Playstation and the Power of Unexpected Consequences

Article *in* Information Communication and Society · December 2003

DOI: 10.1080/1369118032000163286

CITATIONS
15

READS
7,550

3 authors, including:

Alessandro Narduzzo
Free University of Bozen-Bolzano
38 PUBLICATIONS **451** CITATIONS

SEE PROFILE

Marco Zamarian
Università degli Studi di Trento
26 PUBLICATIONS **311** CITATIONS

SEE PROFILE

Information, Communication & Society 6:4 2003 608–627

Routledge
Taylor & Francis Group

PLAYSTATION AND THE POWER OF UNEXPECTED CONSEQUENCES

Alberto Alvisi, Alessandro Narduzzo and Marco Zamarian

University of Bologna

Abstract

It has been suggested that research business strategy is like studying specimens on a wall. By examining successful stories, one can easily identify the strategic factors responsible for such a success, and the greater the success, the more evident those factors are. Timing, strategic positioning, pricing policies, lead-time – everything goes back to the place where it fits best, like a beautiful mosaic. Even competitors' mistakes become more evident, their dull misunderstanding of what the winner was planning as every successful move leads to an even more successful one. The case of Sony PlayStation, the most successful digital games console ever, is no exception and the temptation to explain the rationale behind such an achievement is almost irresistible. As this paper tries to suggest, sometimes ex-post rationalizations hide or avoid part of the truth. Despite PlayStation's success, Sony's strategic choices were, on more than one occasion, driven more by lucky coincidence than by long-range planning. Furthermore, this paper shows how some of the strategic factors behind PlayStation's winning run sprang from decisions taken by lack of alternatives, and that only in the very end was Sony able to understand their full profit potential.

Keywords

Video-game industry, strategic change, deliberate vs emergent strategy

INTRODUCTION

The motivation for this paper rests upon two considerations: first, the tremendous success of Sony PlayStation; and, second, the current absence of a serious and articulated analysis of the case from a management standpoint. It is true that some managerial studies on the video-games industry have been published recently (Williams 2002; Schilling 2003). They deal with industry-level issues, whereas we will focus on a single, extremely important project, namely the Sony PlayStation.

Information, Communication & Society
ISSN 1369-118X print/ISSN 1468-4462 online © 2003 Taylor & Francis Ltd
http://www.tandf.co.uk/journals
DOI: 10.1080/1369118032000163286

The PlayStation has become a spectacular phenomenon: in 1999, 38 per cent of Sony's profits came from PlayStation-related businesses (Sony Annual Report 1999), and it is not surprising to see former PlayStation's chief project manager, Ken Kutaragi, presently sitting as Sony Computer Entertainment Inc. CEO. Sony sold more than 80 million PlayStations worldwide in a seven-year span (Sony Press Release, 2001) and software sales for the year 2000 exceeded $4 billion, accounting for more than 60 per cent of the whole industry (International Development Group, 2001).

How did Sony PlayStation achieve such an extraordinary success? Analysts and official versions of the story usually agree that there is no simple and unique reason strong enough to explain the final achievement. The quick explanations typically note one or more of the following elements: vision, technological supremacy, huge financial support, aggressive marketing strategy, fast growth of the installed base (i.e. number of consoles sold).

Undoubtedly, when Sony moved into the video-game market it had little experience in console hardware and software production. In the mid-1990s, the 32-bit console war had one winner: the Saturn by Sega, an established video-game software and hardware producer. PlayStation was able to challenge the status quo. Throughout the decade, other companies like NEC and Matsushita tried to get into the games console market moving from related businesses, but their attempts completely failed; these failures make PlayStation's success story even more striking.

Following a well-known tradition, management scholars and observers tend to explain successful business stories using the concept of deliberate strategy, and the PlayStation case is no exception. Ex-post-rationalizations suggest that PlayStation's diffusion was boosted by the fact that it could run low-cost, counterfeit software. Installing a $5 chip allowed users to gain access to a library of almost 4,000 games at a negligible cost. Furthermore, Sony's decision to equip the PlayStation with CD-ROM technology was twofold: it granted a low-cost, large-capacity storage medium (650 Mb, compared with a 5 Mb cartridge) and led to low reproduction costs. This shift also meant that the level and threat of software piracy increased and became widespread.

However, a more careful understanding of PlayStation success suggests some alternative and more intriguing hypotheses.

In the next section we describe the standard video-game business model, analyse the major sources of revenues and compare the competitive strategies adopted by the key actors. Following this we focus on a re-reading of the PlayStation case and explore the common explanations given for Sony's success, and discuss their robustness when compared with the data available.[1] Through

this we are able to bring some new elements into the standard picture. The conclusions sum up the major findings of our study and offer some alternative suggestions to interpret the PlayStation story.

VIDEO-GAMES INDUSTRY: THE BUSINESS MODEL

Sony PlayStation has been, so far, the most successful product in the home video-games industry. Official figures report a staggering 85 million hardware units and more than 780 million games sold worldwide.[2] Moreover, in 1999, right before the launch of Sony's successor to the PlayStation, a huge amount (up to 38 per cent) of Sony Corp. profits stemmed from its video-games division, Sony Computer Entertainment Inc. (SCEI). Figures 1 and 2 show the sales patterns for PlayStation hardware (1994–2000) and software (1997–2000) worldwide.

