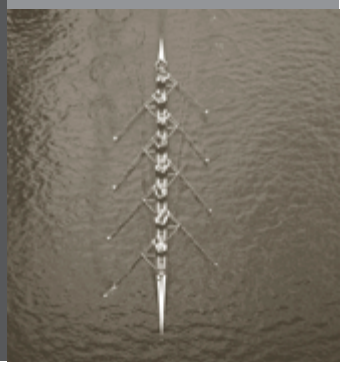
case 11

Rivalry in Video Games



At the beginning of 2007, the world video games industry was entering a new and unusual stage of its development. For 11 years the industry had been dominated by Sony, whose PlayStation had accounted for well over half of world console sales during the previous two product generations. However, in the new generation of video game consoles, an entirely new situation was emerging. As a result of its own missteps, Sony's iron grip on the industry had been broken and the seventh generation of video consoles was shaping up into a three-way battle between Sony, Microsoft, and Nintendo.

The stakes were high. With each new generation of consoles, the industry had surpassed its previous sales peak (see figure 11.1). Industry forecasts suggested that the seventh generation machines would be no exception – worldwide sales of video games hardware (consoles and handheld players) and software was estimated at around $24 billion in 2006, of which software accounted for around 60%. The market was expected to be bigger in 2007 – especially for hardware.

For the three main players in the industry, the key issue was how revenues and profits would be split among them. The evidence of the past was that the video game consoles tended to be a "winner-take-all" industry where customers gravitated towards the market leader. The result was that one company tended to establish a market share of over 60% of the market and scooped the major part of the industry profit pool (see table 11.1).

However, for all of the three leading players, there was more at stake than the lure of profits from the new generation of video game consoles. For Nintendo, the situation was relatively simple. Video games were Nintendo's sole business. It's Wii console launched in November 2006 was widely regarded as the last throw of the dice for Nintendo in the console market – with several billion dollars spent on development and marketing, Nintendo had to achieve market success to remain a viable player; otherwise it would need to retreat to the hand-held video game market, which it dominated. For Sony and Microsoft, the situation was

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FIGURE 11.1 Worldwide unit sales of video game consoles by product generation

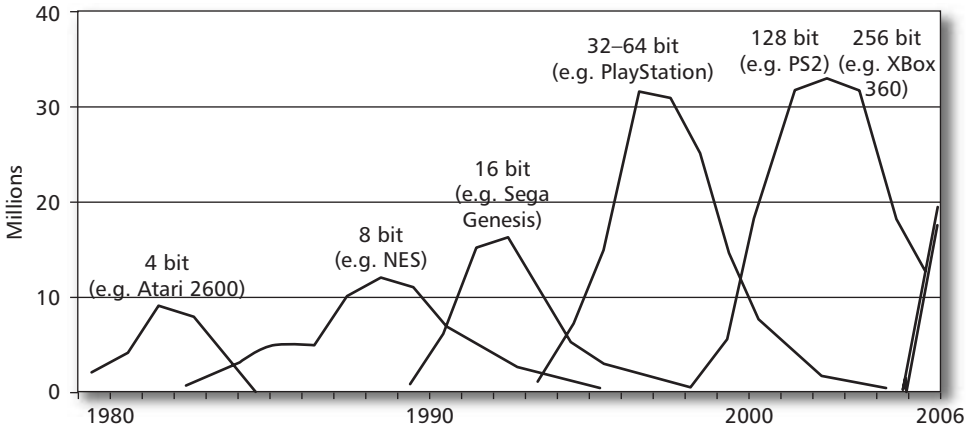

TABLE 11.1 Worldwide sales of video game consoles by platform

	Second generation	Third generation	Fourth generation	Fifth generation	Sixth generation	Seventh generation (to end 2006)
Nintendo	–	NES: 60m	Super NES: 49m	N-64: 32.9m	GameCube: 21.2m	Wii: 3.2m
Sega	–	Master System: 13m	MegaDrive/ Genesis: 29m	Saturn 9.3m	Dreamcast: 10.6m	–
Sony	–	–	–	PlayStation: 100m	PS2: 140m	PS3: 2.2m
Microsoft	–	–	–	–	XBox: 24.0m	XBox 360: 10.4m
Others	Atari 2600 Fairfield Channel F Magnavox Odyssey	Atari 7800: <0.3m	NEC TurboGrafx: 11m	3DO: 1.2m	–	–

SOURCE: WIKIPEDIA.

more complex. Both companies viewed video game consoles as important products in their own right, but also as critical components of their strategies for building strength within the fast-moving market for home entertainment. For Sony, the PS3 has a special significance. Not only was PlayStation Sony's most important product of the previous ten years, PS3 was Sony's standard-bearer in its battle with Toshiba over technical standards for the next generation of high-definition video disks. Its new PlayStation 3 (PS3) was its first product that embodied its Blu-Ray DVD system.

The coming 12 months would be a critical for all three companies. For Sony, maintaining leadership in the worldwide market for video game consoles was the company's preeminent strategic goal. For Microsoft and Nintendo, 2007 offered the best opportunity over five years to overturn Sony's market leadership.

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Development of the Video Game Industry, 1972–1995

Atari and the 4-bit Consoles: 1972–1985

The home video games market emerged during the late 1970s as an extension of arcade video games. The first generation of home video consoles were dedicated machines that embodied a single game. One of the first of these was *Pong*, created by Nolan Bushnell in 1972. He formed Atari to market this game player. The second generation of players began with Fairfield's release of Channel F – the first home video game system to accept interchangeable cartridges. Bushnell seized the opportunity and designed the Atari 2600 home video game console which retailed at $200 in the US. Atari's release of *Space Invaders* (1979) and *Pac-Man* (1981) unleashed a craze for video games. By 1982 Atari held almost 80% share of the video game market.

