994	Nintendo formed design alliances with companies such as Silicon Graphics. Released the Super Game Boy, a peripheral for the Super NES, which enabled Game Boy software to be played on the TV screen.
1995	Introduced a 32 bit Virtual Immersion System, known as the "Virtual Boy".
1996	Nintendo launched its 64-bit N64 game system. It launched Pokémon on the Gameboy: the game involved trading and training virtual monsters and was the first in a hugely popular video-game series. The company also released another blockbuster video game, The Legend of Zelda: Ocarina of Time. In just six weeks, 2.5 million units of the game were sold.
1997	It introduces the innovative "Rumble Pak" attachment for the N64 controller, which enabled the gameplayers to feel vibrations while playing the game.
1998	Release of Game Boy Colour. Pokémon is introduced overseas, and becomes a smash hit.
2000	Nintendo acquired a 3% stake of convenience store operator Lawson in order to leverage Lawson's online operations and network to sell video games.
2001	Launched the new version of the Game Boy, with a 32 bit CPU. Nintendo GameCube is launched in Japan and the US.
2002	GameCube is launched in the European and Australian markets.

Source: Nintendo Co. Ltd (2008) "Annual Report",
<http://www.nintendo.co.jp/ir/pdf/2008/annual0803e.pdf> (accessed 3 October 2008).

EXHIBIT 2: SIGNIFICANT MILESTONES IN THE VIDEO GAME CONSOLE INDUSTRY

1967	German engineer Baer and co-workers designed the first video game console and developed the first set of games, the Brown Box.
1972	Magnavox approved of the above 'Brown Box', and developed Magnavox Odyssey, the first commercial video game console.
1975	Atari, a company founded by Bushnell in 1972, had its first major hit with the arcade game Pong. Pong introduced at-home video games to the masses and Atari became hugely popular.
1977	With Warner Bros having bought Atari in 1976, the Atari VCS, a cartridge-based system that played multiple games, was developed and released, and became a resounding success.
1980	Mattel entered the market and released Intellivision, a console featuring synthesised voices.
1983-84	Unlicensed games flooded the market and, with many new home systems such as the Atari 5200, the video game industry crashed. Nintendo launched Famicom in Japan.
1985	Nintendo released the NES in the US.
1989	Nintendo released its second smash hit, the Game Boy.
1991	Nintendo released the Super NES in the US, a year after its launch in Japan.
1995	Sony launched the PS.
1996	The N64, the last mass-market system to use cartridges, was released by Nintendo.
2000	Sony released the PS2.
2001	Microsoft released the Xbox.
2002	Nintendo released the Game Boy Advance.
2004	Nintendo launched the DS.
2005	In early 2005, Sony released the PSP.
November 2005	Microsoft released the Xbox 360.
November 2006	Nintendo launched the Wii. Sony launched the PS3.

Source: Time (2005) "Video Game Console Timeline—Video Game History—Xbox 360", www.time.com/covers/1101050523/console_timeline/ (accessed 13 August 2008).

**EXHIBIT 3: NINTENDO'S INCOME STATEMENT
FROM 2006 TO 2008 (US\$ MILLIONS)**

	31 March 2006 Restated	31 March 2007 Restated	31 March 2008
Revenues	4,736.0	8,988.8	15,553.5
Cost of Goods Sold	2,735.4	5,289.1	9,043.0
Gross Profit	2,000.6	3,699.7	6,510.6
Selling, General and Administrative Expenses	850.4	1,219.0	1,602.0
R&D Expenses	284.5	350.7	344.1
Depreciation	16.4	24.8	31.7
Other Operating Expenses	1,151.3	1,594.4	1,977.8
OPERATING INCOME	849.3	2,105.2	4,532.8
Interest Expense	0.0	--	--
Interest and Investment Income	209.2	316.1	410.7
Currency Exchange Gains	423.3	239.4	-858.8
Other Non-Operating Income	22.3	28.7	16.5
Earnings Before Tax (excluding unusual items)	1,504.1	2,689.3	4,101.1
Gain on Sale of Investments	32.8	5.2	-101.2
Gain on Sale of Assets	-0.2	-1.2	34.1
Other Unusual Items, Total	11.5	--	--
Earnings Before Tax (including unusual items)	1,548.2	2,693.3	4,034.1
Income Tax Expense	633.7	1,072.7	1,641.7
Earnings from Continuing Operations	914.9	1,620.9	2,393.3
NET INCOME	914.9	1,620.9	2,393.3