Despite the huge levels of sales, the PlayStation was for Sony a project with a negative net present value (NPV), i.e. the discounted cash flows would have been lower than initial investments. Sony claims it spent about €500,000,000 to develop the PlayStation (SCEE, 2001), and this figure does not consider any variable or direct costs used in the actual *production* of the hardware.

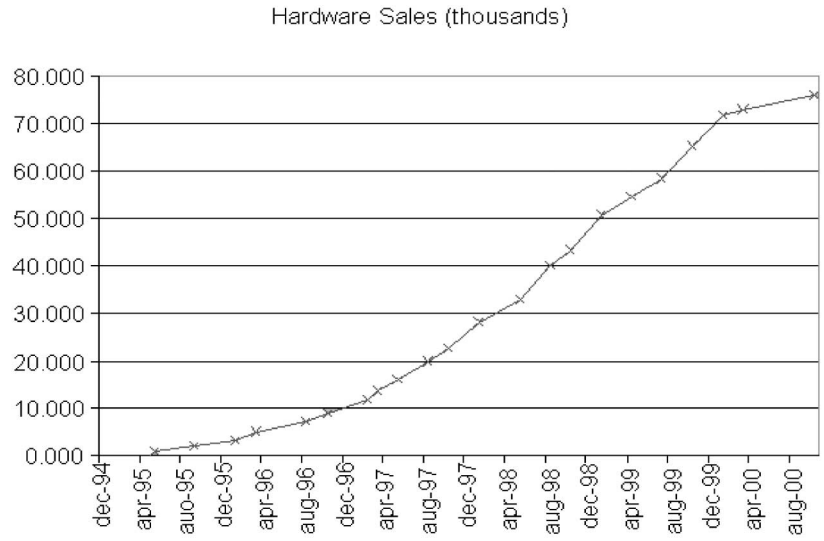

Figure 1 PlayStation hardware sales, units (1994–2001) (Source: SCEE, 2001 press release).

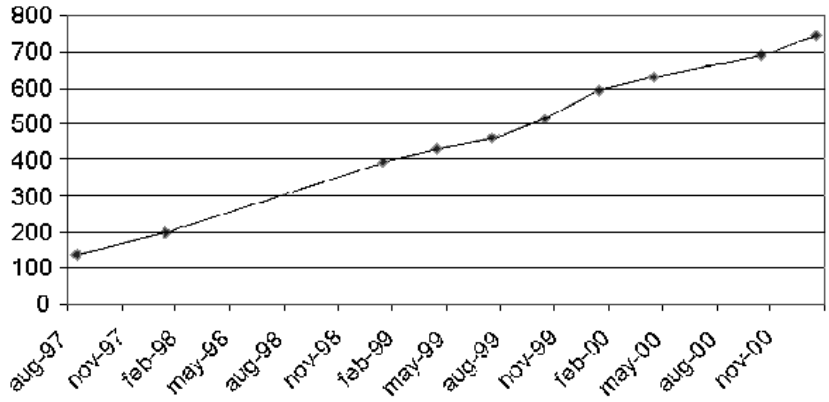

Figure 2 PlayStation software sales, units (1997–2001) (Source: SCEI press release).

Setting aside issues related to temporal distribution of revenues and assuming a retail price of €155,[3] a retailing mark-up of 20 per cent and an average return on sales of 2 per cent (Sony Financial Reports 1992–1994), if the business model had relied on hardware sales alone, the break-even point would have been reached at the 150 million units mark. Although this is an over-simplification, it does help to illustrate effectively how idiosyncratic the business model in the video-games market is, even when compared with similar technology businesses. In fact, the video-games business model has much more in common with razor blades than with PCs.[4]

KEY FACTORS OF SUCCESS IN THE VIDEO-GAMES INDUSTRY

To understand fully which factors are likely to influence the success of a console, we must first explain the drivers behind consumers' decision to buy a video-games system.

One answer is pretty obvious – to have fun playing games – yet terribly important. Great games (or, more modestly, games that meet customers' expectations) determine whether or not a system will be a viable contender in the long run. Of course, performance, price, availability, reliability and even shape, size and colour are important factors, but all of the above, combined and stretched to their maximum levels, could not compensate for the lack of fun games to play with. On the other hand, successful games will easily sell over the multi-million mark.

The relationship between software and hardware sales is far more complex, though. The video-games industry benefits greatly from the 'network effect': the more quality games are available, the larger the installed base will be. This means that customers will choose the system on the basis of the kind of games they enjoy the most. Conversely, a software developer will make choices about which console to develop for, with an eye on the current installed base. This is because there is a threshold in terms of sales figures to be surpassed to generate a positive cash flow. Of course, the level of this depends on the game's development expenditure.[5] Because of this intertwined relationship, it is not immediately clear which event (a vast installed base or a number of quality games) should trigger the other.

On the one hand, if the installed base is not large enough, third parties may often wait for it to reach the break-even level before starting the development of new games or the port of games that proved themselves successful on other gaming platforms. However, if the library of games available for a particular console does not include a few so-called 'killer applications'[6], consumers will not find the console's gaming experience interesting and will either stick to their current gaming machine (given they own one) or opt for a different platform. Given this, it is very important for any entrant into the console industry to ensure that several quality titles are available at launch and that these are built upon in the following twenty-four months so as to rapidly build a large installed base. This, in turn, will attract third-party developers and increase the quantity of titles for the console.