However, competition in both hardware and software intensified. Mattel, Coleco, and Activision all introduced rival consoles. During 1982, 20 new suppliers of Atari-compatible consoles entered the market and 350 new game titles were released in that year. Atari was unable to prevent independent software developers from marketing games for the Atari 2600, though Atari was able to collect a royalty. The market became oversupplied, forcing software manufacturers with slow-selling game titles to liquidate their inventories at closeout prices during 1983 and 1984: on some games, prices were slashed from $40 to $4. Slumping sales and excess inventories of video game cartridges resulted in Warner Communications reporting a $539 million loss on its consumer electronics business in 1983. Industry sales of video games collapsed from $3 billion in 1982 to $100 million in 1985.

Nintendo and the 8-bit Era: 1986–1991

During 1975, Nintendo – a Japanese toy company – entered the arcade video game business in Japan, and in 1980 the US. In 1981, Nintendo had a big arcade hit with *Donkey Kong*, created by its brilliant game developer Sigeru Miyamota. In 1983, Nintendo released its 8-bit Famicom home video system that used interchangeable cartridges.[1] The ¥24,000 ($100) machine sold 500,000 units in Japan during its first two months. The US launch of Famicom – renamed the Nintendo Entertainment System (NES) – in fall 1985 was a huge success, with over a million units sold during the first year. NES's sales were driven by a series of games developed by Miyamota: *Legend of Zelda* (the first video game to sell over a million copies) and, in 1986, *Super Mario Brothers* (which eventually sold 40 million copies worldwide). By 1988, Nintendo had an 80% market share of the $2.3 billion US video games industry.

The key to Nintendo's dominance of the market for third generation consoles (and its profitability) was its careful management of the relationship between hardware and software. Unlike Atari, Nintendo kept tight control of the supply of games, carefully managing their quality and their releases. Its dominant market share in consoles allowed it to dictate stringent terms to game developers. Developers were required to follow strict rules for the creation and release of games for the NES console. Nintendo ensured that only licensed developers could produce games for NES through designing its consoles such that only cartridges that incorporated a "security chip" would operate on Nintendo's consoles. Nintendo approved the content of every game, controlled all manufacturing of cartridges, and charged its independent games developers a 20% royalty and a manufacturing fee of $14 per cartridge (the manufacturing

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cost was $7). The minimum order was 10,000 cartridges for the Japanese market and 50,000 for the US market – paid in advance. Cartridges were delivered to licensees at the shipping dock at Kobe, Japan, and then distribution became the licensees' responsibility. Licensees were also limited to developing five NES games a year and could not release an NES game on a competing system for a period of two years. Retail distribution was tightly controlled. New games were released according to a carefully designed schedule and were quickly withdrawn once interest began to wane. Nintendo typically restricted shipments of its most popular games, and discouraged its retailers from carrying competitive products. By 1983, 70% of the NES cartridge sales were of games developed by licensed third-party developers.

Between 1984 and 1992, Nintendo's sales rose from $286 million to $4,417 million. By 1990, one-third of US and Japanese households owned an NES and in both countries its share of the home video console market exceeded 90%. Nintendo's return on equity over the period was 23.1%, while its stock market value exceeded that of both Sony and Nissan during most of 1990–1.

Sega and the 16-bit Era: 1992–1995

Sega Enterprises, Ltd (Sega) is a Japanese company founded by Americans. Like Atari and Nintendo, it began in arcade games machines and in 1986 introduced an 8-bit home video game console, the Master System. In October 1988, Sega launched the fourth generation of consoles with the Japanese release of its 16-bit Genesis home video system. Eleven months later, Genesis was launched in the US priced at $190, with games selling at between $40 and $70. Yet, despite superior graphics and sound to Nintendo's 8-bit system, sales of Genesis were initially sluggish until the introduction of *Sonic the Hedgehog* in June 1991.

With the advertising slogan "Genesis does what Nintendon't" Genesis positioned itself as the cool alternative to the Nintendo NES. It also recruited new games players by targeting a broader market than Nintendo, directing its appeal to adults as well as teenagers. Despite having licensing terms that were very similar to those of Nintendo (the main difference was no exclusivity clause), Sega was able to use Nintendo's unpopularity to recruit many independent developers. By September 1991 there were 130 software titles available for the Genesis.

Nintendo launched its 16-bit machine, the Nintendo Super-NES, in September 1991. In response to competition from Sega, it abandoned its exclusivity clause. Despite Nintendo's huge installed base, brand awareness, and distribution strength, Sega's bigger library of 16-bit titles (320, compared with 130 for Nintendo by January 1993) gave Sega a huge boost. During 1992–6, the two companies split the US market almost evenly. In Japan, Nintendo maintained its market dominance: the Super-NES outsold Genesis by about nine to one. Nintendo also maintained market leadership in Europe – but only just. Sega took the lead in several European countries and was a close follower in others.

Sony PlayStation and the 32/64-bit Generation: 1995–1998

Established in Japan in May 1946, Sony Corporation emerged during the 1970s and 1980s as one of the world's most successful and innovative consumer electronics

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companies. In 1987, under the leadership of Ken Kutaragi, Sony began developing a video games console employing the new generation of 32-bit processors and compact disks for video games. Initially the new console was to be a collaborative venture with Nintendo and would be capable of playing both CD-ROM games and Nintendo Super-NES cartridges. However, disagreement between the two parties resulted in Kutaragi and his team developing an entirely new console. PlayStation was launched in Japan in December 1994, in the US in September 1995, and four weeks later in Europe.