Source: Adapted from BusinessWeek (4 August 2008) "Financial Results for Nintendo Co. Ltd", investing.businessweek.com/research/stocks/financials (accessed 4 August 2008).

**EXHIBIT 4: NINTENDO'S CONSOLIDATED SALES INFORMATION
FOR THE SIX MONTHS ENDING 30 SEPTEMBER 2007 (US\$ MILLIONS)**

		Year ending 31 March 2007	Six months ending 30 September 2006	Six months ending 30 September 2007
Hardware	Handheld	3,241	1,349	1,827
	Console	1,356	33	1,741
	Others	470	79	355
	Total	5,068	1,461	3,923
Software	Handheld	2,530	1,019	1,322
	Console	714	93	719
	Others	46	10	44
	Total	3,289	1,121	2,085
Total Electronic Entertainment Products Division		8,357	2,582	6,008
Others (playing cards, etc)		19	7	13
TOTAL		8,376	2,589	6,021

(US\$1 = ¥115.4 on 31 March 2008)

Source: Nintendo Co. Ltd (25 October 2007) "Consolidated Financial Statements For The Six Months Ending 30 September 2007", <http://www.nintendo.com/corp/report/FY07FinancialResults.pdf> (accessed 1 August 2008).

**EXHIBIT 5: EVOLUTION OF TECHNOLOGY IN THE VIDEO GAME CONSOLE
INDUSTRY'S WAR FOR SUPREMACY**

First Generation 1972–1977	Simple gameplay and basic visuals, such as Atari's Pong.
Second Generation 1977–1984	Consoles such as the Atari 2600 were launched. The 8-bit cartridge appeared. This era ended with the video game market crashing.
Third Generation 1983–1987	The 8-bit cartridge continued. The first console war took place between Nintendo's NES and Sega's Sega Master System, with Nintendo emerging as the leader. Games such as Super Mario Bros and Metal Gear were launched and became huge successes. The handheld market, allowing mobility while playing games, was introduced with Nintendo's Game Boy and Sega's Game Gear.
Fourth Generation 1987–1996	The 16-bit cartridge arrived. Graphics became increasingly well-defined. Nintendo again won the war against Sega, with its SNES sales exceeding those of the Sega Mega Drive.
Fifth Generation 1995–2002	32-bit, 64-bit and 3D graphics were introduced. In this era, Sony launched the PS and the CD format arrived—two events that completely revolutionised the industry. In the format war of CD versus cartridge, the cartridge just did not have the capacity of the CD to store games, which were increasingly complex and featured high-quality graphics. Further, while there was a threat that the CD could easily be pirated, it had the advantage of being cheaper than the cartridge. Nintendo's N64 was the last cartridge-based console to be produced.
Sixth Generation 1998–2004	The 128-bit era began. Sony launched the PS2, which used the DVD format, and got exclusive licences for games such as GTA and Metal Gear Solid 2, making it the winner of this round of competition. Microsoft launched the Xbox and took second place. Nintendo's Game Cube trailed in third. Sega's Dreamcast lagged at fourth place.
Seventh Generation 2004–2008	The Xbox 360 and the PS3 introduced HD gaming and graphics. The PS3 had now moved ahead from the DVD to the Blu-ray format, and this combination of HD and Blu-Ray implied far superior storage capacity and graphics. Nintendo's Wii had motion sensors.