THE INCUMBENT BUSINESS MODEL

If a firm has strong capabilities in leisure software development, the objective of building a strong line-up of titles, although not inexpensive, is relatively straightforward to achieve. However, if these capabilities are not present within a firm, it must find some way to engage third-party developers to commit to its cause.

In an earlier generation of gaming consoles between the fall of Atari and the rise of Sony (circa 1983–1994), industry leaders, namely Sega and Nintendo, always opted for the first solution, i.e. they invested heavily in internal development teams. This original resource of the firm used as the gaming hardware was seen specifically as a medium to carry the actual value-added content of the games software.[7] In contrast to IBM-compatible PCs, video-games consoles are not open systems, i.e. firms are forbidden from developing or publishing

software for a given platform unless the firm is formally licensed to do so by the owner of the hardware rights.

During this period, the companies that battled to dominate the home entertainment industry were also fierce competitors in the arcade arena and arguably entered the home segment to exploit fully a potential profit-generating resource (Penrose 1959). Through the years, and through the systems, the selling charts for both Sega and Nintendo were dominated by first-party games, i.e. by games developed by these in-house teams. As such, the power of the two companies was vastly superior to any third-party developer's. These internally developed games created a very strong appeal to a selected audience often embodied in game characters or 'mascots'. These mascots, such as Sega's Sonic the Hedgehog or Nintendo's Mario, were most often cartoon-style characters that starred in several games and were immediately recognizable by the audience as synonyms of fun and quality games. In commercial terms they also represented the competitive factor of the games.[8] This condition allowed Sega and Nintendo to ask for high royalties on software sales and to carry on a very tight policy about licensing as well as allowing them not to worry too much about new entrants in the market. For example, although companies such as the fallen star of Atari, rivals in the coin-op industry like SNK and consumer electronics giants like Matsushita and NEC questioned the supremacy of Sega, they seldom possessed both the hardware and software competencies necessary to compete in the industry. Therefore, for the period between 1983 and 1995, the two companies dominated the market with a supremacy that seemed almost natural. Then came the PlayStation.

THE RISE OF PLAYSTATION

The duelling Sega and Nintendo fought their battle for over a decade, neither of them overly worried about any action carried out by new entrants, but each of them extremely cautious in evaluating the unbalancing potential of any slightest move from their established counterpart. In 1991, Sega launched the Mega CD (Sega CD in the USA and Europe, neither the first nor the last of a long list of peripherals for the Sega Megadrive (Genesis in the USA). The Mega CD allowed users to play games on a CD, thus benefiting for greater storage capacity for additional graphics, music, full motion videos (FMVs), etc., at the expense of slower loading times. Nintendo did not want to lose ground and promptly contacted Sony to form an alliance to develop a similar peripheral for the SuperFamicon (SuperNES in the USA). The project covered by this alliance was codenamed 'PlayStation'.

Eventually, the Sega CD failed to meet customers' expectations and, consequently, Nintendo abruptly ended the relationship with Sony. While Sony's financial commitment to the project had been managed so that Nintendo's withdrawal caused only an acceptable financial loss, as Asakura (2000) vividly describes, this slap in the face would not be easily forgotten by Sony. Still smarting, Sony decided to continue and develop the PlayStation project itself, and the decision was made in December 1994 for the company to enter into the video-games arena.

Despite the achievements Sony had gained from the joint project with Nintendo, they were still not able to develop a new console without external input. Within Sony, Kutaragi's group was rather small and did not enjoy much support. While Sony undoubtedly had at least the same level of electronic expertise as Sega and Nintendo, what they lacked was a more subtle understanding of video-game-specific competences. It was at this point that Namco entered the picture. Not only did they have the skill to produce some of the first quality games for the PlayStation (e.g. *Ridge Racer*), they also had a lasting influence on the architecture of the hardware and on the development of the basic programming libraries for the console, along with another key developer in the early stages of the PlayStation life cycle, the Liverpool-based Psygnosis.

Together, the contribution of these companies was fundamental especially regarding the amount of onboard RAM and in developing the console's architecture. They were also granted early access to development kits to provide games for the launch of the console in the Japanese and European markets. The key output here was a version of the highly successful driving game *Ridge Racer*, which was one of the titles for the Japanese launch and which can be considered as the first killer application for the Sony console. This was soon followed by the console version of the fighting game *Tekken*, which had been extremely successful in arcades worldwide. The case of Namco and Psygnosis looks like an example of co-optation (Thompson 1967), but, of course, this could not happen for any developer.