Sony was not first to market with 32-bit CD-ROM consoles. Sega's Saturn was launched in Japan a month before PlayStation, and in the US three months before. However, it was Sony that quickly established market leadership – mainly because, prior to launch, it had built a large library of games titles. It had courted the top games developers, financed the development of games for the PlayStation, and, through its hardware and operating system design and provision of software development tools, facilitated game development. Its US launch was supported by games of almost all main genres.

Sony's reputation and brand presence was also influential in gaining the support of both developers and retailers. It possessed global distribution capability, brand awareness, and rich content from its movie libraries and ongoing production of movies and TV shows at its subsidiaries Columbia Pictures and Tri-Star Entertainment. Its launch of PlayStation was well-orchestrated and supported by a massive advertising budget – prelaunch promotion included a number of cryptic and ambiguous advertisements that were designed to capture the interest of the gamer community.

By contrast, Sega, despite its solid reputation among video game consumers and its well-known brand, suffered from the ill-coordinated product launch of its Saturn system. Only a handful of game titles were available at the launch, the supply of machines was limited by lack of manufacturing capacity, and distribution was haphazard. Sony's machine attracted such a huge early following that Sega could not recover. Sega's US sales were sluggish throughout 1996 and 1997. At the end of 1997, Saturn had an estimated total installed base of fewer than 2 million units. Almost no third-party licensees published titles exclusively on the Saturn, and very few planned to publish any new titles for the Saturn system. Saturn's market failure was attributed to its comparatively high launch price, its lack of blockbuster exclusive titles, and a development system that many developers felt was inferior to that of the PlayStation. To bolster the declining market share of its Saturn player, Sega instituted rebate and incentive programs. Sega stopped marketing the Saturn in the United States in the spring of 1997.

Meanwhile, Nintendo attempted to recapture market leadership by leapfrogging Sony in technology. The N-64 system – launched in Japan in June 1996, in the US in September 1996, and in Europe in the spring of 1997 – used a 64-bit processor. The introduction of the N-64 was very successful, with half a million units sold in the first day of the US launch. One of its launch games – *Super Mario 64* – was acclaimed as one of the best games ever developed, while *Legend of Zelda* and the James Bond game *GoldenEye 007* were major hits.

A key difference between the N-64 and PlayStation was Nintendo's use of cartridges rather than CD-ROMs. Cartridges permitted cheaper hardware – N-64 was introduced at $199 in the US compared with $299 for PlayStation. Also, cartridges had a quicker load time than CDs and were nearly impossible to pirate. However, CD-ROMs possessed several key advantages. They had greater storage capacity

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(important for complex, high-resolution games) and they were cheaper to manufacture. The average PlayStation title retailed for $45 or less; N-64 titles averaged close to $60. From a software publisher's point of view, the key advantage of CD-ROMs was that a game could be pressed and shipped to retailers much faster than Nintendo cartridges (manufactured in Japan). Furthermore, N-64 cartridges had to be paid for at the time of order placement. The longer lead times for getting N-64 cartridges on retailer shelves also meant greater inventory and sales risks for Nintendo game publishers. It was difficult to judge how quickly a title would sell, particularly in the case of newly introduced games. To keep from losing out on sales, publishers of Nintendo games were motivated to order larger quantities to avoid retailer stockouts of what might prove to be a best-selling title. In contrast, retailers could normally be resupplied with additional copies of hot-selling PlayStation titles within a matter of days (CD pressing was near-instantaneous, but packaging and booklets took longer). Developers were attracted by the lower break-even point for recovering development costs: for the N-64 this was estimated at 190,000 units, versus 172,000 units for the PlayStation.

The result was that Sony pursued a different software strategy from Nintendo. While Nintendo concentrated on a smaller number of big-selling games, Sony went for a much bigger library of games (over 300 titles at any point of time). The average N-64 title sold over 400,000 units in 1997 compared with 69,000 copies for the average PlayStation game. However, PlayStation users bought more games: the number of games sold per console (the "tie ratio") for the PlayStation was 5.82 in 1997 and 6.40 in 1998 compared with 2.55 for the N-64.

The combination of PlayStation's lead time, powerful marketing, and wide range of games titles propelled it to a significant market share advantage over both the Sega Saturn and the Nintendo 64. Over its product life, the Sony PlayStation sold about 100 million units compared with 33 million for the Nintendo 64 and a little over 8 million for the Sega Saturn. In response to PlayStation's lead and the perceived disadvantages of its cartridges, Nintendo began cutting the prices it charged third-party licensees for N-64 cartridges from over $30 to as low as $21. Both companies also cut their console prices – the outcome was rapid growth of consumer expenditure on video games hardware and software between 1996 and 1998 (see table 11.2).

The Battle for the 128-bit Generation: 1999–2005

The Sega Dreamcast

With the failure of Saturn, Sega sought to establish an early lead in the sixth generation of video game consoles. Dreamcast was launched in Japan in November 1998. It embodied a 128-bit machine and used PC-based technology, which facilitated game development and the porting of existing PC-based games. However, its most innovative feature was the ability to allow simultaneous, interactive games playing through the internet. The launch was seen as Sega's last chance: "This is the last roll of the dice for Sega. If it doesn't work, it will have to pull out of the sector," said Stuart Dinsey of trade magazine *MCV*. Nick Gibson of stock broking and consulting firm Durlacher added: "Sega has to make this work; it has no contingency plans. It is heavily in debt to fund the marketing." The development and launch of Dreamcast strained Sega's financial resources to the limit. In the year to March 1999, Sega reported a net loss of ¥45bn ($490m), forcing massive cost cutting.