Source: Adapted from Lero, D. (14 November 2007) "A History of Gaming"
www.gamespot.com/pages/unions/home.php?union_id=Contributions (accessed 13 August 2008).

**EXHIBIT 6: SONY'S INCOME STATEMENT
FROM 2006 TO 2008 (US\$ MILLION)**

	31 March 2006	31 March 2007	31 March 2008
Revenue	63,541.2	70,513.4	89,601.3
Cost of Goods Sold	43,786.9	54,652.4	68,885.3
Gross Profit	19,754.3	15,861.0	20,716.0
Gross Profit Margin	31.1%	22.5%	23.1%
Selling, General and Administrative Expenses	12,446.4	8,719.8	9,525.6
Depreciation	5,682.2	6,531.3	7,408.1
Operating Income	1,625.7	609.9	3,782.3
Operating Margin	2.6%	0.9%	4.2%
Non-Operating Income	1,054.6	489.3	1,159.1
Non-Operating Expenses	246.5	231.9	231.6
Income Before Taxes	2,433.8	867.3	4,709.8
Income Taxes	1,500.4	458.0	2,055.1
Net Income After Taxes	933.4	409.3	2,654.7
Continuing Operations	1,050.7	1,073.8	3,731.3
Total Net Income	1,050.7	1,073.8	3,731.3
Net Profit Margin	1.7%	1.5%	4.2%

Source: Adapted from Colbert, C. (2008) "Sony Corporation", Hoover's Company Information.

EXHIBIT 7: ANALYSIS OF SONY'S INCOME STATEMENT FOR THE YEAR ENDING 31 MARCH 2008

Sony's increase in revenues was largely due to the group's electronics segment, comprising televisions and digital cameras, among which there was an 8.9% increase in sales. The video game segment increased sales by 26.3% to US\$12.2 billion, largely due to an increase in sales of the PS3. In all, 9.24 million PS3 units were sold in the year, an increase of 5.63 million units over the previous year. With Sony increasing software sales to 57.9 million units (from 44.6 million) and reducing hardware costs, the losses in the PS3 segment declined to US\$1.18 billion from US\$ 2.21 billion in the previous year.

PSP sales increased by 4.36 million units to 13.89 million, and PSP software sales rose by 0.8 million to 55.5 million units. PS2 sales declined by 0.98 million units to 13.73 million, with PSP software sales decreasing by 39.5 million units to 154 million.

For the year ending 31 March 2009, Sony expected game segment sales to decline and the PS2 business to shrink. However, the company was optimistic that profitability would increase with more titles available for the PS3 and reductions in hardware costs. There would be an estimated 22% reduction in profits, taking into account the one-off increase in March 2008's financials due to property sales and the floating of the group's financial services segment.

Source: Adapted from Jenkins, D. (14 May 2008) "Sony's Game Division See 26% Sales Jump", <http://www.gamasutra.com/php-bin/news-index.php?story=18638> (accessed 11 August 2008).

**EXHIBIT 8: MICROSOFT'S INCOME STATEMENT
FROM 2005 TO 2007 (US\$ MILLION)**

	30 June 2005	30 June 2006	30 June 2007
Revenue	39,788	44,282	51,122
Cost of Goods Sold	6,200	7,650	10,693
Gross Profit	33,588	36,632	40,429
Gross Profit Margin	84.4%	82.7%	79.1%
Selling, General and Administrative Expenses	18,172	19,257	20,465
Depreciation	855	903	1,440
Operating Income	14,561	16,472	18,524
Operating Margin	36.6%	37.2%	36.2%
Non-Operating Income	2,067	1,572	1,577
Income Before Taxes	16,628	18,262	20,101
Income Taxes	4,374	5,663	6,036
Net Income After Taxes	12,254	12,599	14,065
Net Profit Margin	30.8%	28.5%	27.5%

Source: Adapted from Shafer. S. (2008) "Microsoft Corporation", Hoover's Company Information.