Sony's choice to endorse CD technology, if not discriminatory towards Sega, contrasted significantly with Nintendo's strategy. As mentioned earlier, despite slower loading times, a CD can hold up to 700 Mb, compared with the 32 Mb that constitute the upper limit for a Nintendo 64 Mask-ROM. More memory does not necessarily mean better games – the code of the original *Ridge Racer* is no bigger than 2 Mb – but it allows developers to include FMV sequences as well as high-quality soundtracks in their games. Sony's customers appreciated these additional features, as FMV sequences and soundtracks became more and more ambitious.[9] The CD technology also had a relevant impact on the cost structure of game producers in three main aspects:

- Mask-ROM manufacturing costs are about €20 per game, compared to the €1–2 for CD-based games.
- Mask-ROM had to be produced in advance, i.e. it is not possible to ramp-up the production rapidly if a game is more successful than expected. Furthermore, CD production can be rapid, which allows manufactures to carry little or no inventory but still meet retailer demands and avoid potential revenue loss through lack of copies of the game on shop shelves.
- Producing Mask-ROM is much riskier than CDs, as large production costs are involved prior to any games release and, therefore, before any sales data are available through which to gauge demand. Hence, unsuccessful games can inflict severe losses especially affecting smaller companies.

While the adoption of the CD technology lowered, to a certain extent, the barriers to entry for several smaller developers wishing to develop games for the Sony console, the network effects (Shapiro and Varian 1998) described above only became noticeable a couple of years after the PlayStation's launch. Hence, we have to try to determine what caused the success of a console that in comparison to its competitors did not offer a quantum performance leap and was a newcomer in an industry dominated by two incumbent firms with (1) a long tradition, (2) excellent engineering skills, (3) very strong internal development teams, (4) a solid reputation among customers and retailers, and (5) a huge base of loyal fans. To overcome these liabilities, Sony adopted what seems a brilliant strategy.

A CONVENTIONAL EXPLANATION OF PLAYSTATION'S SUCCESS

In a traditional business analysis of a case such as the PlayStation, the goal is often to show how a success story can be explained *a posteriori* as if the situation had been clear and unavoidable from the start. In the best tradition of a SWOT (Strengths-Weaknesses-Opportunities-Threats) analysis, we can analyse Sony actions as follows:

1. Previous market experience was a double edged-sword since both Nintendo and Sega underestimated Sony's threat on the basis of the Matsushita and NEC experience. As a consequence, Sony had a relatively large amount of freedom. Being a newcomer, Sony did not suffer from many of the cognitive traps and commercial bonds that limited the incumbents and was therefore free to follow a much more innovative strategy. While

both Sega and Nintendo were exploiting their contractual power towards third-party developers, Sony's licensing policy had significant impact on the software houses' decision to develop for the PlayStation (Asakura 2000).

2. As Sony's history is studded with innovations such as the 3.5" floppy disk, the Walkman, the standard CD, to name just a few in electronic development it was *at least* on par with Sega and Nintendo.
3. As mentioned above, Psygnosis and Namco were co-opted. Psygnosis was eventually absorbed by Sony and its former members are now part of the development team Studio Liverpool. Successively, Sony tried to help its own 989 internal development team to quickly gain part of the skills they lacked through the insertion of some former Psygnosis employees.
4. & 5. Sony chose a different distribution channel than previously used in the console industry. The PlayStation was initially sold in music stores, electronics stores and only marginally in video-game stores. Accordingly, part of the software had a content that targeted a more mature, and wealthier, audience that was outside the 11–15-year-old range for the core fan base of its competitors. Following a strategy similar to what Honda Motorcycles did in the 1970s, instead of trying to steal its competitors' customers, Sony decided to enlarge the market as a whole.[10] This way Sony avoided a direct confrontation with its rivals and at the same time leveraged its reputation of innovation and technological excellence. Furthermore, Sony granted Japanese retailers a far higher margin on the retail price (Asakura 2000), thus making its product the choice of preference for sellers.

All these factors were reinforced and sustained by a strong, long-range vision that influenced the strategic path followed by Sony in its battle for the video-games industry dominance. However, during the first two years of its life span, PlayStation had to face the strong opposition of the 32-bit Sega Saturn and the looming shadow of the upcoming Nintendo 64, the first console to be powered by a 64-bit chip. In mid-1996, the situation was at stalemate, as Saturn and PlayStation were neck and neck in the market. Then, two events changed the power balance irremediably.

The first of these was Sony Computer Entertainment Europe releasing its first in-house game, *Total NBA '96*. The game was no great hit but it set a precedent. From this point on Sony would start to become a respected first-party developer. Several acquisitions in the industry granted Sony part of the

developing skills it was lacking and started the path towards their most successful title, *Gran Turismo*, which was developed by its Japanese subsidiary Poliphony in 1997.

This coincided with spread of the PlayStation mod-chip (modification chip) as Far-East-based companies found a way to circumvent Sony's anti-piracy protection. Stored in the first track of every genuine PlayStation CD is a range of data including details on the display designation (i.e. PAL, NTSC-U, NTSC-J) and an authentication code that allows the console to recognize the software as legitimate. This track was not reproducible with conventional CD-writers but the mod-chip, soldered on the console's board, forced the unit to skip the first track and to go on reading the software, thus allowing circumvention of the region-lock as well as the running of pirated software. Though there are no entirely reliable figures on the diffusion of the mod-chip, it is widely recognized that it greatly boosted PlayStation hardware sales. From then on, what was a fierce battle turned into a winning run for the PlayStation.

