case eleven

Rivalry in Video Games

TEACHING NOTE

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■ SYNOPSIS ■

The case outlines the competitive situation in the video games hardware industry at the beginning of 2007. Competition for market leadership in the new generation of video game consoles has reached a critical juncture. The new generation of video game consoles (the seventh since the inception of the home video games machines) was inaugurated by the launch of Microsoft's Xbox 360 in November 2005. Almost a year later battle was joined: Sony with its PS3 and Nintendo with its innovative Wii console. For all three players the stakes were high. Microsoft saw the opportunity for gaining the lead over Sony, which had dominated the industry for over a decade. Sony regarded its PS3 as the most important new product of the twenty-first century – particularly since it was the launch product for Sony's innovative Blu-Ray technology. As a specialist video game company, Nintendo's situation was most acute: its future in the console market depended on the success of Wii. Both Microsoft and Nintendo saw the opportunity to overturn Sony's dominance of the market. The PS3 had been dogged by delays and cost overruns resulting from its advanced technology. The prospect of seizing market leadership from Sony was especially appetizing because of the winner-take-all character of the industry.

To assist the analysis of the competitive dynamics of the industry and the evaluation of the strategies of the three players, the case describes competition during the previous product generations, beginning with the Atari 2600 in the late 1970s. Past evidence points to the critical role of the complementary relationship between hardware and software. This complementarity forms the basis of the "network externalities" that reinforce market leadership and allow the leader to scoop the great majority of the industry profit pool. The role of installed base in generating demand for software (games) means that, once a company has established market leadership in consoles, it is difficult to unseat that leadership. The result is intense competition for market leadership in which the challengers are willing to lose substantial sums of money just to get their machine established in the market.

The previous competitive battles and their outcomes permit us to identify key success factors in the industry, which provides the basis for addressing the situation in 2007. Although Sony has a vast installed base from the previous generation of PlayStations, as first mover, Microsoft has established leadership in the new generation of consoles. Meanwhile, the outsider – Nintendo – has wowed the market with the most innovative of the new consoles. By identifying key success factors in the industry and appraising the resources and capabilities of the three companies, the case allows an evaluation of the prospects for each of the three and enables strategy recommendations to be made for each one.

■ TEACHING OBJECTIVES ■

I use the case to examine strategy and competition in a technology-based, global industry where there is complementary hardware and software and where there is a tendency for standards to emerge.

The case allows students to learn about:

- the sources of network externalities and the industry characteristics that result in the emergence of technical standards;
- the characteristics of competition in "winner-take-all" markets;
- the formulation and implementation of strategies designed to win standards wars;

- managing complementary products to maximize value appropriation – in this case, product systems that comprise both hardware and software;
- designing strategies to challenge incumbent market leaders in technologically dynamic industries;
- designing strategies to sustain market leadership in technologically dynamic industries.

The case also sheds light on the tendency for digital technology to cause different product markets to converge. A critical difference between competition in the new generation of video game consoles is that competition is no longer just about the video game market. Now that video game consoles can be used to watch DVDs, receive TV programs, and surf the internet, the critical battle between Sony and Microsoft is for control of entertainment in the home.

■ POSITION IN THE COURSE ■

I use this case in the section of the course where I deal with competition and strategy formulation in technology-based industries.

■ ASSIGNMENT QUESTIONS ■

1. What are the key success factors in the video games hardware industry?
2. In what sense and for what reasons is this a "winner-take-all" industry?
3. What strategies and what circumstances have allowed newcomers to unseat established market leaders?
4. [Last names beginning A–F:] What should Microsoft do to gain market leadership?
   [Last names beginning G–P:]? What does Sony need to do in order to retain market leadership?
   [Last names beginning Q–Z:] What should Nintendo do to break out of its #3 position?

■ READING ■

R. M. Grant, *Contemporary Strategy Analysis* (6th edn), Blackwell Publishing, 2008, Chapter 11 (especially pp. 303–10, "Competing for Standards").

See also C. Shapiro and H. Varian, "The Art of Standards Wars" *California Management Review*, Winter 1999.