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TABLE 11.2 US retail sales of video game hardware and software by console type, 1990–2007

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Total hardware and software ($ m)	3,216	3,110	3,847	4,534	4,066	2,686	3,174	5,004	5,541	5,999
Sales composition										
Hardware	31%	37%	40%	37%	34%	34%	43%	43%	36%	22%
Software	69%	63%	60%	63%	66%	66%	57%	57%	64%	78%
	2000	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007[e]**		
Total hardware and software ($ m)	4,942	6,445	8,967	8,359	8,106	7,401	9,800	10,600		
Sales composition										
Hardware	32%	46%	43%	41%	38%	41%	45%	44%		
Software	68%	54%	57%	59%	62%	59%	55%	56%		

[e] = estimated.

SOURCES: IDC, GERARD KLAUER MATTISON & CO., MINTEL, AND CASE WRITER ESTIMATES.

Sega's president, Shoichiro Irimajiri, set a target for Dreamcast at half the global market. To undermine the Dreamcast launch, Sony provided advance publicity about its new version of PlayStation (PlayStation2) that was under development, emphasizing its incorporation of DVD technology and its backward compatibility with the original PlayStation.

Software remained a challenge for Sega: "The fact that there's a new machine with 128 bits is irrelevant to consumers to a large extent. Sega needs a killer application such as PlayStation's *Lara Croft* – and *Sonic* is not so sexy. It needs to woo developers to support the platform, something Sony has worked hard to do," said Jeremy Dale, commercial and marketing director at Nintendo. The failure of Saturn made many developers reluctant to invest in software for another Sega platform.

The initial launch was successful. In Japan, 900,000 units were sold during the first quarter – just short of Sega's target of a million. The fall 1999 launches in North America and Europe were also successful. In the US, Sega sold 1.5 million of its $199 Dreamcast machines and 4.5 million games in the last quarter of 1999, giving it 15% of console sales – up from 0.1% a year earlier. Nevertheless, Dreamcast failed to deliver a knockout blow to Sony's market leadership. The advantages of 128-bit over 64-bit technology were marginal and standard internet connections did not support fast-action interactive play. Most important, Sega failed to find a killer app for its Dreamcast – *Sonic Adventure* was its biggest selling game. Throughout 1999, PlayStation continued to outsell Dreamcast.

PlayStation2

PlayStation2 was the result of a massive product development initiative led by Ken Kutaragi. In the summer of 1996, Kutargari had assembled a team of engineers from Sony and its manufacturing partner, Toshiba, and asked them to design a games machine with performance that exceeded any PC and with graphics processing power

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ten times that of the original PlayStation. To counter Sega's 15-month lead, Sony continually leaked information about the technical merits of its new console and engaged in massive prelaunch publicity for its PlayStation2. The March 4, 2000 Japanese launch was the most eagerly anticipated event in the history of the Japanese consumer electronics industry. During the first 48 hours, one million PlayStation2s were sold, ten times the number sold when the original PlayStation was made available.

At ¥39,800, PlayStation2 (PS2) was a 128-bit machine offering cinematic-style graphics, a DVD player capable of showing films, and the potential for internet connectivity. Nobuyuki Idei, Sony's president, aimed to make the PlayStation2 the main mechanism for consumers to access the internet, offering online games, e-commerce, e-mail, and the ability to download music, software, and video. As Kazuo Hirai, president of Sony US, enthused, "PlayStation 2 is not the future of video games entertainment, it is the future of entertainment, period." Yet, initially, PS2 did not include a modem; Idei argued that, with technology moving so fast, it was better to sell them as add-ons.

PS2 was a huge investment for Sony. In addition to product development costs, Sony invested $1 billion in two plants, one a joint venture with Toshiba to make the main central processing unit (the "Emotion Engine"), and another to manufacture the graphics synthesizer. Marketing expenses incurred in the global rollout of PS2 were even greater. "The great thing about the games console business is that products last for three years," said Mr. Idei. "In the world of the PC, a product is doing well if it lasts three months. With the PlayStation2 we have lots of time to recoup our investment." Idei anticipated three profit streams: one from sales of hardware, the second (and most important) from software (primarily royalties on software sold by third-party games developers and publishers), and the third from online usage.

The hoopla of the launch could not disguise two critical problems of the PS2's introduction. Shortages of key components – notably the graphics synthesizer (made by Sony) and the "Emotion Engine" central processor – resulted in a shortage of PS2s for the critical US Christmas shopping period. There was also a lack of software. The power and sophistication of PS2, together with its technical quirks, created complex problems for developers. At the time of its launch, most PS2 games were revisions of earlier titles.

Nintendo: the GameCube

The battle between Sega and Sony was bad news for Nintendo. In the fourth quarter of 1999, Nintendo sold 1.9 million of its N-64s, compared with 2.4 million in fourth quarter 1998. Between its launch in 1996 and April 2000, it had sold 29.6 million N-64s against 70 million PlayStations. Increasingly, the N-64, with its games cartridges, was viewed as technologically outdated. However, Nintendo still dominated the handheld market, and continued to be profitable. Like Sony, Nintendo tried to head-off declining sales by cutting console prices: its N-64 was reduced from $129 to $99 in the fall of 1999. It also accelerated development of its new 128-bit console.