A RE-READING OF THE CASE

Although the above stands as the common history of Sony's success with the PlayStation, we wish to offer an alternative explanation. Although we do not wish to neglect the explanatory power of some of the events described above, we intend to show how most of these decisions move from, and foster, unintended events rather than examples of strategic planning. Our goal here is not to propose an alternative model for a different ex-post-rationalization of events but show the dangers of such an exercise as it represents a potentially misleading analytical framework for dynamic events. In the tradition of Mintzberg and Pascale (Mintzberg 1978; Pascale 1984; Mintzberg *et al*. 1996), we will offer a critical re-reading of the SWOT analysis presented above.

In order to do this we exploit two sources of evidence. On the one hand, we analyse events and incidents that occurred during the design and development stages of the project. Through this we highlight the manner in which these dramatically influenced the outcome of the project itself beyond expectations and intentions, and the way in which these restricted the range of possible strategic choices available in unpredictable, and sometimes unwanted, ways. On the other hand, we draw our considerations from a comparison of market performances of PlayStation and its main competitors. Again, data show how big an impact on PlayStation's eventual success some decisions, often neglected in the accepted PlayStation story, had been.

First things first: dispelling the piracy myth

One of the main features of the console games market is that selling the hardware is just a means to the end and companies make money from selling games software. Given this, the central problem for manufactures is to sell enough machines in order to start the aforementioned virtuous cycle.

One of the many myths about the success of Sony PlayStation ascribes the diffusion of the (then) new console to the relative vulnerability to piracy of Sony's CD-ROMs. The logical argument runs as follows. As with PC software, if it is easy to copy the games, you can expect a huge effect on hardware sales, thus it will be exceedingly easy to meet the critical mass of installed consoles that you need to start the virtuous cycle. In order to reproduce CD-ROMs, all that is needed is a CD writer and blank CDs. Ultimately, the ease and speed of the duplication process, according to this hypothesis, meant increased hardware sales for PlayStation when compared with competitors relying on Mask-ROM. One would expect then to find that the ratio between software and hardware units sold (tie-ratio)[11] is lower for consoles adopting a storage device, such as PlayStation, which is easier to pirate.

Data, however, tell a different story. As shown in Table 1, Sony PlayStation had a higher tie-ratio than the Nintendo 64, which, at the time, was the hardest to circumvent piracy protection and had the strongest reputation for quality games.[12]

In 1999, Sony was the leading publishing company in Europe, followed by leisure giant Electronic Arts (International Development Group 2000) and had a strong position in Japan (it ranked at fourth place following, respectively, Nintendo, Konami and Square; www.the-magicbox.com) and North America (Sony ranked sixth, well ahead of software giants like Capcom and Infogrames; www.the-magicbox.com).[13] While Sony gradually introduced a number of variations in PlayStation hardware, many of which required a different mod-chip, it can be suggested that their approach was not more aggressive as it was questionable how much was a stake.

Rather than Sony, it was game developers who seriously attempted to prevent

Table 1 Tie-ratios in 1999 for the two main competitors in the console market (Source: IDG 2000 Worldwide Videogame Market Overview).

	North America	*Europe*	*Japan*
PlayStation	10.9	7.5	19.4
Nintendo 64	7.4	7.0	5.6

PlayStation games from being illegally copied. This movement culminated with the introduction of an additional copy protection implemented in games – the LibCrypt. This protection had several incarnations, varying from the console refusing to boot illegal copies, to the copied game freezing at certain moments, to the console refusing to load even a legal copy if a mod-chip were installed. The first game to sport this new protection was the 1998 *PoPoRogue*, and, surprisingly, it was published by Sony Japan itself. Although important, piracy cannot be seen as an intentional weapon used by Sony, and we need better ways to justify PlayStation success.

How Kutaragi's vision: turned into reality

When the project started and Ken Kutaragi started work on the PlayStation, he envisioned it as a domestic device that would become a central element of every living room:

> PlayStation will be positioned as the future mainstay digital product and a step towards introducing computers into the home. Together with Nintendo, we will create infrastructure for a home-use computer. This will effectively link games machines with Sony's audiovisual technology.
>
> (November 1989 business report, quoted in Asakura 2000)

However, the PlayStation would eventually be developed a great deal from Kutaragi's initial vision. and the product that reached the market was clearly very different. During the launch of the console, Sony strove to emphasize that PlayStation was centrally a machine for playing games.

The connection with Sony expertise in audiovisual technology, emphasized at the early stage of development, had disappeared by 1994. What had happened? The turning point had been the observation of the poor market performance of Matsushita's 3DO. Like a number of other companies at the time, Matsushita had promoted their machine as a 'multi-media' player capable of handling video, music and games. This advertising campaign for the 3DO resulted in a complete failure: people were not able to give a precise identity to the device preferring instead the more traditional approach of one machine for each function.[14] Marketing experts at Sony used this experience in two ways. First, they called the new company in charge of PlayStation development Sony Computer Entertainment in order to stress the focus on games. Second, they started marketing the PlayStation as a games machine only, giving a clear clue to potential customers of what the product was going to be about.[15]

Re-reading the role of Sony's 'liability of newness'

The first point the brief SWOT analysis lists is tradition as a double edged-sword. The regular claim is that Sony's position of having no significant history in the field allowed it to think 'outside the box', and could act without soliciting a prompt reaction from Sega and Nintendo.