■ CASE DISCUSSION AND ANALYSIS ■

What Are the Key Success Factors in the Video Games Hardware Industry?

I find it useful to review the history of the industry in order to identify patterns in market leadership and to understand the basis of competitive advantage. I start by asking, "Which companies have been successful in each of the product generations of video game consoles?" and then, "Why?" This results in a table on the blackboard that looks something like this:

Dates:	1972–85	1986–91	1992–5	1995–8	1999–2005	2006–
Product generation:	2nd (4-bit)	3rd (8-bit)	4th (16-bit)	5th (32/64-bit)	6th (128-bit)	7th (256-bit)
Market leader:	Atari 2600	Nintendo NES	Sega Genesis (& Nintendo Super-NES)	Sony PlayStation	Sony PS2	?
Factors in success:						
hardware	Interchangeable-		Superior speed	CD-based	Super graphics	?
games	Space Invaders, Pac-Man	Donkey Kong, Super Mario, Tight control of games	Sonic. Big games library	Tomb Raider, Gran Turismo	Grand Theft Auto	?

timing and launch effectiveness	1st mover (with Fairfield)	Early mover in 8-bit; strong US marketing to new generation of teenagers	1st mover in new generation	2nd mover after Sega, but lower price and massive launch	2nd mover after Sega. Backward compatible with PS1. Massive launch budget	?

From the many factors that get mentioned as "factors in success" in relation to each product generation, I ask one of the class members: "Looking across these different phases of the industry's history, what common *key success factors* characterize the strategies of the leading companies?"

This should elicit something like this:

1. *Technological progressiveness in hardware*. The market leaders were typically also technical leaders. Aspects of technological leadership included:
   - The successful companies were typically leaders in introducing machines with more powerful processors (which offered faster clock speeds and the capability to support more sophisticated games).
   - Leadership in enhanced graphics capabilities – this depended not just upon microprocessor power but also graphics cards and the operating system.
   - Innovation in software media (e.g. PlayStation's CD-ROM system).
   - Multifunctionality (e.g. addition of DVD player, internet capability, etc.).
   - In 1981–4, it was the ability to run the spreadsheet program Lotus 1-2-3.
2. *Quality and availability of software*.
   - A wide range of software. Unlike application software for business computers, consumers of video game consoles seek variety. A small range of games drastically restricts market appeal.
   - Killer apps. Variety of software is not the only factor – the key driver for purchasing a games console is likely to be the popularity of a blockbuster game (Space Invaders and Pac-Man for Atari; Super Mario Brothers and Donkey Kong for Nintendo; Sonic the Hedgehog for Sega; Lara Croft for Sony).
   - Management of software development and release. There is a need for management of relations with games developers and publishers. Internal development of games also important (a key strength of Nintendo). Control over game releases – especially in terms of timing – is critical. (Note: Nintendo's tight control over the development, quality, release, and distribution of its games was a major factor in the success of its NES console. Possibly the control was too strong. An important balance is *attracting* games developers, to get a wide variety of software, and *controlling* them so as to coordinate a steady stream of software releases and appropriate the returns to software.)
3. *Marketing*. Central to the success of the market leaders was the building of a strong advertising campaign. Building consumer awareness and establishing brand strength was a factor in the success of all four market leaders (Atari, Nintendo, Sega, and Sony).
4. *Timing*. With the exception of Atari, all the other companies entered a market that was dominated by an incumbent. The ability to take market leadership from an incumbent depended critically on entering at the right stage of the product life cycle – when the previous product generation was stagnating, when the technology for a new product generation was emerging, and when a new demographic cohort was entering the "target customer demographic window."
5. *Coordinated launch*. Timing relates not simply to the market launch, but also to the ability to coordinate all aspects of market launch. Capturing market share requires the simultaneous release of both the console and a range of games titles, the availability of adequate numbers of consoles and copies of games in the retail stores in time for the launch, and the coordination of advertising and promotion. Given the number of different companies involved in supplying the different aspects of these systems, synchronizing all the different elements is a critical task. The problematic launch of the PlayStation2 points to the complexities involved and how missteps can create a window of opportunity for rivals.