GameCube went on sale in Japan on September 14, 2001; its US debut was on November 18. Despite massive publicity, a US marketing budget of $75 million for the fourth quarter of 2001, and a low retail price ($199 in the US), GameCube's initial sales were limited by two factors. First, only three entirely new games were available for GameCube at the time of its Japanese launch; second, GameCube's US debut occurred just three days after the launch of the Microsoft XBox.

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The Microsoft XBox

The most talked about development in the competitive battle for the 128-bit generation of games consoles was the entry of Microsoft. Throughout 2000 and most of 2001, Microsoft's development efforts were the subject of a frenzy of speculation. The software giant's entry was seen as symbolizing the emerging potential of video games consoles. Once viewed as children's toys, games consoles were emerging as the primary tool for electronic entertainment, with a potential to offer movies, music, and many of the communications functions currently performed by PCs.

The XBox was designed to place Microsoft far ahead of any other games machine in terms of technological capabilities. The *Financial Times* described it as: "Arguably the most powerful games console ever made, developed after consultation with more than 5,000 gamers and games creators, it has a staggering array of features: an internal hard disk with a 733MHz processor, 64MB of memory, a DVD player, Dolby Digital 5.1 Surround Sound and an Ethernet port that makes it the only game console that's internet-ready and broadband-enabled."[2]

Yet, for all its state-of-the-art technology, XBox did not offer an obviously superior user experience: "Although the XBox is very good, it doesn't offer a sufficiently different gaming experience from existing consoles . . . The technological difference between generations of consoles is getting smaller all the time, and all three consoles now on the market in the US (XBox, GameCube, PS2) have great graphics. It's hard for the average player to tell the difference."[3] As with all newcomers to the video games industry, software availability was XBox's major weakness. When XBox was launched in the US in November 2001, 19 games were available. Although this was substantially more than the GameCube, it paled in comparison to PS2's more than 200 titles. Moreover, XBox also lacked the recognizable characters owned by its established rivals, such as Mario Brothers and Lara Croft. As Nick Gibson, games analyst at Durlacher, observed: "By the time Microsoft and Nintendo complete their global launches in 2002, Sony will have built up an installed base of over 25m units compared with 4m to 5m for the others at best. This momentum, combined with strong developer and publisher support, gives Sony an unassailable lead in this console cycle."[4] XBox's US launch was successful, with 1.5 million sold in the six-week Christmas shopping period.

XBox's biggest challenge was to establish itself in Japan. Microsoft's Japanese launch on February 22, 2002 featured the release of 12 new games and the presence of Bill Gates to sell the very first XBox in Japan. Priced at ¥34,800 ($259.3), the XBox cost 17% more than PS2 and 39% more than GameCube. However, XBox's reception in Japan was a disappointment for Microsoft. In its first three days, 150,000 units were sold, of the 250,000 that were shipped (PS2 had sold 720,000 in its first three days). Soon after the launch, a number of consumers began making complaints that the XBox was scratching their CDs and DVDs. Microsoft's hesitant response to these complaints alienated many Japanese consumers and retailers. Moreover, none of XBox's initial games releases proved to be major hits with Japanese games players.

The outcome

Despite Sega's early lead, the launch of PlayStation2, XBox, and GameCube soon put pressure on sales of the Dreamcast. Although Sega sold 2 million Dreamcast consoles in Japan between its launch in November 1998 and the first quarter of 2000, Sony

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sold 1.8 million PlayStation2s in just two months. During the first half of 2000, pessimism grew over Sega's prospects: its share price more than halved between February and June 2000. In August 2000, Sega began a last-ditch stand to grab market share: it offered the Dreamcast free of charge to customers who signed up to Sega's online service, SegaNet, for two years at $21.95 a month. Existing Dreamcast customers received a free keyboard and a $200 check if they subscribed. Sega was betting on the potential for its games console to become its users' primary device for email and web surfing. By the fall of 2000, mounting losses forced Saga to announce its withdrawal from video games hardware. Henceforth it would concentrate on games software.

Sega's withdrawal did little to moderate competition between the other three players. All three of them – Sony, Nintendo, and Microsoft – recognized the criticality of establishing market leadership, and all had the resources to finance a fierce battle for sales. For, Sony the key was to utilize its incumbency advantages of massive installed base and huge library of titles to thwart its two rivals. In March 2002, Sony cut the US price of its PS2 from $299 to $199; Microsoft also cut the price of its XBox from $299 to $199, and Nintendo reduced its GameCube from $199 to $149. Despite PS2's problematic launch, it was clearly established as market leader, with an installed base of 30 million worldwide as compared with about 4.5 million each for GameCube and XBox.

Microsoft's ability to challenge Sony rested on two factors. Its ability to launch blockbuster games: *Halo* and *Halo2* provided this drawing power. Second was exploitation of XBox's online capabilities. In November 2002, Microsoft launched its XBox Live online gaming service, which allowed interactive, internet gaming and direct downloading of new game content to the XBox's hard drive. By July 2005, XBox Live had 2 million subscribers.

By 2004, it was clear that Sony had retained its market leadership in the 128-bit generation of games consoles. During the six years up to October 2006, Sony had sold around 111 million PS2s. The XBox had built a strong no. 2 position in the US, but elsewhere its performance was less impressive. Sales of XBoxes totaled 24 million by December 2006; GameCube sold 21 million units over the same period; Dreamcast's sales were 10.6 million.

The Video Games Industry in January 2007

Competition for the new generation of video game consoles comprised the three survivors from the previous round: Sony, Microsoft, and Nintendo. The new round of competition was kicked off on November 25, 2005 with Microsoft's release of its XBox 360. By January 2007, all three of the key players had launched their new generation consoles into a market where the stakes were bigger than ever. It was also a market that had become increasingly complex and where the competitive positions of the three leading players were shifting rapidly.