Both Sega and Nintendo had started in the 1970s in the coin-op market and had slowly moved to the console arena. Many potentially strong competitors tried to enter the console market before Sony: Matsushita, NEC, Atari and Commodore come to mind. The first two were financially powerful when compared with other incumbents and had sound technical competencies. What they lacked, though, was the specific knowledge linked to the development of video-games, and this lack of knowledge contributed to their failure. The other two, conversely, had the opposite liability. It is no wonder, then, that Sony enjoyed a relatively extended period, during which its main competitors did not take its moves seriously, as testified, for instance, by the launch price of Sega Saturn in the USA at $399, compared with PlayStation's $299.

However, Sony's successful moves can be explained in terms of disadvantages linked to the fact of being new in the console market more than in terms of managerial and technical creativity. In fact, our claim is that Sony succeeded because it was able to exploit its own 'traditional' expertise in marketing, sales and engineering.

As we have seen, the choice of the CD-ROM as a storing device was dictated by Nintendo and, while it is true that this choice allowed Sony to exploit its distribution channels and marketing policies, as we will see later on, this was in no way 'thinking outside the box'. On the contrary, as soon as they had the capabilities to do so Sony tried to imitate its more established competitors. The development of mascot games, such as *Spyro the Dragon* and *Crash Bandicoot* is very telling in this regard. Indeed, it is somewhat puzzling why Sony decided to do compete with Nintendo in the teenagers market, given that SCE official press releases suggest that PlayStation's target market is working adults. However, despite the market success these games enjoyed, they failed to become univocally associated with the console name (a new *Crash Bandicoot* release, for instance, is available both on PS2 and X-Box).

The area where industry experience really helped Sony is their relationship with retailers and distribution channels during the critical first months after launch. The practice of leaving distribution of games software in the hands of powerful wholesaler associations, a common practice for selling Mask-ROM-

based games, had put Sega and Nintendo at a disadvantage. Even when they finally switched from cartridges to CDs, they were unable to follow Sony's commercial practices for fear of disrupting their own distribution channels. They could not exploit the advantages of CD-ROM, not because of technical inadequacies but because of their distribution practices. Sony, on the other hand, was not only one of the leading CD-ROM producers but its people had a sound knowledge of the ways in which CDs could be more efficiently distributed.

While Sony possessed the CD-ROM unit and its own engineering skills in consumer electronics it did not possess most of the resources necessary to compete in development aspects of the industry (Barney 1991). At the time it only had a lacklustre internal development team whose biggest success was the less than stellar *Mickey Mania: The Timeless Adventures of Mickey Mouse* for the SuperNintendo Entertainment System. Therefore, what Sony did is try to exploit the rivalry between Sega, Nintendo and other coin-op producers.

The decision to involve Namco, the company responsible for *Pac-Man*, had implications that became more and more important over time. During the early 1990s, Namco was going through troubled times: it was locked into differences with Nintendo over royalty issues and was struggling to compete with Sega in the arcade market. The company saw the partnership with Sony as extremely attractive under two dimensions. First, it would provide a preferential channel for Namco arcade-to-home games conversion, thus limiting the subsidization of direct competitors. Second – and most important at the time – it would grant Namco access to Sony's immense engineering skills and production capacity. Conversely, Sony would gain access to a library of first quality titles as well as to the experience Namco accumulated in gaming hardware development over a twenty-five-year span. The most noticeable outcome was the System-11, a three-dimensional graphics system board developed in cooperation by the two companies.[16] Basically, it was a PlayStation with no CD-ROM drive and a larger amount of video-ram, and was seen as a low-cost, large-scale, arcade board.

A turning point: Square Soft chooses PlayStation

In December 1996, there was still no clear winner in the fight for supremacy between PlayStation and Sega's Saturn. The rival console enjoyed many of the features that had made PlayStation such a successful hit and for the first time there was a lull in PlayStation sales. However, in January 1997 something happened: Square Soft announced that its next episode of the fortunate saga *Final Fantasy* would be released for the PlayStation. In a relatively short span of

time the game sold 6 million copies worldwide – half of them in Japan. Many customers bought a PlayStation instead of a Saturn just to play that game.

From that point on, Sony's console overtook its rival and the fortunes of Sega Saturn declined sharply. The announcement of the PlayStation's success greatly undermined the appeal of Nintendo's upcoming software line-up and, for Sony, and the threat of the forthcoming N64 was not so frightening anymore. What was little more than a growing niche (RPGs) became quickly one of the biggest segments of the market. Nintendo's President, Mr Yamauchi, claimed 'never, ever, Square will work again with Nintendo'. Again a whole set of accidents had set up this opportunity for Sony.

First, Nintendo's policy of strict quality control over game developers and its unwillingness to sponsor an English version of some of the previous releases of the *Final Fantasy* series dented the relationship between the company and Square Soft. Second, Square was becoming more and more interested by the storage possibilities offered by CDs and other large-storage media when compared with cartridges. They were looking for a technical solution to providing the 120 minutes of FMV sequences that eventually made it into a three-CD game and turned it into a unique cinematic experience. Although Nintendo was working towards the launch of the 64DD, a magneto-optic add-on that would allow the N64 to benefit from an additional 64 Mb of data, it had, over the years, established a reputation of not meeting announced release dates. The arrival to the market of the 64DD was no exception and, tired of waiting, Square Soft looked elsewhere.[17] The ideal partner to accommodate these requirements was Sony's PlayStation.