In What Sense and for What Reasons Is This a "Winner-Take-All" Industry?

Winner-take-all industries are those that tend to be dominated by a single company that then scoops the major part of the industry profit pool. In the case of the video games industry, there is a clear tendency towards global market dominance by a single company. The only instances of market leadership being shared occurred during 1992–5 when the world market for 16-bit consoles was split between Nintendo and Sega. Also, during 1997–2000, Nintendo was a close second to Sony. In terms of profitability, the evidence points to the market leader appropriating most of the industry profit. Thus, Nintendo was strongly profitable during 1991–2 when it was leading the world market, then again in 1997–8 when Nintendo was close behind Sony. The only time Sega came close to earning profits above its cost of capital was 1991–4, when Sega was sharing market leadership with Nintendo; the rest of the time its financial performance was dismal.

So, what are the forces that caused the industry to be dominated by a single firm?

1. *Conventional scale economies.* Development and launch costs for a new games machine are very high. For the current 256-bit, seventh generation machines, development costs run into several billions of dollars. Before any revenues get generated, not only must direct product development costs be financed, but also manufacturing investments, software development, and advertising and promotion. Reaching breakeven requires that these development costs are amortized over a large market base.

2. *Network externalities resulting in convergence to single standard.* A key feature of the different games consoles is that they utilize proprietary technologies, with the result that software is not interchangeable between them. The proprietary nature of the technology is found both in the hardware (different processors and hardware configurations, different media (cartridges and CDs)) and in different operating systems. So what are the network externalities that cause customers to converge to a single technology (and hence to a single manufacturer)? Two types are important:

   - Customer–customer externalities. Game players like to buy the type of console that other games players are buying to allow them to interact through sharing games and playing against one another. Such linkages are probable particularly important among young players where the social aspects of playing video games tend to be more important. The move to online gaming reinforces these effects. Less tangible – but possibly more important – are network externalities relating to social conformity. Among teenagers in particular, the pressures for social inclusion and acceptance are very strong. Hence, children and teenagers may be strongly attracted to the same console that is used by their friends and acquaintances.
   - Hardware–software complementarities. In any market where the hardware and software are co-specialized, where customers desire a wide range of software, and where the software is expensive to develop, software developers will tend to write for whichever hardware platform they believe will give them the broadest sales base. As a result, the market-leading games console will attract a broadening array of games titles, while consoles with secondary market positions will attract declining support from developers. The outcome is similar to the personal computer industry – once the Wintel standard had established market leadership over the Apple Mac during the mid-1990s, feedback mechanisms resulted in Wintel steadily gaining support of applications software writers, while Mac experienced growing problems in offering a wide range of contemporary applications. The problem is especially great for new entrants. For all Microsoft’s strength as one of the world’s richest and most powerful technology companies, when it announced its Xbox, it had trouble attracting the leading games publishing houses and developers.

What Strategies and What Circumstances Have Allowed Newcomers to Unseat Established Market Leaders?

Given the presence of network externalities, it would seem that once a company has established market leadership, positive feedback will ensure the persistence of market leadership. Yet, as we have seen, in this industry market leadership has been displaced through several of the generation life cycles. Why has this happened? Several factors appear to be important:

- *Technological advantage*. The opportunities for innovation are constantly presented, giving outsiders and underlings the potential to leapfrog incumbents in technological progressiveness.
- *The emergence of new demographic cohorts*. New potential consumers are continually reaching prime game-playing age. These young players have no prior investments in hardware or software and create an opportunity for newcomers and underlings.
- *Incumbents screw up*. The greatest opportunities are presented by incumbents getting it wrong and creating the opening for a nimble-footed, purposeful newcomer to get it right. Atari over-saturated the market and went into a slump. Nintendo was (paradoxically) too successful at appropriating the rents from its games systems and

encouraged developers and retailers to welcome Sega and then Sony. With its PS3 launch, delays, high costs, and limited new launch games have created a tremendous opportunity for Microsoft and Nintendo.