The Video Games Market

At the beginning of 2007, most forecasts indicated that the world video games market was on the threshold of its biggest ever expansion phase. Each generation of games consoles had surpassed its predecessor in terms of unit sales. The general expectation

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was that the new generation of consoles would lead a similar expansion. As a form of entertainment, video game playing was one of the biggest. In the US over 40% of households owned video game consoles and annual expenditures on consoles and games exceeded cinema box office receipts. Unlike most forms of electronic hardware, video games consoles had not suffered the same decline in prices that had afflicted computers.

Central to the expanding size of the video games market was a broadening of the consumer base: once the preserve of teenage boys, by 2005, the majority of the age group 18–44 was video games players. Even among the 55–64 age group, 21% played video games. Female participation had also increased strongly. While children who grew up playing video games continued to do so as adults, game preferences changed greatly with age. Adolescents were more concerned with what was "in" and "hot." The adult market was composed of numerous niches, each with an interest in a different type of game. Adults liked titles that fit in with their lifestyle and interests. Sports-based games were very popular among adult males. However, in terms of intensity of game playing, teenage boys remained clear leaders: US males between the ages of 12 and 17 with a video game console in their home devoted an average of 14 hours a week to game playing. Females in the same age bracket played an average of 4 hours a week.

The growth of video games playing had opened up an entirely new source of revenue for video games publishers: advertising. Product placement within video games generated advertising revenues of $56 million in 2005 in the US alone. Both Microsoft and Google acquired advertising agencies specializing in video game ad placement.

Software

Each of the video game console makers ("platform providers") licensed third-party software companies to develop and distribute games for use its system. Two types of company were involved in video games software: video games publishers, who were responsible for financing, manufacturing, marketing, and distributing video games, and video game developers that developed the software. Video game publishing was increasingly dominated by a few large companies – the most prominent being Electronic Arts (see table 11.3). Typically, the software publisher submitted a proposal or a prototype to the console maker for evaluation and approval. The licensing agreement between the software company and the hardware provider gave the console maker the right to approve game content, control over release timing, and provided for a royalty payment from the software company. As the power of the publishers had grown and the costs of development had risen, so exclusivity ties had disappeared from most licensing contracts – most leading games titles were cross-platform. Game developers were paid a royalty, typically between 5 and 15%, based on the publishers' revenues from the game.

Escalating game development costs were a result of the demand for multifeatured, 3-D, cinematic-quality games made possible by increasingly powerful consoles. Atari's *Pac-Man* released in 1982 was created by a single developer and cost about $100,000. *Halo 2* released for the XBox in 2004 involved 190 developers and cost $40 million. By late 2006, *Halo 2* had sold 8 million copes at $50 each. For the new generation of consoles, most games cost more than $10 million to develop. In terms of both costs and revenue patterns, video games closely resembled movies, with similar success rates

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TABLE 11.3 Share of US video games market by publisher, 2005

Publisher	Market share by value (%)
Electronic Arts	24
Take-Two Interactive	9
Activision	7
Sony	7
Nintendo of America	6
Microsoft	5
THQ	5
Atari	4
Konami	3
Ubisoft	3

– a mere few became money-spinning blockbusters. Like movies, too, creating a brand franchise through a succession of sequels had become a key competitive strategy.

The development of video games required a blend of technology and creative talent. The development process included game development and design, prototyping, programming, art, computer graphic design, animation, sound engineering, technical writing, editorial review, and quality assurance. It took 18 to 36 months to complete a new title based on a new platform, and 6 to 14 months to make existing titles compatible with a different platform. Many games were based on characters and themes that were either owned by the game developer or licensed from third parties. The licensing fees paid by software publishers for exclusive rights to the intellectual property of media companies and sports organizations grew substantially between 1998 and 2002. Securing the license to produce a game based on a hit movie (e.g. *Harry Potter*) could cost several millions of dollars. In the sports market, licenses paid to sports leagues (NFL, NHL, MLB, NBA, FIFA) typically involved an up-front payment, plus a royalty of 5 to 15% of the wholesale price for each unit sold.

Not only did software sales exceed hardware sales, most of the profits received by the console manufacturers were derived from software. The console makers followed a "razors and blades" business model: the consoles were sold at a loss; profits were recouped on software sales – both games developed internally and royalties received form third-party games publishers. Licensing fees paid by the games publisher to the console manufacturer were typically about $10 per copy. The result was strongly cyclical earnings of the hardware companies. The launch of a new console would result in massive cash outflows. It was not until a healthy installed base had been established that the manufacturer would begin to recoup the investment made. Table 11.4 shows leading titles in 2006.

The Competitive Situation, January 2007

Microsoft The introduction of XBox 360 marked a significant shift of strategy for Microsoft. In contrast to the original XBox, Microsoft was first to market in the new generation of consoles, with the prospect of using first-mover advantage to build market share. XBox 360 was the first major console with a near simultaneous global launch as opposed to a phased rollout. The North American launch was on

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TABLE 11.4 Top-selling console games in the US 2005 (by units sold)