**EXHIBIT 9: TOP 10 GAMES WORLDWIDE, JULY 2008
(APPROXIMATE NUMBER OF UNITS IN THOUSANDS)**

Rank	Console	Game	Publisher	Number of weeks since launch	Sales for the week ending 25 July 2008	Sales since launch by 25 July 2008
1	Wii	Wii Sports	Nintendo	88	333	26,826
2	Wii	Wii Fit	Nintendo	35	206	6,010
3	DS	Dragon Quest V	Square Enix	2	181	861
4	Wii	Mario Kart Wii	Nintendo	16	167	6,604
5	Wii	Wii Play	Nintendo	87	144	13,840
6	DS	Pokemon Mysterious Dungeon 2	Nintendo	46	117	2,919
7	DS	Guitar Hero: On Tour	Activision	3	116	740
8	Wii	Super Smash Bros Brawl	Nintendo	26	95	6,430
9	PS2	Powerful Pro Baseball 15	Konami	1	88	88
10	Xbox 360	NCCA Football 09	Electronic Arts	2	84	374

Source: Adapted from VGChartz (25 July 2008) "Worldwide Chart for Week Ending July 25, 2008", <http://www.vgchartz.com> (accessed 4 August 2008).

**EXHIBIT 10: SALES FIGURES OF WII, PS3 AND XBOX 360 UNITS IN THE US
(APPROXIMATE NUMBER OF UNITS IN THOUSANDS)**

	Xbox 360	Nintendo Wii	Sony PS2	Sony PS3
September 2006	259	0	300	0
October 2006	217	0	235	0
November 2006	511	476	664	197
December 2006	1,132	604	1,400	491
January 2007	294	436	299	244
February 2007	228	335	295	127
March 2007	199	259	280	130
April 2007	174	360	194	82
May 2007	155	338	188	82
June 2007	198	382	270	95
July 2007	170	425	222	159
August 2007	277	404	202	131
September 2007	528	501	215	119
October 2007	366	519	184	121
November 2007	770	981	496	466
December 2007	1,260	1,350	1,100	798
January 2008	230	274	264	269
February 2008	254	432	352	281
March 2008	262	721	216	257
April 2008	188	714	124	187
May 2008	187	675	133	209
June 2008	220	667	189	406
TOTAL	8,079*	10,853	7,822	4,851

* cumulative sales of the Xbox 360 from the launch date in November 2005 to September 2006 equalled 2,414 units, bringing the total from launch to June 2008 to 10.5 million units.

Source: Adapted from PVC Forum (17 July 2008) "Games Sales Chart—Monthly Console Hardware Sales in America", forum.pvcconsole.com (accessed 11 August 2008).

**EXHIBIT 11: WORLDWIDE SALES FIGURES OF WII, PS3 AND XBOX 360 UNITS
(APPROXIMATE NUMBER OF UNITS IN THOUSANDS)**

	Xbox 360	Nintendo Wii	Sony PS2	Sony PS3
September 2006	446	0	859	0
October 2006	431	0	793	0
November 2006	1,263	1,068	2,016	516
December 2006	2,028	2,418	3,282	843
January 2007	692	1,308	981	546
February 2007	648	1,315	954	389
March 2007	438	900	708	954
April 2007	395	1,060	648	530
May 2007	482	1,522	746	418
June 2007	392	1,245	647	298
July 2007	350	1,371	735	419
August 2007	636	1,612	882	609
September 2007	837	1,149	754	428
October 2007	1,007	1,234	699	632
November 2007	1,516	2,698	1,334	1,525
December 2007	2,215	4,267	2,456	2,389
January 2008	1,064	2,296	1,271	1,480
February 2008	648	1,606	830	948
March 2008	710	1,730	765	929
April 2008	886	2,545	668	1,189
May 2008	796	2,331	488	939
June 2008	618	1,921	499	995
TOTAL	18,498	35,596	23,015	15,981

Source: Estimated data adapted from VGChartz (July 2008) “World Hardware Sales—Weekly Comparison”, www.vgchartz.com/aweekly.php (accessed 16 August 2008).