However, even with these factors, overcoming the power of installed base and market share preeminence of an established leader is exceptionally difficult. Critical to establishing success is to build a positive feedback through effective management of expectations. Thus, to successfully challenge the market leader, it is critical that the challenger builds expectations of market success. This requires massive investments in software development and commitments to major advertising and promotional budgets prior to entry. To gain the necessary threshold level of available new games at launch requires internal development of a core of games and close collaboration with leading games publishers and developers. The key is to build expectations among game publishers and developers, retailers, and final customers that the new console is going to be a winner.

What's different about competition and key success factors in the new generation of consoles?

Our analysis of the video games market and key success factors within it has been based on our analysis of the past. Will the future resemble the past, or are fundamental changes taking place within the industry that will change the dynamics of competition and the basis of competitive advantage?

A few factors may be significant:

1. *Growth of the market*. The video games market is growing in size and breadth. As Figure 11.1 in the casebook shows, each new generation of consoles has surpassed the previous generation in terms of units sold. Much of the growth has come from an expansion in the demographic base of video game players. Once dominated by teenage and pre-teenage boys, females and mature adults now make up important segments of the market (see "The Video Games Market" (casebook pp. 194–5)). This raises the possibility that, within this bigger market, the winner-take-all tendency may become less strong. This would be reinforced by any tendency towards segmentation at the hardware level. The success of Nintendo's Wii among mature adults suggests a possible segmentation between "hard-core gamers" and "occasional gamers."
2. *Shifting balance of power between hardware and software producers*. Although software is more important in terms of revenue and the consumer experience, a key feature of this industry has been the ability of the console producers to dominate the market (and appropriate the major part of industry profits). This is the reverse of the situation in PCs. But is power shifting? Two factors seem to be significant: first, concentration among the games publishers – the top three games publishers hold 40% of the US market (see Table 11.3 in the case); second, the publishers are less able to force exclusivity terms upon the publishers – an increasing number of games are becoming multiplatform. This radically undermines the basis for network externalities. If a user can find many of the same games available for different consoles, the incentives for buying the market-leading console are greatly reduced.
3. *Multifunctionality of consoles*. The widening range of functions offered by games consoles also has implications for competition. To begin with it broadens differentiation opportunities. To the extent that PS3 emphasizes its next generation DVD technology, while Xbox emphasizes its online capabilities, this may weaken direct competition between them. However, to the extent that such multifunctionality is a bid to control the technological evolution of home entertainment, this implies raising the strategic stakes of the game, which may intensify the desire to be the market winner.

Strategy Recommendations

Given the situation at the beginning of 2007, we can then evaluate the strategies being pursued by the major players and make recommendations for the future.

1. *Microsoft (MS).* A key issue here is to recognize MS's strategic goals in the video games market. MS has been a master of managing strategic options. Hence, the Xbox may be seen as a hedge against the possible decline of the PC, and the shift to games consoles as the primary vehicle for home entertainment and internet access. If this is the case, then the prospects for short- or even medium-term profitability are not a critical issue for MS – as the Appendix shows, MS's Home and Entertainment Division has lost $4.5 billion between 2002 and 2006. The

Xbox is a potentially strategically important investment in a path of technological development that could be critical to MS's entire business.

Given these goals, the MS strategy is a long-term one. It does not need to worry about winning market leadership from Sony in the short-to-medium term; the key issue is to build up a secure market position in order to give MS the opportunity to develop add-on products and services that can help MS build up its position in the home market. However, if it is to use penetration of the games console market as the basis for establishing standards for online home entertainment and information, then it will need to establish market leadership in video games.

Is it realistic to expect that MS can replace Sony as market leader in the current generation? MS's one year launch advantage is very important. Already Sony's missteps have handed considerable momentum to MS's Xbox 360. The key is to exploit MS's unique strengths. These include its huge financial advantages – MS's cash flow dwarfs its two rivals. In the event of a brutal price war, MS had tremendous staying power. Also MS's online presence through MSN, web TV, etc. Hence, most MS's most promising opportunities for Xbox 360 include an emphasis on online gaming and downloadable software (possibly on a subscription basis). MS's main disadvantages have been weaknesses in its games offerings (relative to Sony). Remedying this may require increased internal development (not too tall an order for the world's leading software company). Also cementing relationships with leading publishers and developers. So far *Gears of War* and *Halo 3* have come closest to being "killer apps."