Title/platform	Publisher	Release date	Units sold ('000s)	Av. retail price ($)
Madden NFL 2006 (PS2)	*Electronic Arts*	Aug. '05	2,900	46
Gran Turismo 4 (PS2)	*Sony* Computers Ent.	Feb. '05	1,500	49
Madden NFL 2006 (XBox)	*Electronic Arts*	Aug. '05	1,200	47
NCAA Football 2006 (PS2)	*Electronic Arts*	Jul. '05	1,100	48
Star Wars: Battlefront II (PS2)	*LucasArts*	Nov. '05	1,000	47
MVP Baseball 2005 (PS2)	*Electronic Arts*	Feb. '05	970	29
Star Wars Episode III: Revenge of the Sith (PS2)	*LucasArts*	May. '05	930	47
NBA Live 2006 (PS2)	*Electronic Arts*	Sep. '05	820	44
LEGO Star Wars (PS2)	*Eidos*	Mar. '05	800	37
Star Wars: Battlefront II (XBox)	*LucasArts*	Nov. '05	n.a.	48

November 25, 2005; the Japanese launch was on December 10. Microsoft also shifted its promotion to reflect a new market positioning. Compared with the original XBox, which emphasized processing power and focused on hardcore gamers, XBox 360's positioning has eschewed technology in favor of versatility, design, and coolness. The XBox 360's marketing was led by Peter Moore, who was previously marketing head for Sega's Dreamcast. Sega's annihilation by Sony has provided added momentum to Moore's urge to defeat Sony in the new generation of consoles.

The XBox 360 strategy emphasized the hardware's multifunctionality for home entertainment and Microsoft's strong online presence. Through XBox Live, users could purchase and download video games, in-game extras such as weapons and costumes, and movies and TV shows – including high-definition TV shows. Table 11.5 compares the XBox 360 with its leading rivals.

Sony Meanwhile, Sony's launch of its PS3 was dogged with multiple delays. Most of the problems related to the technological ambitiousness of the hardware. PS3's revolutionary multicore Cell processor, developed jointly with IBM and Toshiba, proved difficult and expensive to manufacture – it was estimated that each Cell processor cost Sony $230 per unit. Even more problematic was the delayed Blu-Ray DVD drive, whose initial production cost was estimated at $350. Merrill Lynch estimated that the total cost of the components for the PS3 could amount to $900 per unit in 2006.[5]

The Blu-Ray drive was a central element of Sony's strategy. It was engaged in a fierce standards battle with Toshiba over the technical format of the next generation of high definition DVDs. PS3 was to be a key product in gaining market acceptance of Blu-Ray.

Software was another problem for PS3. The complexity and power of the hardware extended the potential and the cost of games written for PS3. Software development costs were estimated at four or five times those of PS2. To encourage developers to write for PS3, Sony was obliged to cut its royalties. At its initial launch, Sony had 15 titles available for PS3, although few made full use of PS3's technical capabilities. The most popular of the new games was *Resistance: Fall of Man*.

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TABLE 11.5 Comparison of seventh generation games consoles

Console	Hardware	Connectivity	DVD	Games	Price (Dec. 2006)
Sony PS3	Cell Broadband Engine 550 MHz RSK GPU HDTV-capable	*20 GB version:* Bluetooth 2.0, an ethernet port and four USB docks *60 GB version:* Compact flash, SD and memory stick duo, WiFI	Integrated Blu-Ray Player Backwards compatible with DVD	50 titles available at end of 2006	*20GB version:* $499 *60GB version:* $599
Microsoft XBox 360	IBM Xenon Power-PC CPU 500Mhz ATI custom GPU HDTV-capable	Option to purchase WiFI adapter *Core Version:* Three USB docks, ethernet port *20GB version:* Wireless controllers	DVD Player Additional HD-DVD drive available for $199	130 titles at end of 2006 (of which 65 allow interactive play through XBox Live) Backwards Compatible	*Core Version:* $299 *20 GB version:* $399
Nintendo Wii	IBM Broadway Power-PC CPU GPU developed with ATI EDTV video output	Bluetooth, two USB docks, SD slot, Internet via IEEE 802.11 or a Wii LAN adaptor	No current DVD playback Plans to launch integrated DVD version in Japan – c. 2007	c. 30 titles at time of launch Backwards compatible with GameCube	$250

PS3's launch in Japan on November 11, 2006 and in North America on November 17 was marred by lack of product. Following both launches, PS3s were selling on online auction sites in Japan and the US at a substantial premium to their retail list prices. The European and Australian launches were set for March 23, 2007. One of the results of product shortage was continuing strength of Sony's PS2. During the critical month of December 2006, Americans bought 1.4 million PS2s, outselling PS3 (491,000 units), XBox 360 (1.1 million units), and Nintendo Wii (604,000 units).

Nintendo One of the biggest surprises of the new round of competition was the strong initial showing of Nintendo's Wii. Technologically, the Nintendo Wii lacked the advanced features of either the XBox 360 or PS3; its primary innovative feature was its remote wand-like controller that was sensitive to a range of hand movements. As a result, Nintendo claimed that its Wii was more intuitive than other consoles and could be learned more easily. This linked with a marketing strategy that aimed to recruit new games players and targeted a very broad demographic – including older consumers. Wii was launched in North America on November 19, 2006, on December 2 in Japan and December 8 in Europe. The launch was accompanied by 16 new games for Wii – of which several were new versions of existing franchises (e.g. *Legend of Zelda: Twilight Princess*). Nintendo also mounted its biggest ever advertising compaign. (Table 11.6 shows the leading US video games advertisers.)

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TABLE 11.6 Advertising expenditures for selected video game brands, 2003–2005

Brand	2003 ($m)	2004 ($m)	2005 ($m)
Microsoft XBox	15.9	26.3	31.8
Sony PlayStation	95.9	99.6	127.9
Nintendo	84.7	76.9	80.6
Electronic Arts	–	55.5	–
Take-Two	n.a.	n.a.	28.7

SOURCES: VARIOUS PRESS REPORTS.