Re-reading distribution choices: a controversial 'fortunate' mistake

As argued above, the video-games industry is characterized by some key factors that have remained constant throughout its growth. Customers structure their preferences for games and consoles influenced by friends' choices, advertisements and experience, so, if they do not find what they are looking for, they change retailer. This is true not only when the purchasers are the players but also when games are bought as gifts. At PlayStation's launch, Sony was a novice in the video-game industry and somewhat naive to the 'rules of the game' for the console market. This can be seen from the style of distribution strategy implemented in music retail, but Sony's managers themselves also perceived it not to be one of the company core strengths (Asakura 2000).

One of the main reasons why PlayStation won a strong support from the

retailers, however, was Sony's complete ignorance of the 'rules of the game' for the console market.

The prevailing opinion during the Nintendo-Sega era (mid-1980s to mid-1990s) was that both producers and retailers would make money selling software, not hardware. Armed with this wisdom, producers offered retailers the hardware at a 10 per cent discount with consistent rebates for quantity purchasers. However, the sales team at PlayStation came from Sony Music and so offered retailers a discount of 25 per cent on both software and hardware as was common practice in the music industry. This was a decision motivated not by competitive reasons but by lack of awareness on the part of Sony's key decision maker for console sales, Masashi Shimamoto (Asakura 2000). While it is true, as reported in the SWOT analysis above, that this move had a huge impact on PlayStation sales figures at launch, it was far from a brilliant intuition on Sony's part. Rather, we should call it a 'fortunate mistake'. In particular, as soon as PlayStation affirmed itself as a high-quality game brand, the pull nature of the market made totally ineffectual the unusually high discount to the retailers.

CONCLUSIONS

Our reconstruction of the PlayStation case is based on analysis and interpretation of some elements that are usually left out by observers' explanations of this successful story. We have argued that the story of PlayStation is an interesting case study as many elements – sometimes small and secondary accidents – interplayed with and reinforced each other to produce the final outcome. None of these elements *by itself* is strong enough to provide a convincing explanation of the case. However, each of them affected the evolution of the PlayStation story and reinforced the path-dependent trait of this case. Following this argument, two major issues have to be considered: first, the impact of unintended and unaware decisions; and, second, the consequences of unanticipated events. As we discussed in the previous paragraph, PlayStation's story is rich of unintended decisions that had a deep impact on its destiny. Nevertheless, some unforeseen events, for instance the diffusion of low-cost CD-burning technology, enormously increased PlayStation's appeal to potential customers/adopters and eventually impacted the installed base. In Table 2 we try to summarize some elements that are part of the deliberate strategy attributed to Sony's strategic vision and the outcomes of this.

So why did we call Sony's strategy consequences 'unexpected'? Essentially there are two reasons for this choice of term. On the one hand, Sony's choices

Table 2 Sony's deliberate and realized strategy – a comparison.

Deliberate strategy	*Realized strategy*
Visionaries at Sony ● Multimedia hub ● Synergic businesses ● One man, one vision	3DO failure forced a re-thinking
Technological excellence	System on par to competitors'
Piracy ● Rapid rise in installed base, but ● Endangers developer's profitability	Did not affect tie-ratio. Several board modifications to fight mod-chips installation. Some games (e.g. Sony's *Medievil*) featured additional copy protection Hard to forecast such a rapid drop in CD-writers.
Broader, older customers	Despite two attempts (*Crash*, *Spyro*), failed to impose a mascot. Sony denies.
Distribution	Misunderstanding of games business model.
Being fair to game developers: lower royalties and higher of degree of freedom attracted several companies	The lack of development skills and of contractual power hampered the quality test selection.
Tighter control over peripherals licensing guaranteed better quality and richer gaming experience	Sony's competencies in engineering and manufacturing allowed the company a much tighter licensing scheme (third party: Ascii, Namco, later Mad Catz).
Supremacy of Sony over partners	Namco released a PlayStation based arcade board (System 11) in the summer of 1994.

are far from random or casual. There is an overall plan that comes together nicely in a successful project. At different stages goals are set, and decisions are taken to reach those goals. In this sense, there is a strategy that is far from random. On the other hand, the succession of actions and events occurring because of those decisions are far from linear. As we have shown, by reassessing Sony's strategy, it is apparent that many of the main choices were spurred by apparently unrelated causes. Furthermore, the consequences of each of these decisions were often beyond the intention of the relevant actors. Nonetheless,

it would be unfair to call Sony's behaviour myopic (Levinthal and March 1993); on the contrary, we believe that one of Sony's main abilities was that of quickly adapting long-term plans to potentially disrupting occurrences. If we could follow Sony's path to success, we would find that the trajectory that led to the top of the hill is far from linear and, indeed, at times, it appears that the company is looking one way and heading another. Therefore, the main strategic capability exhibited by Sony is, once again, to cope with the unexpected success by introducing some degrees of inconsistency between its original plans and the extraordinary evolution of PlayStation phenomenon.