EXHIBIT 12: THE ECONOMICS OF THE GAME—WII, PS3 AND THE XBOX 360

Microsoft and Sony had been prepared for initial losses in producing their Xbox 360 and PS3 in the hope that there would be a long-term profit from software sales. However, by integrating hardware and software development, Nintendo made profits on both from the very start. In the US and Europe, where the Wii's retail price was higher than Japan and it came bundled with Wii Sports, it was estimated that it made a healthy gross profit margin per-console of US\$49 in the US and US\$74 in Europe, factoring in currency conversions.³⁷

Nintendo also outsourced nearly all production of the Wii and the DS. Its strategy of having more than one supplier for the same part meant that it got the parts cheaper and increasing production was not difficult. Sony, on the other hand, was estimated to produce nearly 40% of its components in-house.³⁸ The massive costs of investing in the game console, which was equipped with a Blu-ray player and the powerful Cell chip, meant that Sony continued to incur a loss on each PS3 sold.³⁹ Electronics supply chain researcher iSuppli's analysis in November 2006 showed that Sony's selling price of US\$499 per 20GB PS3 resulted in a unit loss of about US\$306.85, not including packaging, controller and cables.⁴⁰

As for Microsoft, at launch the Xbox 360 was estimated to have made a loss of about US\$125 per console⁴¹. By November 2006, the company streamlined processes and reduced manufacturing costs by almost 40%, thereby making an estimated profit of US\$75.70 on the retail price of US\$399.⁴² However, the year ending 2007 remained difficult for the company's Xbox 360 division, which managed both hardware and software sales. The division posted a net loss of US\$2 billion. This was primarily due to Microsoft incurring costs exceeding US\$1.1 billion by extending the warranty on the product from one year to three years, mainly due to "red ring o' death" issues (a problem that arose due to a defective graphic chip and which caused the console to die while in use). It was only for the year ending 30 June 2008 that a yearly operating profit—amounting to US\$426 million—was reported.

Finally, unlike Sony's and Microsoft's reliance on third-party development of games, Nintendo's focus on in-house titles had a pronounced impact on revenues. These were far more profitable than third-party titles, for which the console manufacturer might get only 10–15% of the price of the game.⁴³

³⁷ Sanchanta, M. (16 September 2007) "Nintendo Wii Success Helps Component Makers Score", *Financial Times*, <http://ft.com/cms/s/0/4f9a9108-6467-11dc-90ea-00009fd2ac.html> (accessed 14 August 2008).

³⁸ *Ibid.*

³⁹ Nutall, C. (20 July 2008) "Sony Sets 150m Sales Target for PS3", *Financial Times*, <http://www.ft.com/cms/s/0/1c46ad2e-5678> (accessed 14 August 2008).

⁴⁰ Edge Online (16 November 2006) "iSuppli: 60GB PS3 Costs US\$840 to Produce", <http://www.edge-online.com/news/isuppli-60gb-ps3-costs-840-produce> (accessed 14 August 2008).

⁴¹ *Ibid.*

⁴² Mann, J. (20 November 2006) "Microsoft Makes Tiny Profit on Xbox 360 Hardware", *TechSpot News*, <http://www.techspot.com/news/23612-microsoft-makes-a-tiny-profit-on-xbox-360-hardware.html> (accessed 14 August 2008).

⁴³ Ehrenberg, R. (3 May 2007) "Game Console Wars II: Nintendo Shaves Off Profits, Leaving Competition Scruffy", *Seeking Alpha*, <http://seekingalpha.com/article/34357-game-console-wars-ii-nintendo-shaves-off-profits-leaving-competition-scruffy> (accessed 14 August 2008).