Changing competitive dynamics The competitive situation at the beginning of 2007 was unusual in terms of the fluidity of market shares and market positioning. Despite its huge installed base of PlayStations (both the original version and the PS2), Sony was widely viewed as having mismanaged the launch of PS3. Most of the problems that had plagued PS3 – including delays and perceived high price – were the direct result of the technological ambitiousness of PS3, especially its incorporation of the Blu-Ray DVD drive. The one-year lead of XBox 360 over the PS3 had given Microsoft its best opportunity to unseat Sony's position as market leader. Meanwhile the successful launch of Wii had indicated that Nintendo could not be written off as a serious contender.

In previous generations of video game consoles, there had been a strong tendency for one firm to dominate the market and scoop most of the industry profit pool. For instance, Nintendo had dominated the 8-bit generation and Sony had dominated the last two generations. Typically the winner was the firm that offered the most competing software titles, the most advanced technology, and did the most effective job of managing the complex tasks of coordination and logistics necessary for a successful product launch. A key issue for the new generation of consoles was whether the basis and dynamics of competitive advantage had changed. As technology had progressed, the contribution of advanced technology to user experience had become less and less perceptible. At the same time, the winner-take-all characteristics of the industry had changed, with more and more games becoming available for multiple platforms. Finally, video games consoles had become increasingly multifunctional. One reason for the intensity of the competitive battle between XBox 360 and PS3 was that the market at stake was not just the market for video game consoles – what Sony and Microsoft were ultimately concerned with was control over the future of home entertainment. As video game consoles became general purpose devices, so their potential for differentiation increased. Some of the customers for PS3 were not even game players – for viewing movies, the PS3 was a cheaper alternative to a standalone Blu-Ray DVD player. As a result of these trends, together with the ever-increasing size of the total market and increased segmentation within it, it seemed possible that the market might lose some of its winner-take-all characteristics and might be capable of supporting two or even three profitable suppliers of consoles. Others suggested that the changing dynamics of competition might have caused a fundamental shift in the balance of power between hardware and software companies and that the major games publishers – Electronic Arts, Activision, and Take-Two – would be the key players in the industry and the principal profit earners.

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Appendix
Financial Data on the Console Manufacturers

NINTENDO *(Yen, billions)*

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Total sales	401	463	534	573	531	463	554	504	514	515	509
Operating income	133	115	172	156	145	85	119	100	110	113	91
Net income	60	65	84	86	56	97	106	67	33	87	98
Op. income/Av. total assets (%)	9.8	9.4	10.6	9.9	6.1	9.7	9.5	8.9	10.5	9.7	7.9
Return on av. equity (%)	12.3	12.1	14.0	12.9	7.7	12.2	12.0	7.4	3.7	9.6	10.4

SEGA *(Yen, billions)*

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Total sales	346	360	331	226	339	243	206	197	191	195	553
Operating income	30	31	7	4	(40)	(52)	14	9	14	6	119
Net income	5	6	(36)	(32)	(52)	(418)	(18)	3	9	2	66
Op. income/Av. total assets (%)	1.2	1.3	(9.7)	(8.1)	(15.7)	(115.2)	(7.5)	6.1	13.2	7.6	25.0
Return on av. equity (%)	3.0	3.1	(24.0)	(32.0)	(60.1)	(375.0)	(20.5)	3.6	11.0	2.3	23.0

Note: The data for 2006 relate to Sega Sammy Holdings (Sega merged with Sammy in October 2004).

SONY *(Yen, billions)*

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Sales	4,592	5,663	6,761	6,804	6,687	7,315	7,578	7,474	7,496	7,160	7,475
of which:											
Games	201	408	700	760	631	661	1,004	936	754	703	918
Operating income	235	370	526	348	241	225	135	185	99	114	191
of which:											
Games	n.a.	n.a.	117	137	77	(51)	84	113	68	43	9
Net income (loss)	54	139	222	179	122	17	15	116	89	164	124
Op. income/Av. total assets (%)	1.1	6.9	6.7	5.5	3.7	3.1	1.7	2.2	1.1	1.2	1.9
Return on av. equity (%)	4.6	10.7	13.2	9.8	6.1	0.1	0.1	4.8	3.6	6.3	4.1

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MICROSOFT *($ millions)*

	2000	2001	2002	2003	2004	2005	2006
Sales	22,956	25,296	28,365	32,187	36,835	39,788	44,282
of which:							
Home and entertainment	n.a.	n.a.	2,453	2,748	2,731	3,110	4,292
Operating income	11,006	11,720	11,910	13,217	9,034	14,561	16,472
of which:							
Games	n.a.	n.a.	(847)	(924)	(1,011)	(451)	(1,283)
Net income	9,421	7,346	7,829	9,993	8,168	12,254	12,599
Op. income/Av. total assets (%)	24.4	21.2	18.8	17.9	10.3	17.6	23.6
Return on av. equity (%)	26.9	16.6	15.7	17.6	11.7	19.9	28.6

SOURCE: COMPANY ANNUAL REPORTS.

Notes

1 Successive generations of video game consoles have conventionally been designated according to processor bit size. In practice, bit size is a poor indicator of processing power. Beyond 32 bits, bit size has little to do with console performance – processor clock speed is much more important.

2 "Out of the box at last," *Financial Times*, Creative Business section, November 20, 2001.

3 Ibid.

4 "Console wars," *The Economist*, June 22, 2002, pp. 71–2.

5 "Delays likely for Sony's PlayStation 3," *Financial Times*, February 20, 2006.