Alberto Alvisi and Alessandro Narduzzo
Management Department
University of Bologna
Piazza Scaravilli
40126 Bologna, Italy
E-mail:alvisi@economia.unibo.it
E-mail: narduz@economia.unibo.it

Marco Zamarian
Department of Management and Computer Science
University of Trento
Via Inama 5
38100 Trento, Italy
E-mail: zamarian@cs.unitn.it

NOTES

1. Evidence drawn upon here includes official data (i.e. time series about consoles sold, games published, games sold in the three major markets – Japan, North America and Europe) and analysed official documents (e.g. Sony Italia and Sony Entertainment's public reports, press releases and interviews with managers.)
2. As of 31 June 2001 (SCEE).
3. Official PlayStation price since March 1997, when the worldwide installed base was around 13.5 million units.
4. Razors are often bundled with two or more blades and sold, at a loss, at a price slightly higher than the blades alone. For a more in-depth explanation of lock-in mechanisms, see Shapiro and Varian (1998).
5. Sega's *Shenmue* is frequently addressed as the most expensive game in history, with a rumoured budget of over $70 million. Recent blockbuster from Konami, *Metal Gear Solid* 2, seems to be beyond the $10 million mark.
6. By this term we define some titles whose appeal is strong enough to justify the purchase of the console to play only those. Obviously, such titles must be platform-exclusive. Sega's *Sonic* games, Nintendo's *Mario* games and Sony's *Gran Turismo* games could be considered killer applications for their respective consoles.
7. Both firms entered the industry as providers of coin-op gaming machines, in 1952 and 1982 respectively. The first home system was introduced, for both companies, in 1983 (source: www.sega.com; www.nintendo.com)

8. Please note that the status of 'mascot' is not a state of nature but has to be built and nurtured with a list of quality games over time. By all means, a mascot can be seen as an asset.
9. For instance, the soundtrack of Wipeout 2097 was published as a stand-alone CD in 1996. The *Gran Turismo* (1998) soundtrack included artists like David Bowie, Garbage, Blur and others.
10. '*Wipeout* was a stylish game with fantastic music that I think helped games move away from a very poor image. . . . Here's to Psygnosis for beating the Japanese companies at a game they can't play, honest to god mature style' (Withey 1997).
11. The tie-ratio is the cumulative number of games sold per console. Given the business model, it is a good indicator of a console's success. As Peter Moore, President of Sega of America, said in an interview (2002: 2) to www.gamers.com, 'if your tie-ratio isn't where it needs to be, then you obviously run into some business-modelling problems'.
12. However, N64 was launched in Japan on June 1996. In August 1997, PSX tie-ratio was cumulatively 6.75 (SCEE).
13. These data refer to the year 2000.
14. The $700 price tag at launch did not help diffusion, either. We thank Jason Rutter for pointing this out.
15. Strikingly, Kutaragi's original idea seemed to gain new strength at the launch of PlayStation 2, which was strongly marketed around the idea of an integrated platform for home entertainment.
16. For further details, see www.system16.com.
17. Announced in 1995 and slated for a 1996 release, the 64DD wasn't launched until December 1999. It never went out of Japan.

REFERENCES

Asakura, R. (2000) *Revolutionaries at Sony: The Making of the Sony PlayStation and the Visionaries Who Conquered the World of Video Games*, New York: McGraw-Hill.

Barney, J. (1991) 'Firm resources and sustained competitive advantage', *Journal of Management*, 1: 99–120.

International Development Group (2000) 'Worldwide Videogame Market Overview'. Report prepared for Leader S.p.A., mimeo.

International Development Group (2001) 'World Wide PC and Console Overview', presentation by International Development Group for CTO S.p.A.

Levinthal, D. and March, J. (1993) 'The myopia of learning', *Strategic Management Journal*, 14: 95–112.

Mintzberg, H. (1978) 'Patterns in strategy formation', *Management Science*, 24: 934–49.

Mintzberg, H., Pascale, R.T. Goold, M. and Rumelt, R.P. (1996) 'The "Honda effect" revisited', *California Management Review*, 38: 79–117.

Moore, P. (2000) Interview by Justin Hall. Online. Available: http://www.gamers.com/s/feature/000619-petermoore/index.

Pascale, R. (1984) 'Perspectives on strategy: the real story behind Honda's success', *California Management Review*, 26: 47–71.

Penrose, E.T. (1959) *The Theory of the Growth of the Firm*, New York: John Wiley & Sons.

SCEE (2001) Press release. Online. Last available 2002: http://www.scee.com/corporate/sonyhistory.html.

Schilling, M.A. (2003) 'Technological leapfrogging: lessons from the US video game console industry', *California Management Review*, 45: 6–32.

Shapiro, C. and Varian, H. (1998) *Information Rules*, Cambridge, MA: Harvard University Press.

Sony Corp. (1999) Annual Report 99-44E, 28 April.

Sony Corp. (1995) Five Year Summary of Selected Finanicial Data, Annual Report. Available online (2003): http://www.sony.net/SonyInfo/financial/ar/1995/P-34/index.html

Thompson, J.D. (1967) *Organizations in Action*, New York: McGraw-Hill.

Williams, D. (2002) 'A structural analysis of market competition in the US home video game industry', *International Journal on Media Management*, 4: 41–54.

Withey, J. (1997) *A Retrospective of* Psygnosis. Available online 2003: http:www.psygnosis.org/history/borrowedtime.html

WEBSITES

www.sega.com

www.system16.com

www.the-magicbox.com