2. *Sony.* With its huge installed base of PS2s, tremendous product development, marketing, and distribution capabilities, and the broadest array of consumer electronic and entertainment assets in the industry, Sony appeared to have everything going for it and was well placed to maintain its market dominance. Sony's predicament at the beginning of 2007 is the result of its own failings. In particular, its technological ambitiousness resulted in three problems – delayed introduction, high price, and lack of new games written to exploit PS3's advanced technical capabilities. An issue of continuing debate is Sony's decision to install its Blu-Ray DVD player as part of the PS3.

   The critical short-term issue for Sony is how it is going to overcome its initial problems in order to reestablish its market leadership. The first issue is price. Wii's successful launch is partly due to its costing about half the price of the PS3. Given that most of the revenue and all the profit is in the software, cutting price to boost sales seems a sensible investment even if this means that losses on hardware will cause big losses during 2007.

   Ultimately, the success of PS3 will depend on the appeal of the games developed for it. Here Sony needs to exploit the technological advantages of its Blu-Ray technology, first with advanced versions of its existing franchises (e.g. Gran Turismo, Grand Theft Auto, Lara Croft); second with new titles designed to exploit the technical potential of PS3. With regard to developing new games, Sony needs to exploit characters and themes drawn from its movie productions.

3. *Nintendo.* Nintendo appears to be the weakest player in the market. Its GameCube had been a weak third to PS2 and Xbox, and it lacked the financial and strategic strength that Microsoft and Sony derived from their business empires. Yet, as a specialist video games company, Nintendo also possessed some significant strengths. Its long history in the industry gave it a considerable reputation – especially in Japan. Moreover, it surpassed its two rivals in one critical area: it possessed the strongest game development capability and proprietary game library of any of the three major console producers.

   Nintendo's strategy with its Wii had been both daring and innovative. To begin with it had chosen a name for its console that was both weird and difficult to pronounce. Second, it challenged the conventional industry wisdom that emphasized the critical importance of targeting the hard-core gamer community with an emphasis on casual users and mature games players in particular. Third, it introduced an innovative controller that replaced difficult-to-learn commands with an intuitive "wand" device. Its strategy can be interpreted in several ways. As the weakest of the three, it has adopted a contrarian strategy, breaking away from the leading pack. In pursing occasional rather than core gamers it is following a "resource partitioning" approach (see p. 272 of *Contemporary Strategy Analysis*). Its strategy may also be the best way of exploiting its most successful games: Super Mario Brothers, Legend of Zelda, Pokemon, and others.

   For Nintendo to follow up on its initial success with Wii, it needs to clearly recognize the customer segments where its principal strengths lie, and to develop games (and other offerings too) that appeal to this segment.

■ KEY TAKE-AWAYS FROM THE CASE DISCUSSION ■

The key learning from this case relates to competition and competitive advantage in technologically fast-moving markets where there are hardware–software complementarities. The result of this complementarity is a tendency for de facto standards to emerge which offers tremendous profit potential for companies that can own and control these standards. I summarize the key points as follows:

1. Hardware–software complementarities:
   - The basic "razors and blades" business model
   - Where's the profit? Typically it's in the software (the "blades"). Why is this?
   - Who appropriates the value – the hardware or the software firm?
     – Basic rule: Create advantage in one; commoditize the other
     – Always the need for careful coordination between the two
     – Creating advantage in software: the importance of the "killer app."

2. Analyzing the existence and sources of network externalities:
   - User linkages
   - Availability of complements (deriving from hardware–software complementarities)

3. How to win standards wars:
   - Timing: first-mover advantages/disadvantages
   - Preemption
   - Managing expectations
   - Partnering (building a bandwagon)

4. Once a standards war has been won:
   - How does the winner hold on to leadership?
     – Backward compatibility
     – Exploiting late-mover advantage
   - How can the loser survive?
     – Seek technical compatibility with the leader
     – Go for a niche